

Hypertext marks in L^AT_EX

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2010/03/11 v6.80n

1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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


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

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

backref.dtx “Back referencing from bibliographical citations”

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

2 Contents

1	Documentation overview for hyperref	1
2	Contents	2
3	File hycheck.tex	7
4	Package options and setup	10
4.1	Save catcodes	10
4.2	Compatibility with format dumps	12
4.3	Switches	12
5	Common help macros	14
5.1	Macros for recursions	14
5.2	Babel's protection of shorthand characters	14
5.3	Coordinate transformations	14
6	Dealing with PDF strings	16
6.1	Description of PDF strings	16
6.2	Definition of <code>\pdfstringdef</code>	16
6.2.1	Preprocessing	17
6.2.2	Expansion	22
6.2.3	Postprocessing	23
6.3	Encodings	27
6.3.1	XeTeX	27
6.3.2	Workaround for package linguex	28
6.3.3	PD1 encoding	29
6.3.4	PU encoding	29
6.4	Additional user commands	30
6.4.1	<code>\texorpdfstring</code>	30
6.4.2	Hooks for <code>\pdfstringdef</code>	30
6.5	Help macros for expansion	31
6.5.1	<code>\ignorespaces</code>	31
6.5.2	Babel languages	31
6.5.3	CJK patch	36
6.5.4	CJK bookmarks	37
6.5.5	CJK unicode	38
6.5.6	<code>\@inmathwarn-Patch</code>	42
6.5.7	Unexpandable spaces	43
6.5.8	Marker for commands	44
6.5.9	<code>\hspace fix</code>	44
6.5.10	Fix for AMS classes	44
6.5.11	Reference commands	44
6.5.12	Redefining the defining commands	47
6.5.13	<code>\ifnextchar</code>	48
6.5.14	<code>\@protected@testoptifnextchar</code>	48
6.6	Help macros for postprocessing	48
6.6.1	Generic warning.	48
6.6.2	Protecting spaces	49
6.6.3	Remove grouping braces	50
6.6.4	Catcode check	51
6.6.5	Check for wrong glyphs	54
6.6.6	Replacing tokens	55

6.6.7	Support for package <code>xspace</code>	55
6.6.8	Converting to Unicode	56
6.6.9	Support for UTF-8 input encoding	58
7	Support of other packages	62
7.1	Class memoir	62
7.2	Package subfigure	62
7.3	Package xr and xr-hyper	62
8	Help macros for links	63
9	Options	64
9.1	Help macros	64
9.2	Defining the options	66
10	Options for different drivers	71
11	Options to add extra features	73
12	Language options	74
13	Options to change appearance of links	80
14	Bookmarking	81
15	PDF-specific options	83
15.1	PDF/A	92
15.2	Patch for babel's <code>\texttilde</code>	93
15.2.1	Driver loading	94
15.2.2	Bookmarks	97
16	User hypertext macros	100
17	Underlying basic hypertext macros	104
18	Compatibility with the <i>BT_EX2html</i> package	107
19	Forms creation	107
19.1	Field flags	108
19.1.1	Declarations of field flags	109
19.1.2	Set submit flags	112
19.1.3	Set annot flags in fields	112
19.1.4	Pushbutton field	113
19.1.5	Check box field	113
19.1.6	Radio button field	113
19.1.7	Text fields	114
19.1.8	Choice fields	114
19.2	Choice field	115
19.3	Forms	117
20	Setup	122
21	Low-level utility macros	123
22	Localized nullifying of package	124

23 Package nohyperref	125
24 The Mangling Of Aux and Toc Files	126
25 Title strings	127
26 Page numbers	128
27 Every page	128
27.1 PDF /PageLabels	129
27.1.1 pdfTeX and VTeX	132
27.1.2 xetex	133
27.1.3 pdfmarkbase, dvipdfm, xetex	134
28 Automated L^AT_EX hypertext cross-references	135
29 Package lastpage support	139
30 Package ifthen support	141
31 Package titlesec and titletoc support	141
32 Package varioref support	142
33 Package longtable support	142
34 Equations	143
35 Footnotes	146
36 Float captions	150
37 Bibliographic references	153
37.1 Package harvard	156
37.2 Package chicago	157
38 Page numbers	158
39 Table of contents	159
40 New counters	161
41 AMSL^AT_EX compatibility	161
41.1 \@addtoreset and \numberwithin patches	162
42 Included figures	163
43 hyperindex entries	163
44 Compatibility with foiltex	166
45 Compatibility with seminar slide package	166

46	Configuration files	175
46.1	PS/PDF strings	175
46.2	pdftex	176
46.2.1	Fix for problem with different nesting levels	189
46.3	hypertex	189
46.4	dviwindo	191
46.5	dvipdfm/xetex dvi to PDF converter	196
46.6	VT _E X typesetting system	204
46.7	Fix for Adobe bug number 466320	216
46.8	Direct pdfmark support	216
46.9	Rokicki's dvips	229
46.10	VT _E X's vtexpdfmark driver	231
46.11	Textures	232
46.12	dvipsone	236
46.13	TeX4ht	239
47	Driver-specific form support	241
47.1	pdfmarks	241
47.2	HyperTeX	248
47.3	TeX4ht	249
47.4	pdfTeX	251
47.5	dvipdfm, xetex	258
47.6	Common forms part	266
48	Bookmarks in the PDF file	272
48.1	Bookmarks	272
48.1.1	Rerun warning	275
48.1.2	Driver stuff	275
49	Compatibility with koma-script classes	281
50	Encoding definition files for encodings of PDF strings	281
50.1	PD1 encoding	282
50.2	PU encoding	289
50.2.1	NFSS2 accents	289
50.2.2	Basic Latin: U+0000 to U+007F	291
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	293
50.2.4	Latin Extended-A: U+0080 to U+017F	296
50.2.5	Latin Extended-B: U+0180 to U+024F	301
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	303
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	303
50.2.8	Greek and Coptic: U+0370 to U+03FF	304
50.2.9	Cyrillic: U+0400 to U+04FF	306
50.2.10	Thai: U+0E00 to U+0E7F	317
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	317
50.2.12	General Punctuation: U+2000 to U+206F	319
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	320
50.2.14	Currency Symbols: U+20A0 to U+20CF	321
50.2.15	Letterlike Symbols: U+2100 to U+214F	322
50.2.16	Arrows: U+2190 to U+21FF	322
50.2.17	Mathematical Operators: U+2200 to U+22FF	322
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	322
50.2.19	Control Pictures: U+2400 to U+243F	322

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF	323
50.2.21 Box Drawing: U+2500 to U+257F	325
50.2.22 Miscellaneous Symbols: U+2600 to U+26FF	325
50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	325
50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F	326
50.2.25 Miscellaneous	326
50.2.26 Aliases	326
50.3 PU encoding, additions for VnT _E X	326
50.4 PU encoding, additions for Arabi	329
51 End of file hycheck.tex	330
52 Index	331

3 File hyccheck.tex

Many commands of \LaTeX 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 \LaTeX 's `\CheckCommand`, because it takes `\DeclareRobustCommand` and optional parameters better into account.

```

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

\checklatex Optional argument: release date of  $\LaTeX$ .
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 }\typeout{\%
36 \space\space Loaded: '\HyC@package' \%
37 \csname ver@\HyC@package.sty\endcsname
38 }\%
39 }\%
40 }\%
41 }
```

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}
```

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

105 \def\HyC@nc@default[#1]{%
106   \HyC@Toks={{[#1]}}%
107   \edef\HyC@optcmd{%
108     \expandafter\noexpand
109     \csname\expandafter\string\HyC@@cmd\endcsname
110   }%
111   \expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd
112   \HyC@nc@noopt
113 }

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\cmdl` 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#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\l%
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

```

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

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{kvsetkeys}[2007/09/29]
234 \RequirePackage{pdfescape}[2007/11/11]
235 \RequirePackage{ifpdf}[2006/02/20]
236 \RequirePackage{ifvtex}
237 \RequirePackage{ifxetex}[2006/08/21]
238 \RequirePackage{hycolor}
239 \RequirePackage{letltxmacro}[2008/06/13]
240 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
241 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
242 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 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`.

```

243 \@ifundefined{AfterBeginDocument}{%
244   \def\AfterBeginDocument{\AtBeginDocument}%
245 }{}%

```

4.3 Switches

```

246 \newif\ifHy@typexml
247 \newif\ifHy@activeanchor
248 \newif\ifHy@backref
249 \newif\ifHy@bookmarks
250 \newif\ifHy@bookmarksnumbered
251 \newif\ifHy@bookmarksopen
252 \newif\ifHy@breaklinks
253 \newif\ifHy@centerwindow
254 \newif\ifHy@CJKbookmarks
255 \newif\ifHy@colorlinks

```

```

256 \newif\ifHy@draft
257 \let\Hy@finaltrue\Hy@draftfalse
258 \let\Hy@finalfalse\Hy@drafttrue
259 \newif\ifHy@escapeform
260 \newif\ifHy@figures
261 \newif\ifHy@fitwindow
262 \newif\ifHy@frenchlinks
263 \newif\ifHy@hyperfootnotes
264 \newif\ifHy@hyperindex
265 \newif\ifHy@hypertextnames
266 \newif\ifHy@implicit
267 \newif\ifHy@linktopage
268 \newif\ifHy@menubar
269 \newif\ifHy@naturalnames
270 \newif\ifHy@nesting
271 \newif\ifHy@newwindowset
272 \newif\ifHy@newwindow
273 \newif\ifHy@ocgcolorlinks
274 \newif\ifHy@pageanchor
275 \newif\ifHy@pagelabels
276 \newif\ifHy@pdfpagehidden
277 \newif\ifHy@pdfstring
278 \newif\ifHy@plainpages
279 \newif\ifHy@psize
280 \newif\ifHy@raiselinks
281 \newif\ifHy@seminarslides
282 \newif\ifHy@setpagesize
283 \newif\ifHy@texht
284 \newif\ifHy@toolbar
285 \newif\ifHy@unicode
286 \newif\ifHy@usetitle
287 \newif\ifHy@verbose
288 \newif\ifHy@windowui
289 \newif\ifHy@displaydoctitle
290 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

291 \Hy@backreffalse
292 \Hy@bookmarksnumberedfalse
293 \Hy@bookmarksopenfalse
294 \Hy@bookmarkstrue
295 \Hy@breaklinksfalse
296 \Hy@centerwindowfalse
297 \Hy@CJKbookmarksfalse
298 \Hy@escapeformfalse
299 \Hy@figuresfalse
300 \Hy@fitwindowfalse
301 \Hy@hyperfootnotetrue
302 \Hy@hyperindextrue
303 \Hy@hypertextnametrue
304 \Hy@implicittrue
305 \Hy@linktopagefalse
306 \Hy@menubartrue
307 \Hy@naturalnamesfalse
308 \Hy@nestingfalse
309 \Hy@newwindowsetfalse
310 \Hy@newwindowfalse
311 \Hy@pageanchortrue

```

```

312 \Hy@pagelabelstrue
313 \Hy@pdfpagehiddenfalse
314 \Hy@pdfstringfalse
315 \Hy@plainpagesfalse
316 \Hy@raiselinksfalse
317 \Hy@setpagesizetrue
318 \Hy@texhtfalse
319 \Hy@toolbartrue
320 \Hy@typexmlfalse
321 \Hy@unicodedefalse
322 \Hy@usetitlefalse
323 \Hy@verbosefalse
324 \Hy>windowuitrue
325 \Hy@displaydoctitlefalse
326 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

329 \newdimen\@linkdim
330 \let\Hy@driver\@empty
331 \let\MaybeStopEarly\relax
332 \newcount\Hy@linkcounter
333 \newcount\Hy@pagecounter
334 \Hy@linkcounter0
335 \Hy@pagecounter0

```

5.1 Macros for recursions

\Hy@ReturnAfterElseFi The commands \Hy@ReturnAfterElseFi and \Hy@ReturnAfterFi avoid a too deep
 \Hy@ReturnAfterFi \if-nesting especially for recursive macros.

```

336 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
337 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

338 \let\Hy@ReturnEnd\@empty
339 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
340 \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 used directly, because they can be undefined if
 \Hy@safe@activesfalse babel is not loaded.

```

341 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
342 \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).

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

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

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

Example (TeX):

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

`\hypercalsbp`

```
343 \begingroup\expandafter\expandafter\expandafter\endgroup
344 \expandafter\ifx\csname dimexpr\endcsname\relax
345   \def\hypercalsbpdef#1#2{%
346     \begingroup
347       \toks@{}%
348       \HyCal@scan#2\hypercalsbp\@nil
349     \expandafter\endgroup
350     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
351   }%
352 \def\HyCal@scan#1\hypercalsbp#2\@nil{%
353   \toks@\expandafter{\the\toks@ #1}%
354   \ifx\#2\%
355     \else
356       \Hy@ReturnAfterFi{%
357         \HyCal@do#2\@nil
358       }%
359     \fi
360   }%
361 \def\HyCal@do#1#2\@nil{%
362   \ifpackageloaded{calc}{}%
363   \Hy@Warning{%
364     For calculations \string\hypercalsbp\space needs\MessageBreak
365     package calc or e-TeX%
366   }%
367 }%
368 \setlength{\dimen@}{#1}%
369 \setlength{\dimen@}{0.99626401\dimen@}%
370 \edef\x{%
371   \toks@{}%
372   \the\toks@
373   \strip@pt\dimen@
```

```

374   }%
375   }\x
376   \HyCal@scan#2\@nil
377 }%
378 \else
379 \def\hypercalcbp#1{%
380   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
381 }%
382 \def\hypercalcbpdef{\def}%
383 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <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.

`\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 T_EX, because the tokens have only catcodes 10 until 12.

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

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

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

```
385 \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 T_EX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard L^AT_EX behaviour.

```
386 \escapechar'\%
```

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

```
387 \edef\0{\string\0}%
388 \edef\1{\string\1}%
389 \edef\2{\string\2}%
390 \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.

```
391 \ifHy@unicode
392 \edef\8{\string\8}%
393 \edef\9{\string\9}%
394 \fontencoding{PU}%
395 \HyPsd@UTFviii
396 \def\ifpdfstringunicode##1##2{##1}%
397 \else
398 \fontencoding{PD1}%
399 \def\ifpdfstringunicode##1##2{##2}%
400 \fi
401 \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).

```
402 \@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).

```
403 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
404 \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.

```
405 \let\{\textbraceleft
406 \let\}\textbraceright
407 \let\\\textbackslash
408 \let\#\textnumbersign
409 \let\$\textdollar
410 \let\%\textpercent
411 \let\&\textampersand
412 % \let\~\textasciitilde
413 \let\_ \textunderscore
414 \let\textP\textparagraph
415 \let\ldots\textellipsis
416 \let\dots\textellipsis
```

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

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

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

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

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

```
417 \def\{\pdfstringdefWarn\}%
418 \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.

```
419 \def\TeX{\TeX}%
420 \def\LaTeX{\LaTeX}%
421 \def\LaTeXe{\LaTeX2e}%
422 \def\eTeX{e-TeX}%
423 \def\SliTeX{SliTeX}%
424 \def\MF{Metafont}%
425 \def\MP{Metapost}%
```

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

```

426 \let\fontencoding\@gobble
427 \let\fontfamily\@gobble
428 \let\fontseries\@gobble
429 \let\fontshape\@gobble
430 \let\fontsize\@gobbletwo
431 \let\selectfont\@empty
432 \let\usefont\@gobblefour
433 \let\emph\@firstofone
434 \let\textnormal\@firstofone
435 \let\textrm\@firstofone
436 \let\textsf\@firstofone
437 \let\texttt\@firstofone
438 \let\textbf\@firstofone
439 \let\textmd\@firstofone
440 \let\textit\@firstofone
441 \let\textsc\@firstofone
442 \let\textsl\@firstofone
443 \let\textup\@firstofone
444 \let\normalfont\@empty
445 \let\rmfamily\@empty
446 \let\sffamily\@empty
447 \let\ttfamily\@empty
448 \let\bfseries\@empty
449 \let\mdseries\@empty
450 \let\itshape\@empty
451 \let\scshape\@empty
452 \let\slshape\@empty
453 \let\upshape\@empty
454 \let\em\@empty
455 \let\rm\@empty
456 \let\Huge\@empty
457 \let\LARGE\@empty
458 \let\Large\@empty
459 \let\footnotesize\@empty
460 \let\huge\@empty
461 \let\large\@empty
462 \let\normalsize\@empty
463 \let\scriptsize\@empty
464 \let\small\@empty
465 \let\tiny\@empty
466 \let\mathversion\@gobble
467 \let\phantom\@gobble
468 \let\vphantom\@gobble
469 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

471 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
472 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

473 \let\textlatin\@firstofone
474 \@ifundefined{language@group}{\}%
475 \csname HyPsd@babel@language@group\endcsname
476 }%
477 \HyPsd@GreekPatch
478 \HyPsd@SpanishPatch
479 \HyPsd@BabelPatch
480 \let\@safe@activestrue\relax
481 \let\@safe@activesfalse\relax

```

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

```

482 \let\cyr\relax

```

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

```

483 \let\es@roman\@Roman

```

Package german.

```

484 \let\glqq\textglqq
485 \let\grqq\textgrqq
486 \let\glq\textglq
487 \let\grq\textgrq
488 \let\flqq\textflqq
489 \let\frqq\textfrqq
490 \let\flq\textflq
491 \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}

```

```

492 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

493 \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.

```

494 \let\hspace\HyPsd@hspace

```

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

```

495 \let\label\@gobble
496 \let\index\@gobble
497 \let\glossary\@gobble
498 \let\href\@secondoftwo
499 \let\@mkboth\@gobbletwo

```

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

```
500 \let\ref\HyPsd@ref
501 \let\pageref\HyPsd@pageref
502 \let\nameref\HyPsd@nameref
503 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
504 \let\leavevmode\@empty
505 \let\mbox\@empty
```

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

```
506 \def\halign{\pdfstringdefWarn\halign\@gobble}%
507 \let\ignorespaces\HyPsd@ignorespaces
508 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
509 \HyPsd@CJKhook
```

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

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

```
510 \Hy@pdfstringtrue
511 \pdfstringdefPreHook
```

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

```
512 \HyPsd@LetUnexpandableSpace\space
513 \HyPsd@LetUnexpandableSpace\ %
514 \HyPsd@LetUnexpandableSpace~%
515 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
516 \@ifundefined{@xspace}{%
517 \let\xspace\HyPsd@ITALCORR
518 }{%
519 \let\xspace\HyPsd@XSPACE
520 }%
521 \let\/\HyPsd@ITALCORR
522 \let\bgroup\/%
523 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
524 \let\discretionary\@gobbletwo
```

`\@ifstar` is defined in \LaTeX 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:

```
525 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
526 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
527 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
528 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
529 \let\@protected@testopt\xargs\HyPsd@protected@testopt
```

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

`\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 \TeX 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. \TeX 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 \LaTeX '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 \LaTeX 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 \TeX , 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).

```
530 \begingroup
531 \let\GenericError\@gobblefour
532 \let\GenericWarning\@gobbletwo
```

```
533 \let\GenericInfo\@gobbletwo
```

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

```
534 \ifx\nofrenchguillemets\@undefined
535 \else
536 \nofrenchguillemets
537 \fi
```

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

```
538 \let\Hy@temp\xdef
539 \let\def\HyPsd@DefCommand
540 \let\gdef\HyPsd@DefCommand
541 \let\edef\HyPsd@DefCommand
542 \let\xdef\HyPsd@DefCommand
543 \let\futurelet\HyPsd@LetCommand
544 \let\let\HyPsd@LetCommand
545 \Hy@temp#1{#2}%
546 \endgroup
```

6.2.3 Postprocessing

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

```
547 \ifx#1\@empty
548 \else
```

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

- T_EX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't found by T_EX'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 a marker for the xspace support.
- T_EX silently removes the outermost pair of braces of an argument. To prevent this in 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.

```
549 \HyPsd@ProtectSpaces#1%
550 \let\HyPsd@String\@empty
551 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
552 \global\let#1\HyPsd@String
```

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

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

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

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

```

553 \let\HyPsd@SPACEOPTI\relax
554 {%
555 \let\HyPsd@String\@empty
556 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
557 \global\let#1\HyPsd@String
558 }%
559 \expandafter\HyPsd@RemoveMask\expandafter
560 | \expandafter\@empty#1\HyPsd@end#1%
```

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

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

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

```

561 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
562 \let\HyPsd@String\@empty
563 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
564 \global\let#1\HyPsd@String
```

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

```
565 \HyPsd@StringSubst{\\}{\textbackslash}#1%
```

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

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

```

566 \ifHy@unicode
567 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
568 \HyPsd@SPACEOPTI#1%
569 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
```



```

570 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
571 {\HyPsd@SPACEOPTI\80\273}#1%
572 \else
573 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
574 \expandafter\HyPsd@Subst\expandafter{%
575 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
576 \string\273}{\HyPsd@SPACEOPTI\273}#1%
577 \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.

```

578 \ifHy@unicode
579 \HyPsd@StringSubst{\)}{\80\051}#1%
580 \HyPsd@Subst){\80\051}#1%
581 \let\HyPsd@empty\relax
582 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
583 {\HyPsd@empty\80\051}#1%
584 \else
585 \HyPsd@StringSubst{\)}{\051}#1%
586 \HyPsd@Subst){\051}#1%
587 \let\HyPsd@empty\relax
588 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
589 \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`.

```

590 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
591 \@ifundefined{@xspace}{%
592 }{%
593 \let\HyPsd@xspace\relax
594 \expandafter\HyPsd@Subst\expandafter
595 {\HyPsd@XSPACE}\HyPsd@xspace#1%
596 \let\HyPsd@xspace\HyPsd@doxspace
597 }%
598 \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.

```
599 \HyPsd@Subst{---}\textemdash#1%
600 \HyPsd@Subst{--}\textendash#1%
601 % \HyPsd@Subst{fi}\textfi#1%
602 % \HyPsd@Subst{fl}\textfl#1%
603 \HyPsd@Subst{!'}\textexclamdown#1%
604 \HyPsd@Subst{?'}\textquestiondown#1%
```

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

```
605 \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.

```
606 \ifHy@unicode
607 \HyPsd@StringSubst{\textparenleft#1%
608 \HyPsd@Subst{\textparenleft#1%
609 \else
610 \HyPsd@StringSubst\({\050}#1%
611 \HyPsd@Subst({\050}#1%
612 \HyPsd@StringSubst{\050}{\string\{ }#1%
613 \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.

```
614 \ifHy@unicode
615 \edef\HyPsd@SPACEOPTI{\80\040}%
616 \else
617 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
618 \fi
619 \xdef#1{#1\@empty}%
620 \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.

```
621 \endgroup
622 \begingroup
623 \ifHy@unicode
624 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
625 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
626 \@ifundefined{StringEncodingConvertTest}{%
627 }{%
628 \EdefUnescapeString\HyPsd@temp#1%
```

```

629 \ifxetex
630 \let\HyPsd@UnescapedString\HyPsd@temp
631 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
632 {utf16be}{ascii-print}{%
633 \EdefEscapeString\HyPsd@temp\HyPsd@temp
634 \global\let#1\HyPsd@temp
635 \Hy@unicodetrue
636 }{%
637 \HyPsd@ToBigChars#1%
638 }%
639 \else
640 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
641 {utf16be}{pdfdoc}{%
642 \EdefEscapeString\HyPsd@temp\HyPsd@temp
643 \global\let#1\HyPsd@temp
644 \Hy@unicodetrue
645 }{%
646 \fi
647 }%
648 \fi
649 \fi
650 \HyPsd@XeTeXBigCharsfalse

```

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

```

651 \pdfstringdefPostHook#1%
652 \endgroup
653 }

```

`\Hy@pdfstringdef`

```

654 \def\Hy@pdfstringdef#1#2{%
655 \pdfstringdef\Hy@gtemp{#2}%
656 \let#1\Hy@gtemp
657 }

```

6.3 Encodings

6.3.1 XeTeX

```

658 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
659 \catcode\z@=12 %
660 \ifxetex
661 \expandafter\@firstofone
662 \else
663 \let\HyPsd@XeTeXBigCharstrue\@empty
664 \let\HyPsd@XeTeXBigCharsfalse\@empty
665 \expandafter\@gobble
666 \fi
667 {%
668 \newif\ifHyPsd@XeTeXBigChars
669 \def\HyPsd@XeTeXBigCharsfalse{%
670 \global\let\ifHyPsd@XeTeXBigChars\iffalse
671 }%
672 \def\HyPsd@XeTeXBigCharstrue{%
673 \global\let\ifHyPsd@XeTeXBigChars\iffalse
674 }%
675 \def\HyPsd@ToBigChars#1{%

```

```

676 \ifHyPsd@XeTeXBigChars
677 \edefEscapeHex\HyPsd@UnescapedString{%
678 \expandafter\@gobbletwo\HyPsd@UnescapedString
679 }%
680 \begingroup
681 \toks@{}%
682 \escapechar=92\relax
683 \let\x\HyPsd@ToBigChar
684 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
685 \relax\relax\relax\relax\relax\relax\relax
686 \edef\x{%
687 \endgroup
688 \gdef\noexpand#1{\the\toks@}%
689 }%
690 \x
691 \fi
692 }%
693 \def\HyPsd@ToBigChar#1#2#3#4{%
694 \ifx\relax#1\relax
695 \let\x\relax
696 \else
697 \count@="#1#2#3#4\relax
698 \let\y\@empty
699 \lccode\z@=\count@
700 \ifnum\count@=40 % (
701 \let\y\@backslashchar
702 \else
703 \ifnum\count@=41 % )
704 \let\y\@backslashchar
705 \else
706 \ifnum\count@=92 % backslash
707 \let\y\@backslashchar
708 \else
709 \ifnum\count@=10 % newline
710 \edef\y##1{\string\n}%
711 \else
712 \ifnum\count@=13 % carriage return
713 \edef\y##1{\string\r}%
714 \fi
715 \fi
716 \fi
717 \fi
718 \fi
719 \lowercase{%
720 \toks@\expandafter{%
721 \the\expandafter\toks@
722 \y
723 ^^@%
724 }%
725 }%
726 \fi
727 \x
728 }%
729 }
730 \Hy@temp

```

6.3.2 Workaround for package linguex

```

731 \@ifpackageloaded{linguex}{%
732   \let\HyLinguex@OrgB\b
733   \let\HyLinguex@OrgC\c
734   \let\HyLinguex@OrgD\d
735   \def\HyLinguex@Restore{%
736     \let\b\HyLinguex@OrgB
737     \let\c\HyLinguex@OrgC
738     \let\d\HyLinguex@OrgD
739   }%
740   \AtEndOfPackage{%
741     \pdfstringdefDisableCommands{%
742       \@ifundefined{oldb}{\let\b\oldb}%
743       \@ifundefined{oldc}{\let\c\oldc}%
744       \@ifundefined{oldd}{\let\d\oldd}%
745     }%
746   }%
747 }{%
748   \let\HyLinguex@Restore\relax
749 }%

```

6.3.3 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.

```

750 \@ifundefined{T@PD1}{%
751   \input{pd1enc.def}%
752   \HyLinguex@Restore
753 }{}
754 \DeclareFontFamily{PD1}{pdf}{}
755 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
756 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

6.3.4 PU encoding

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

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

```

757 \def\HyPsd@InitUnicode{%
758   \@ifundefined{T@PU}{%
759     \input{puenc.def}%
760     \HyLinguex@Restore
761   }{}%
762   \DeclareFontFamily{PU}{pdf}{}%
763   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
764   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
765   \let\HyPsd@InitUnicode\relax
766 }

```

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 expandible macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by \TeX 's stomach, the second contains the replacement for PDF strings.

```

767 \def\texorpdfstring{%
768   \ifHy@pdfstring
769     \expandafter\@secondoftwo
770   \else
771     \expandafter\@firstoftwo
772   \fi
773 }
```

6.4.2 Hooks for `\pdfstringdef`

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

```

774 \@ifundefined{pdfstringdefPreHook}{%
775   \let\pdfstringdefPreHook\empty
776 }{}
777 \@ifundefined{pdfstringdefPostHook}{%
778   \let\pdfstringdefPostHook\@gobble
779 }{}
```

`\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 \LaTeX commands like `\@gobble` or `\@firstofone`.

```

780 \def\pdfstringdefDisableCommands{%
781   \begingroup
782     \makeatletter
783     \HyPsd@DisableCommands
784 }
```

`\HyPsd@DisableCommands`

```

785 \long\def\HyPsd@DisableCommands#1{%
786   \toks0=\expandafter{\pdfstringdefPreHook}%
787   \toks1={#1}%
788   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
789 \endgroup
790 }
```

`\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`.

```
791 \def\pdfstringdefWarn#1{%
792   \expandafter\noexpand\csname<>-string#1\endcsname
793 }
```

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.

```
794 \begingroup
795   \catcode0=12 %
796   \def\x{\endgroup
797     \def\HyPsd@ignorespaces{%
798       \romannumeral\expandafter'\expandafter^^@%
799       \romannumeral'^^@%
800     }%
801   }%
802 \x
```

6.5.2 Babel languages

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

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

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

```
803 \def\HyPsd@BabelPatch{%
804   \let\HyOrg@languageshorthands\languageshorthands
805   \let\languageshorthands\HyPsd@LanguageShorthands
806 }
807 \RequirePackage{pdftexcmds}[2009/04/10]
808 \begingroup\expandafter\expandafter\expandafter\endgroup
809 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
810   \let\HyPsd@langshort@system\@empty
811   \def\HyPsd@LanguageShorthands#1{%
812     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
813       \HyPsd@langshort@system
814     \expandafter\@gobble
815   \else
```

```

816 \expandafter\@firstofone
817 \fi
818 {%
819 \HyOrg@languageshorthands{#1}%
820 }%
821 }%
822 \else
823 \def\HyPsd@LanguageShorthands#1{%
824 \ifnum\pdf@strcmp{#1}{system}=\z@
825 \expandafter\@gobble
826 \else
827 \expandafter\@firstofone
828 \fi
829 {%
830 \HyOrg@languageshorthands{#1}%
831 }%
832 }%
833 \fi
834 \def\Hy@temp{%
835 \@ifpackageloaded{babel}{%
836 \@ifpackagelater{babel}{2008/03/16}{%
837 \let\Hy@temp\@empty
838 }{%
839 \def\HyPsd@BabelPatch{%
840 \let\HyOrg@languageshorthands\languageshorthands
841 }%
842 }%
843 }{}%
844 }
845 \Hy@temp
846 \expandafter\AtBeginDocument\expandafter{\Hy@temp}
847 \newif\ifHy@next

Nothing to do for english.
848 \@ifundefined{danish@sh@.}{%sel}{%}{%
849 \def\HyPsd@babel@danish{%
850 \declare@shorthand{danish}{"}{|}{%}{%
851 \declare@shorthand{danish}{"}{~}{-}{%}{%
852 }%
853 }
854 \@ifundefined{dutch@sh@.}{%sel}{%}{%
855 \def\HyPsd@babel@dutch{%
856 \declare@shorthand{dutch}{"}{|}{%}{%
857 \declare@shorthand{dutch}{"}{~}{-}{%}{%
858 }%
859 }
860 \@ifundefined{finnish@sh@.}{%sel}{%}{%
861 \def\HyPsd@babel@finnish{%
862 \declare@shorthand{finnish}{"}{|}{%}{%
863 }%
864 }
865 \@ifundefined{french@sh@.}{%sel}{%}{%
866 \def\HyPsd@babel@frenchb{%
867 \def\guill@spacing{ }%
868 }%
869 }
870 \@ifundefined{german@sh@.}{%sel}{%}{%

```



```

871 \def\HyPsd@babel@german{%
872   \declare@shorthand{german}{f}{f}%
873   \declare@shorthand{german}{"}{|}%
874   \declare@shorthand{german}{"}~}{-}%
875 }%
876 }
877 \@ifundefined{macedonian@sh@"@sel}{}{%
878 \def\HyPsd@babel@macedonian{%
879   \declare@shorthand{macedonian}{"}{|}%
880   \declare@shorthand{macedonian}{"}~}{-}%
881 }%
882 }{}
883 \@ifundefined{ngerman@sh@"@sel}{}{%
884 \def\HyPsd@babel@ngerman{%
885   \declare@shorthand{ngerman}{"}{|}%
886   \declare@shorthand{ngerman}{"}~}{-}%
887 }%
888 }
889 \@ifundefined{portuges@sh@"@sel}{}{%
890 \def\HyPsd@babel@portuges{%
891   \declare@shorthand{portuges}{"}{|}%
892 }%
893 }
894 \@ifundefined{russian@sh@"@sel}{}{%
895 \def\HyPsd@babel@russian{%
896   \declare@shorthand{russian}{"}{|}%
897   \declare@shorthand{russian}{"}~}{-}%
898 }%
899 }
900 \@ifundefined{slovene@sh@"@sel}{}{%
901 \def\HyPsd@babel@slovene{%
902   \declare@shorthand{slovene}{"}{|}%
903 }%
904 }

```

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

```

905 \@ifundefined{spanish@sh@>@sel}{}{%
906 \def\HyPsd@babel@spanish{%
907   \declare@shorthand{spanish}{<<}{\guillemotleft}%
908   \declare@shorthand{spanish}{>>}{\guillemotright}%
909   \declare@shorthand{spanish}{=}{-}%
910   \declare@shorthand{spanish}{"}~}{-}%
911   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
912   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
913 }%
914 }
915 \@ifundefined{swedish@sh@"@sel}{}{%
916 \def\HyPsd@babel@swedish{%
917   \declare@shorthand{swedish}{"}{|}%
918   \declare@shorthand{swedish}{"}~}{-}%
919 }%
920 }
921 \@ifundefined{ukrainian@sh@"@sel}{}{%
922 \def\HyPsd@babel@ukrainian{%
923   \declare@shorthand{ukrainian}{"}{|}%
924   \declare@shorthand{ukrainian}{"}~}{-}%
925 }%
926 }

```

```

927 \@ifundefined{usorbian@sh@{sel}}{}{}%
928 \def\HyPsd@babel@usorbian{%
929 \declare@shorthand{usorbian}{f}{f}%
930 \declare@shorthand{usorbian}{|}{|}%
931 }%
932 }

933 \@ifundefined{greek@sh@{string~@sel}}{}{}%
934 \let\HyPsd@GreekPatch\@empty
935 }{}%
936 \def\HyPsd@GreekPatch{%
937 \let\greeknumeral\HyPsd@greeknumeral
938 \let\Greeknnumeral\HyPsd@Greeknnumeral
939 }%
940 }

941 \def\HyPsd@greeknumeral#1{%
942 \HyPsd@GreekNum\@firstoftwo{#1}%
943 }

944 \def\HyPsd@Greeknnumeral#1{%
945 \HyPsd@GreekNum\@secondoftwo{#1}%
946 }

947 \def\HyPsd@GreekNum#1#2{%
948 \ifHy@unicode
949 \ifnum#2<\@ne
950 \@arabic{#2}%
951 \else
952 \ifnum#2<1000000 %
953 \HyPsd@@GreekNum#1{#2}%
954 \else
955 \@arabic{#2}%
956 \fi
957 \fi
958 \else
959 \@arabic{#2}%
960 \fi
961 }

962 \def\HyPsd@@GreekNum#1#2{%
963 \ifnum#2<\@m
964 \ifnum#2<10 %
965 \expandafter\HyPsd@GreekNumI
966 \expandafter\@gobble\expandafter#1\number#2%
967 \else
968 \ifnum#2<100 %
969 \expandafter\HyPsd@GreekNumII
970 \expandafter\@gobble\expandafter#1\number#2%
971 \else
972 \expandafter\HyPsd@GreekNumIII
973 \expandafter\@gobble\expandafter#1\number#2%
974 \fi
975 \fi
976 \ifnum#2>\z@
977 \textnumeralsigngreek
978 \fi
979 \else
980 \ifnum#2<\@M
981 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
982 \else
983 \ifnum#2<100000 %

```

```

984     \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
985     \else
986     \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
987     \fi
988     \fi
989     \fi
990 }
991 \def\HyPsd@GreekNumI#1#2#3{%
992   #1{%
993     \ifnum#3>\z@
994       \textnumeralsignlowergreek
995       \fi
996     }%
997     \expandafter#2%
998     \ifcase#3 %
999       {}{}%
1000     \or\textalpha\textAlpha
1001     \or\textbeta\textBeta
1002     \or\textgamma\textGamma
1003     \or\textdelta\textDelta
1004     \or\textepsilon\textEpsilon
1005     \or\textstigmagreek\textStigmagreek
1006     \or\textzeta\textZeta
1007     \or\texteta\textEta
1008     \or\texttheta\textTheta
1009     \else
1010       {}{}%
1011     \fi
1012 }
1013 \def\HyPsd@GreekNumII#1#2#3#4{%
1014   #1{%
1015     \ifnum#3>\z@
1016       \textnumeralsignlowergreek
1017       \fi
1018     }%
1019     \expandafter#2%
1020     \ifcase#3 %
1021       {}{}%
1022     \or\textiota\textIota
1023     \or\textkappa\textKappa
1024     \or\textlambda\textLambda
1025     \or\textmu\textMu
1026     \or\textnu\textNu
1027     \or\textxi\textXi
1028     \or\textomicron\textOmicron
1029     \or\textpi\textPi
1030     \or\textkoppagreek\textKoppagreek
1031     \else
1032       {}{}%
1033     \fi
1034     \HyPsd@GreekNumI#1#2#4%
1035 }
1036 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1037   #1{%
1038     \ifnum#3>\z@
1039       \textnumeralsignlowergreek
1040       \fi

```

```

1041 }%
1042 \expandafter#2%
1043 \ifcase#3 %
1044 {}{}%
1045 \or\textrho\textRho
1046 \or\textsigma\textSigma
1047 \or\texttau\textTau
1048 \or\textupsilon\textUpsilon
1049 \or\textphi\textPhi
1050 \or\textchi\textChi
1051 \or\textpsi\textPsi
1052 \or\textomega\textOmega
1053 \or\textsampigreek\textSampigreek
1054 \else
1055 {}{}%
1056 \fi
1057 \HyPsd@GreekNumII#1#2#4#5%
1058 }
1059 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1060 \HyPsd@GreekNumI\@firstofone#1#2%
1061 \HyPsd@@GreekNum#1{#3#4#5}%
1062 }
1063 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1064 \HyPsd@GreekNumII\@firstofone#1#2#3%
1065 \HyPsd@@GreekNum#1{#4#5#6}%
1066 }
1067 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1068 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1069 \HyPsd@@GreekNum#1{#5#6#7}%
1070 }
1071 \def\HyPsd@SpanishPatch{%
1072 \begingroup\expandafter\expandafter\expandafter\endgroup
1073 \expandafter\ifx\csname es@save@dot\endcsname\relax
1074 \else
1075 \let\.\es@save@dot
1076 \fi
1077 }

```

6.5.3 CJK patch

```

1078 \RequirePackage{intcalc}[2007/09/27]
1079 \RequirePackage{ltxcmds}[2010/03/09]

```

\HyPsd@CJKhook

```

1080 \def\HyPsd@CJKhook{%
1081 \ltx@ifpackageloaded{CJK}{%
1082 \let\CJK@kern\relax
1083 \let\CJKkern\relax
1084 \let\CJK@CJK\relax
1085 \ifHy@CJKbookmarks
1086 \HyPsd@@CJKhook@bookmarks
1087 \fi
1088 \HyPsd@CJKhook@unicode
1089 }{}%
1090 }

```

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 ($\geq 0x40$).

```
1091 \begingroup
1092 \catcode"7F=\active
1093 \toks@{%
1094 \let\CJK@ignorespaces\empty
1095 \def\CJK@char#1{\@gobbletwo}%
1096 \let\CJK@charx\@gobblefour
1097 \let\CJK@punctchar\@gobblefour
1098 \def\CJK@punctcharx#1{\@gobblefour}%
1099 \catcode"7F=\active
1100 \def^^7f#1^^7f#2^^7f{%
1101 \string #1\HyPsd@DecimalToOctal{#2}%
1102 }%
1103 % ... ?
1104 \ifHy@unicode
1105 \def\Hy@cjkpu{\80}%
1106 \else
1107 \let\Hy@cjkpu\@empty
1108 \fi
1109 \HyPsd@CJKActiveChars
1110 }%
1111 \count@=127 %
1112 \@whilenum\count@<255 \do{%
1113 \advance\count@ by 1 %
1114 \lccode'\~= \count@
1115 \lowercase{%
1116 \toks@\expandafter{\the\toks@ ~}%
1117 }%
1118 }%
1119 \toks@\expandafter{\the\toks@ !}%
1120 \xdef\HyPsd@CJKhook@bookmarks{%
1121 \the\toks@
1122 }%
1123 \endgroup
```

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

```
1124 \def\HyPsd@CJKActiveChars#1{%
1125 \ifx#1!%
1126 \let\HyPsd@CJKActiveChars\relax
1127 \else
1128 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1129 \fi
1130 \HyPsd@CJKActiveChars
1131 }
```

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

```

1132 \def\HyPsd@DecimalToOctal#1{%
1133   \ifcase #1 %
1134     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1135     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1136     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1137     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1138     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1139     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1140     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1141     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1142     \or @\or A\or B\or C\or D\or E\or F\or G%
1143     \or H\or I\or J\or K\or L\or M\or N\or O%
1144     \or P\or Q\or R\or S\or T\or U\or V\or W%
1145     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1146     \or \140\or a\or b\or c\or d\or e\or f\or g%
1147     \or h\or i\or j\or k\or l\or m\or n\or o%
1148     \or p\or q\or r\or s\or t\or u\or v\or w%
1149     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1150     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1151     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1152     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1153     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1154     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1155     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1156     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1157     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1158     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1159     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1160     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1161     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1162     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1163     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1164     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1165     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1166   \fi
1167 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1168 \def\HyPsd@CJKhook@unicode{%
1169   \let\Unicode\HyPsd@CJK@Unicode
1170   \let\CJKnumber\HyPsd@CJKnumber
1171   \let\CJKdigits\HyPsd@CJKdigits
1172 }

```

\HyPsd@CJK@Unicode

```

1173 \def\HyPsd@CJK@Unicode#1#2{%
1174   \ifnum#1<256 %
1175     \HyPsd@DecimalToOctalFirst{#1}%
1176     \HyPsd@DecimalToOctal{#2}%
1177   \else
1178     \933%
1179     \expandafter\expandafter\expandafter\HyPsd@HighA
1180     \intcalcDiv{#1}{4}!%
1181     \933%
1182     \ifcase\intcalcMod{#1}{4} %

```

```

1183     4\or 5\or 6\or 7%
1184     \fi
1185     \HyPsd@DecimalToOctal{#2}%
1186 \fi
1187 }

1188 \def\HyPsd@HighA#1!{%
1189 \expandafter\expandafter\expandafter\HyPsd@HighB
1190 \IntCalcDiv#1!64!!%
1191 \expandafter\expandafter\expandafter\HyPsd@HighD
1192 \IntCalcMod#1!64!!%
1193 }

1194 \def\HyPsd@HighB#1!{%
1195 \expandafter\expandafter\expandafter\HyPsd@HighC
1196 \IntCalcDec#1!!%
1197 }

1198 \def\HyPsd@HighC#1!{%
1199 \IntCalcDiv#1!4!%
1200 \@backslashchar
1201 \IntCalcMod#1!4!%
1202 }

1203 \def\HyPsd@HighD#1!{%
1204 \ifcase\IntCalcDiv#1!8! %
1205     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1206 \fi
1207 \ifcase\IntCalcMod#1!8! %
1208     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1209 \fi
1210 }

1211 \def\HyPsd@DecimalToOctalFirst#1{%
1212 \9%
1213 \ifcase#1 %
1214     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1215     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1216     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1217     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1218     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1219     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1220     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1221     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1222     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1223     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1224     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1225     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1226     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1227     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1228     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1229     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1230     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1231     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1232     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1233     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1234     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1235     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1236     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1237     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1238     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1239     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%

```

```

1240 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1241 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1242 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1243 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1244 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1245 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1246 \fi
1247 }

1248 \def\HyPsd@CJKnumber#1{%
1249 \ifnum#1<\z@
1250 \CJK@minus
1251 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1252 \else
1253 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1254 \fi
1255 }

1256 \def\HyPsd@@CJKnumber#1{%
1257 \ifcase#1 %
1258 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1259 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1260 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1261 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1262 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1263 \CJK@ten\CJK@nine
1264 \else
1265 \ifnum#1<10000 %
1266 \HyPsd@CJKnumberFour#1!\@empty
1267 \@empty
1268 \else
1269 \ifnum#1<100000000 %
1270 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1271 \IntCalcDiv#1!10000!%
1272 !{}%
1273 \CJK@tenthousand
1274 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1275 \IntCalcMod#1!10000!%
1276 !\CJK@zero
1277 \@empty
1278 \else
1279 \expandafter\HyPsd@CJKnumberLarge
1280 \number\IntCalcDiv#1!100000000!\expandafter!%
1281 \number\IntCalcMod#1!100000000!!%
1282 \fi
1283 \fi
1284 \fi
1285 }

1286 \def\HyPsd@CJKnumberLarge#1!#2!{%
1287 \HyPsd@CJKnumberFour#1!{}%
1288 \CJK@hundredmillion
1289 \ifnum#2=\z@
1290 \else
1291 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1292 \IntCalcDiv#2!10000!%
1293 !\CJK@zero
1294 \CJK@tenthousand
1295 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1296 \IntCalcMod#2!10000!%

```



```

1297  !\CJK@zero
1298  \@empty
1299  \fi
1300 }
1301 \def\HyPsd@CJKnumberFour#1!#2{%
1302  \ifnum#1=\z@
1303    \expandafter\@gobble
1304  \else
1305    \ifnum#1<1000 %
1306      #2%
1307    \HyPsd@CJKnumberThree#1!}%
1308  \else
1309    \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1310    \CJK@thousand
1311    \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1312      \IntCalcMod#1!1000!%
1313    !\CJK@zero
1314  \fi
1315  \fi
1316 }
1317 \def\HyPsd@CJKnumberThree#1!#2{%
1318  \ifnum#1=\z@
1319  \else
1320    \ifnum#1<100 %
1321      #2%
1322    \HyPsd@CJKnumberTwo#1!}%
1323  \else
1324    \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1325    \CJK@hundred
1326    \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1327      \IntCalcMod#1!100!%
1328    !\CJK@zero
1329  \fi
1330  \fi
1331 }
1332 \def\HyPsd@CJKnumberTwo#1!#2{%
1333  \ifnum#1=\z@
1334  \else
1335    \ifnum#1<10 %
1336      #2%
1337    \HyPsd@@CJKnumber{#1}%
1338  \else
1339    \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1340    \CJK@ten
1341    \ifnum\IntCalcMod#1!10!=\z@
1342    \else
1343      \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1344    \fi
1345  \fi
1346  \fi
1347 }
1348 \def\HyPsd@CJKdigits#1{%
1349  \ifx*#1\relax
1350    \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1351  \else
1352    \HyPsd@@CJKdigits\CJK@null{#1}%
1353  \fi

```

```

1354 }
1355 \def\HyPsd@@@CJKdigits#1#2{%
1356   \ifx\\#2\\%
1357     \else
1358       \HyPsd@@@CJKdigits#1#2\@nil
1359     \fi
1360 }%
1361 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1362   \HyPsd@CJKdigit#1{#2}%
1363   \ifx\\#3\\%
1364     \expandafter\@gobble
1365   \else
1366     \expandafter\@firstofone
1367   \fi
1368   {%
1369     \HyPsd@@@CJKdigits#1#3\@nil
1370   }%
1371 }
1372 \def\HyPsd@CJKdigit#1#2{%
1373   \ifcase#2 %
1374     #1\or
1375     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1376     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1377   \fi
1378 }

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

1379 \def\HyPsd@inmathwarn#1#2{%
1380   \ifx#2\expandafter
1381     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1382       \HyPsd@GLYPHERR
1383       \expandafter\@gobble\string#1%
1384       >%
1385       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1386     \else
1387       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1388     \fi
1389   \else
1390     \expandafter#2%
1391   \fi
1392 }
1393 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1394 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1395 \def\HyPsd@add@accent#1#2{%
1396   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1397   #2%
1398 }%

```

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.

```

1399 \def\HyPsd@LetUnexpandableSpace#1{%
1400   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1401 }

```

\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.

```

1402 \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.

```
1403 \edef\HyPsd@XSPACE{\string#\string X}
1404 \edef\HyPsd@ITALCORR{\string#\string I}
1405 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1406 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1407 \def\HyPsd@@hspace#1*#2\END{%
1408   \ifx\#2\%
1409     \HyPsd@hspacetest{#1}%
1410   \else
1411     \expandafter\HyPsd@hspacetest
1412   \fi
1413 }
```

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

```
1414 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1415 \ifundefined{tocsection}{%
1416   \let\HyPsd@AMSclassfix\relax
1417 }{%
1418   \def\HyPsd@AMSclassfix{%
1419     \let\tocpart\HyPsd@tocsection
1420     \let\tocchapter\HyPsd@tocsection
1421     \let\tocappendix\HyPsd@tocsection
1422     \let\tocsection\HyPsd@tocsection
1423     \let\tocsubsection\HyPsd@tocsection
1424     \let\tocsubsubsection\HyPsd@tocsection
1425     \let\tocparagraph\HyPsd@tocsection
1426   }%
1427   \def\HyPsd@tocsection#1#2#3{%
1428     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1429     #3%
1430   }%
1431 }
```

6.5.11 Reference commands

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

```
1432 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1433 \def\HyPsd@@ref#1*#2\END{%
```

```

1434 \ifx\#2\%
1435 \HyPsd@@@ref{#1}%
1436 \else
1437 \expandafter\HyPsd@@@ref
1438 \fi
1439 }%

```

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

```

1440 \def\HyPsd@@@ref#1{%
1441 \expandafter\ifx\csname r@#1\endcsname\relax
1442 ??%
1443 \else
1444 \expandafter\expandafter\expandafter
1445 \@car\csname r@#1\endcsname\@nil
1446 \fi
1447 }

```

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

```

1448 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1449 \def\HyPsd@@pageref#1*#2\END{%
1450 \ifx\#2\%
1451 \HyPsd@@@pageref{#1}%
1452 \else
1453 \expandafter\HyPsd@@@pageref
1454 \fi
1455 }

```

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

```

1456 \def\HyPsd@@@pageref#1{%
1457 \expandafter\ifx\csname r@#1\endcsname\relax
1458 ??%
1459 \else
1460 \expandafter\expandafter\expandafter\expandafter
1461 \expandafter\expandafter\expandafter\@car
1462 \expandafter\expandafter\expandafter\@gobble
1463 \csname r@#1\endcsname{}\@nil
1464 \fi
1465 }

```

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

```

1466 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1467 \def\HyPsd@@nameref#1*#2\END{%
1468 \ifx\#2\%
1469 \HyPsd@@@nameref{#1}%
1470 \else
1471 \expandafter\HyPsd@@@nameref
1472 \fi
1473 }

```

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

```

1474 \def\HyPsd@@@nameref#1{%
1475   \expandafter\ifx\csname r@#1\endcsname\relax
1476     ??%
1477   \else
1478     \expandafter\expandafter\expandafter\expandafter
1479     \expandafter\expandafter\expandafter\@car
1480     \expandafter\expandafter\expandafter\@gobbletwo
1481     \csname r@#1\endcsname\}\}\@nil
1482   \fi
1483 }

```

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

```

1484 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1485 \def\HyPsd@@autoref#1*#2\END{%
1486   \ifx\#2\%
1487     \HyPsd@@@autoref{#1}%
1488   \else
1489     \expandafter\HyPsd@@@autoref
1490   \fi
1491 }

```

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

```

1492 \def\HyPsd@@@autoref#1{%
1493   \expandafter\ifx\csname r@#1\endcsname\relax
1494     ??%
1495   \else
1496     \expandafter\expandafter\expandafter\HyPsd@autorefname
1497     \csname r@#1\endcsname\}\}\}\@nil
1498     \expandafter\expandafter\expandafter
1499     \@car\csname r@#1\endcsname\@nil
1500   \fi
1501 }

```

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

```

1502 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1503   \ifx\#4\%
1504   \else
1505     \HyPsd@@autorefname#4.\@nil
1506   \fi
1507 }

```

`\HyPsd@@autorefname`

```

1508 \def\HyPsd@@autorefname#1.#2\@nil{%
1509   \@ifundefined{#1autorefname}{%
1510     \@ifundefined{#1name}{%
1511       }{%
1512         \csname#1name\endcsname\space
1513       }%
1514     }{%
1515       \csname#1autorefname\endcsname\space
1516     }%
1517 }

```

6.5.12 Redefining the defining commands

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

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

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

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

The difference between `\HyPsd@DefCommand` and `\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 unbalanced `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1518 \begingroup
1519 \def\x#1#2{%
1520 \endgroup
1521 \let#1\def
1522 \def\HyPsd@DefCommand##1##2##3{%
1523   #1%
1524   \expandafter\noexpand
1525   \csname\expandafter\@gobble\string##1\@empty\endcsname
1526   \@gobble
1527 }%
1528 \let#2\let
1529 \def\HyPsd@LetCommand##1{%
1530   \expandafter\ifx\csname##1\expandafter\endcsname
1531     \csname iftrue\endcsname
1532     \pdfstringdefWarn\let
1533     \expandafter\@gobble
1534   \else
1535     \expandafter\ifx\csname##1\expandafter\endcsname
1536       \csname iffalse\endcsname
1537       \pdfstringdefWarn\let
1538       \expandafter\expandafter\expandafter\@gobble
1539     \else
1540       #2%
1541       \expandafter\noexpand
1542       \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1543     \fi
1544     \fi
1545   }%
1546 }%
1547 \expandafter\x\csname <def>-command\expandafter\endcsname
1548     \csname <let>-command\endcsname
1549 \def\HyPsd@LetCommand#1{%
1550   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1551     \expandafter\expandafter\expandafter{%
1552     \expandafter\@gobble\string#1\@empty
1553   }%
1554 }

```

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).

```

1555 \def\HyPsd@ifnextchar#1{%
1556   \pdfstringdefWarn#1%
1557   \expandafter\@gobbletwo\@gobble
1558 }

```

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`.

```

1559 \def\HyPsd@protected@testopt#1{%
1560   \pdfstringdefWarn#1%
1561   \@gobbletwo
1562 }

```

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:

```

1563 \def\HyPsd@Warning#1{%
1564   \begingroup
1565     \def\space{ }%
1566     \Hy@Warning{#1}%
1567   \endgroup
1568 }

```


6.6.2 Protecting spaces

```

1569 \RequirePackage{etexcmds}[2007/09/09]
1570 \ifetex@unexpanded
1571   \expandafter\@secondoftwo
1572 \else
1573   \expandafter\@firstoftwo
1574 \fi
1575 {%

```

`\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`.

```

1576   \def\HyPsd@ProtectSpaces#1{%
1577     \iftrue
1578       \expandafter\HyPsd@@ProtectSpacesFi
1579       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1580     \fi
1581   }%

```

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

```

1582   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1583     \fi
1584     \ifx\scrollmode#2\scrollmode
1585       \HyPsd@RemoveMask#1\HyPsd@End#3%
1586     \else
1587       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1588       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1589     \fi
1590   }%

```

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.

```

1591   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1592     \toks@ \expandafter{#1}%
1593     \xdef#2{\the\toks@}%
1594   }%

1595 }{%
1596   \let\HyPsd@fi\fi
1597   \def\HyPsd@ProtectSpaces#1{%
1598     \xdef#1{%
1599       \iftrue
1600         \expandafter\HyPsd@@ProtectSpacesFi
1601         \expandafter|\expandafter\@empty#1| %
1602       \HyPsd@fi
1603     }%
1604     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1605   }%
1606   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1607     \fi
1608     \etex@unexpanded{#1}%
1609     \ifx\scrollmode#2\scrollmode
1610     \else
1611       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1612 \HyPsd@fi
1613 }%
1614 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1615 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1616 }%
1617 }

```

6.6.3 Remove grouping braces

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

```

1618 \def\HyPsd@RemoveBraces#1{%
1619 \ifx\scrollmode#1\scrollmode
1620 \else
1621 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1622 \fi
1623 }

```

`\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 `\Hy@ReturnAfterFi`.

```

1624 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1625 \fi
1626 \def\Hy@temp@A{#1#2}%
1627 \def\Hy@temp@B{#3}%
1628 \ifx\Hy@temp@A\Hy@temp@B
1629 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1630 \HyPsd@String#1%
1631 }%
1632 \ifx\scrollmode#2\scrollmode
1633 \else
1634 \Hy@ReturnAfterFiFiEnd{%
1635 \HyPsd@RemoveBraces{#2}%
1636 }%
1637 \fi
1638 \else
1639 \def\Hy@temp@A{#1}%
1640 \HyPsd@AppendItalcrr\HyPsd@String
1641 \ifx\Hy@temp@A\@empty
1642 \Hy@ReturnAfterElseFiFiEnd{%
1643 \HyPsd@RemoveBraces{#2}%
1644 }%
1645 \else
1646 \HyPsd@ProtectSpaces\Hy@temp@A
1647 \HyPsd@AppendItalcrr\Hy@temp@A
1648 \Hy@ReturnAfterFiFiEnd{%
1649 \expandafter\HyPsd@RemoveBraces\expandafter
1650 {\Hy@temp@A#2}%
1651 }%
1652 \fi
1653 \fi

```

```

1654 \Hy@ReturnEnd
1655 }

```

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

```

1656 \def\HyPsd@AppendItalcrr#1{%
1657   \expandafter\HyPsd@@AppendItalcrr\expandafter{/}#1%
1658 }
1659 \def\HyPsd@@AppendItalcrr#1#2{%
1660   \expandafter\def\expandafter#2\expandafter{#2#1}%
1661 }

```

6.6.4 Catcode check

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).

```

1662 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1663   \global\let\HyPsd@Rest\relax
1664   \ifcat\relax\noexpand#1\relax
1665     \ifx#1\protect
1666       \else
1667         \ifx#1\penalty
1668           \setbox\z@=\hbox{%
1669             \afterassignment\HyPsd@AfterCountRemove
1670             \count@=#2\HyPsd@End
1671           }%
1672         \else
1673           \ifx#1\kern
1674             \setbox\z@=\hbox{%
1675               \afterassignment\HyPsd@AfterDimenRemove
1676               \dimen@=#2\HyPsd@End
1677             }%
1678           \else
1679             \ifx#1\hskip
1680               \setbox\z@=\hbox{%
1681                 \afterassignment\HyPsd@AfterSkipRemove
1682                 \skip@=#2\HyPsd@End
1683               }%
1684             \else
1685               \HyPsd@CatcodeWarning{#1}%
1686             \fi
1687           \fi
1688         \fi
1689       \else
1690         \ifcat#1A% letter
1691           \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1693     \HyPsd@String#1%
1694   }%
1695 \else
1696   \ifcat#1 % SPACE
1697     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1698       \HyPsd@String\HyPsd@SPACEOPTI
1699     }%
1700 \else
1701   \ifcat$#1%
1702     \HyPsd@CatcodeWarning{math shift}%
1703 \else
1704   \ifcat&#1%
1705     \HyPsd@CatcodeWarning{alignment tab}%
1706 \else
1707   \ifcat^#1%
1708     \HyPsd@CatcodeWarning{superscript}%
1709 \else
1710   \ifcat_#1%
1711     \HyPsd@CatcodeWarning{subscript}%
1712 \else
1713     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1714       \HyPsd@String#1%
1715     }%
1716   \fi
1717 \fi
1718 \fi
1719 \fi
1720 \fi
1721 \fi
1722 \fi
1723 \ifx\HyPsd@Rest\relax
1724   \ifx\scrollmode#2\scrollmode
1725   \else
1726     \Hy@ReturnAfterFiFiEnd{%
1727       \HyPsd@CheckCatcodes#2\HyPsd@End
1728     }%
1729   \fi
1730 \else
1731   \ifx\HyPsd@Rest\@empty
1732   \else
1733     \Hy@ReturnAfterFiFiEnd{%
1734       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1735     }%
1736   \fi
1737 \fi
1738 \Hy@ReturnEnd
1739 }

```

Remove counts, dimens, skips.

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

```

1740 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1741   \gdef\HyPsd@Rest{#1}%
1742 }

```

`\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.

```

1743 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1744   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1745     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1746     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1747   \else
1748     \ifdim\dimen@=\z@
1749     \else
1750       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1751     \fi
1752     \gdef\HyPsd@Rest{#1}%
1753   \fi
1754 }

```

`\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).

```

1755 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1756   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1757     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1758     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1759   \else
1760     \ifdim\skip@=\z@
1761     \else
1762       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1763     \fi
1764     \gdef\HyPsd@Rest{#1}%
1765   \fi
1766 }

```

Catcode warnings.

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

```

1767 \def\HyPsd@CatcodeWarning#1{%
1768   \HyPsd@Warning{%
1769     Token not allowed in a PDF string (%
1770     \ifHy@unicode
1771       Unicode%
1772     \else
1773       PDFDocEncoding%
1774     \fi
1775     ):%
1776     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1777   }%
1778 }
1779 \begingroup
1780   \catcode‘\|=0 %
1781   \catcode‘\|=12 %
1782   \gdef\HyPsd@RemoveCmdPrefix#1{%
1783     \expandafter\HyPsd@@RemoveCmdPrefix
1784     \string#1\@empty\<>-|\@empty|\@empty
1785   }%
1786   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1787 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1788 \def\HyPsd@RemoveSpaceWarning#1{%
1789   \HyPsd@Warning{%
1790     Token not allowed in a PDF string (%)
1791     \ifHy@unicode
1792       Unicode%
1793     \else
1794       PDFDocEncoding%
1795     \fi
1796   }:%
1797   \MessageBreak #1\MessageBreak
1798   removed%
1799 }%
1800 }

```

\HyPsd@ReplaceSpaceWarning

```

1801 \def\HyPsd@ReplaceSpaceWarning#1{%
1802   \HyPsd@Warning{%
1803     Token not allowed in a PDF string (%)
1804     \ifHy@unicode
1805       Unicode%
1806     \else
1807       PDFDocEncoding%
1808     \fi
1809   }:%
1810   \MessageBreak #1\MessageBreak
1811   replaced by space%
1812 }%
1813 }

```

6.6.5 Check for wrong glyphs

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

```

1814 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1815   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1816     \HyPsd@String#1%
1817   }%
1818   \ifx\#2\%
1819     \else
1820     \Hy@ReturnAfterFi{%
1821       \HyPsd@GlyphProcessWarning#2\@empty
1822     }%
1823   \fi
1824 }
1825 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1826   \HyPsd@@@GlyphProcessWarning#1++>%
1827   \HyPsd@GlyphProcess#2\@empty
1828 }
1829 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1830   \ifx\#2\%
1831     \HyPsd@Warning{%
1832       Glyph not defined in %
1833       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1834       removing ‘\@backslashchar#1’%
1835     }%
1836   \else
1837     \HyPsd@Warning{%

```

```

1838 Composite letter '\@backslashchar#1+#2'\MessageBreak
1839 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1840 \MessageBreak
1841 removing '\@backslashchar#1'%
1842 }%
1843 \fi
1844 }

```

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`.

```

1845 \def\HyPsd@spaceopti#1{ % first space
1846 \ifx\HyPsd@spaceopti#1%
1847 \040%
1848 \else
1849 #1%
1850 \fi
1851 }%

```

6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is an wrapper for the command `\HyPsd@Subst` that does all the work: In string stored in command `#3` it replaces the tokens `#1` with `#2`.

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

```

1852 \def\HyPsd@Subst#1#2#3{%
1853 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1854 \fi
1855 ##1%
1856 \ifx\scrollmode##2\scrollmode
1857 \else
1858 #2%
1859 \HyPsd@@ReplaceFi##2\END
1860 \fi
1861 }%
1862 \xdef#3{%
1863 \iftrue
1864 \expandafter\HyPsd@@ReplaceFi#3#1\END
1865 \fi
1866 }%
1867 }

```

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

```

1868 \def\HyPsd@StringSubst#1{%
1869 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1870 }

```

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.

```

1871 \def\HyPsd@doxspace#1{%
1872   \ifx#1\relax\else
1873   \ifx#1.\else
1874   \ifx#1:\else
1875   \ifx#1,\else
1876   \ifx#1;\else
1877   \ifx#1!\else
1878   \ifx#1?\else
1879   \ifx#1/\else
1880   \ifx#1-\else
1881   \ifx#1'\else
1882     \HyPsd@SPACEOPTI
1883   \fi
1884   \fi
1885   \fi
1886   \fi
1887   \fi
1888   \fi
1889   \fi
1890   \fi
1891   \fi
1892   \fi
1893   #1%
1894 }%
```

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.

```

1895 \begingroup
1896   \catcode'\|=0 %
1897   \catcode'\|=12 %
```

\HyPsd@ConvertToUnicode

```

1898 |gdef|HyPsd@ConvertToUnicode#1{%
1899   |xdef#1{%
1900     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1901   }%
1902   |ifx#1|@empty
1903   |else
1904     |xdef#1{%
1905       \376\377%
1906       #1%
1907     }%
1908   |fi
1909 }%
```

\HyPsd@DoConvert

```

1910 |gdef|HyPsd@DoConvert#1{%
1911   |ifx#1|@empty
1912   |else
1913     |Hy@ReturnAfterFi{%
1914       |ifx#1\%%
1915       \%%
```



```

1916         |expandafter|HyPsd@DoEscape
1917         |else
1918         |HyPsd@Char{#1}%
1919         |expandafter|HyPsd@DoConvert
1920         |fi
1921     }%
1922 |fi
1923 }%

```

\HyPsd@DoEscape

```

1924 |gdef|HyPsd@DoEscape#1{%
1925     |ifx#19%
1926     |expandafter|HyPsd@GetTwoBytes
1927     |else
1928     |Hy@ReturnAfterFi{%
1929     |ifx#18%
1930     00%
1931     |expandafter|HyPsd@GetTwoBytes
1932     |else
1933     #1%
1934     |expandafter|HyPsd@GetOneByte
1935     |fi
1936     }%
1937 |fi
1938 }%

```

\HyPsd@GetTwoBytes

```

1939 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1940     #1\#2#3#4%
1941     |HyPsd@DoConvert
1942     }%

```

\HyPsd@GetOneByte

```

1943 |gdef|HyPsd@GetOneByte#1#2{%
1944     #1#2%
1945     |HyPsd@DoConvert
1946     }%
1947 |endgroup

```

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

```

1948 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1949     \xdef#4{#4#1#2}%
1950     \HyPsd@@ConvertToUnicode#3\END#4%
1951 }

```

\HyPsd@Char

```

1952 \begingroup
1953 \catcode0=9 %
1954 \catcode'\^=7 %
1955 \catcode'\^^=12 %
1956 \def\x{^^^^0000}%
1957 \expandafter\endgroup
1958 \ifx\x\@empty
1959 \def\HyPsd@Char#1{%
1960     \ifnum'#1<128 %
1961         \@backslashchar 000#1%

```

```

1962 \else
1963 \ifnum'#1<65536 %
1964 \expandafter\HyPsd@CharTwoByte\number'#1!%
1965 \else
1966 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1967 \intcalcSub{'#1}{65536}!%
1968 \fi
1969 \fi
1970 }%
1971 \def\HyPsd@CharTwoByte#1!{%
1972 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1973 \IntCalcDiv#1!256!!%
1974 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1975 \IntCalcMod#1!256!!%
1976 }%
1977 \def\HyPsd@CharOctByte#1!{%
1978 \@backslashchar
1979 \IntCalcDiv#1!64!%
1980 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1981 \IntCalcMod#1!8!%
1982 }%
1983 \def\HyPsd@CharSurrogate#1!{%
1984 \@backslashchar 33%
1985 \IntCalcDiv#1!262144!%
1986 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1987 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1988 \@backslashchar 33%
1989 \expandafter\expandafter\expandafter\IntCalcAdd
1990 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1991 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1992 \IntCalcMod#1!256!!%
1993 }%
1994 \else
1995 \def\HyPsd@Char#1{%
1996 \@backslashchar 000#1%
1997 }%
1998 \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.:

```

\dimexpr 123/4\relax is replaced by
\dimexpr 123\dimexpr 25\dimexpr 123sp\relax\relax

1999 \begingroup\expandafter\expandafter\expandafter\endgroup
2000 \expandafter\ifx\csname numexpr\endcsname\relax
2001 \let\HyPsd@UTFviii\relax
2002 \else
2003 \begingroup
2004 \lccode'\~='^f4\relax

```

```

2005 \lowercase{\endgroup
2006 \def\HyPsd@UTFviii{%
2007   \let\UTFviii@two@octets\HyPsd@UTFviii@two
2008   \let\UTFviii@three@octets\HyPsd@UTFviii@three
2009   \let\UTFviii@four@octets\HyPsd@UTFviii@four
2010   \ifx~\HyPsd@UTFviii@ccxliv@undef
2011     \let~\HyPsd@UTFviii@ccxliv@def
2012   \fi
2013   \let\unichar\HyPsd@unichar
2014 }%
2015 }%
2016 \def\HyPsd@UTFviii@ccxliv@undef{\@inpencl@undefined@{utf8}}%
2017 \edef\HyPsd@UTFviii@ccxliv@def{%
2018   \noexpand\UTFviii@four@octets\string ^^f4%
2019 }%

```

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.

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

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

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

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

$$(5)$$

```

2020 \def\HyPsd@UTFviii@two#1#2{%
2021   \expandafter\HyPsd@UTFviii@@two
2022   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2023   \number'#1\expandafter| %
2024   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2025   \number'#2 \@nil
2026 }%
2027 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2028   \expandafter\8%
2029   \number\numexpr #1-48\expandafter\relax
2030   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2031   \number\numexpr #3-8*%
2032   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2033   \number\numexpr #4-8*#3\relax
2034 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2035 \def\HyPsd@UTFviii@three#1#2#3{%
2036   \expandafter\HyPsd@UTFviii@@three

```

```

2037 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2038 \number'#1\expandafter| %
2039 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2040 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2041 \number'#2\expandafter| %
2042 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2043 \number'#3 \@nil
2044 }%
2045 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2046 \expandafter\9%
2047 \number\numexpr #1-56\expandafter\relax
2048 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2049 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2050 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2051 \number\numexpr #6-16\expandafter\relax
2052 \number\numexpr #7-8*#6\relax
2053 }%

```

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

```

```

2054 \def\HyPsd@UTFviii@four#1#2{%
2055 \expandafter\HyPsd@@UTFviii@four\number
2056 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2057 \expandafter|\number
2058 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2059 }%
2060 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2061 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2062 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2063 \ifodd#2 %
2064 \number\numexpr(#2-1)/2\relax
2065 \else
2066 \number\numexpr#2/2\relax
2067 \fi
2068 \number\numexpr\ifodd#2 4+\fi
2069 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2070 \933%
2071 \expandafter\HyPsd@@@UTFviii@four\number
2072 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2073 }%
2074 \def\HyPsd@@@UTFviii@four#1|#2{%
2075 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2076 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2077 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2078 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2079 }%

```

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

```

2080 \def\HyPsd@unichar#1{%
2081 \ifHy@unicode
2082 \ifnum#1>"10FFFF %
2083 \HyPsd@UnicodeReplacementCharacter % illegal

```

```

2084     \else
2085     \ifnum#1>"FFFF %

```

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

```

2086     \expandafter\HyPsd@unichar\expandafter{%
2087     \number\dimexpr 55296+%
2088     \dimexpr.0009765625\dimexpr\number#1sp-\p@
2089     \relax\relax\relax
2090     }%

```

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

```

2091     \expandafter\HyPsd@unichar\expandafter{%
2092     \number\dimexpr#1-9216%
2093     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2094     \relax\relax\relax
2095     }%
2096     \else
2097     \ifnum#1>"7FF %
2098     \9%
2099     \expandafter\HyPsd@unichar@first@byte\expandafter{%
2100     \number
2101     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2102     }%
2103     \else
2104     \8%
2105     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2106     \fi
2107     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2108     \number
2109     \numexpr#1-256*\number
2110     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2111     }%
2112     \fi
2113     \fi
2114     \else
2115     .% unsupported (Unicode -> PDF Doc Encoding)
2116     \fi
2117     }%
2118     \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2119     \def\HyPsd@unichar@first@byte#1{%
2120     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2121     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2122     \number
2123     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2124     \relax\relax\relax
2125     }%
2126     }%
2127     \def\HyPsd@unichar@second@byte#1{%
2128     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2129     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2130     \number
2131     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2132     \relax\relax\relax
2133     }%
2134     }%
2135     \def\HyPsd@unichar@octtwo#1{%
2136     \number\dimexpr.125\dimexpr#1sp\relax\relax
2137     \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%

```

```

2138 \relax\relax\relax
2139 }%
2140 \fi

```

7 Support of other packages

7.1 Class memoir

```

2141 \@ifclassloaded{memoir}{%
2142 \AtEndOfPackage{\RequirePackage{memhfixc}}}%
2143 }{}

```

7.2 Package subfigure

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

```

2144 \@ifpackageloaded{subfigure}{%
2145 \ifundefined{sub@label}{%
2146 \Hy@hypertexnamesfalse
2147 }{%
2148 \renewcommand*{\sub@label}[1]{%
2149 \@bsphack
2150 \subfig@oldlabel{#1}%
2151 \if@filesw
2152 \begingroup
2153 \edef\@currentlabstr{%
2154 \expandafter\strip@prefix\meaning\@currentlabelname
2155 }%
2156 \protected@write\@auxout{}{%
2157 \string\newlabel{sub@#1}{%
2158 {\@nameuse{@@thesub\@capttype}}%
2159 {\thepage}%
2160 }%
2161 \expandafter\strip@period\@currentlabstr
2162 \relax.\relax\@@@%
2163 }%
2164 {\@currentHref}%
2165 }%
2166 }%
2167 }%
2168 \endgroup
2169 \fi
2170 \@esphack
2171 }%
2172 \@ifpackagelater{subfigure}{2002/03/26}{%
2173 \providecommand*{\toclevel@subfigure}{1}%
2174 \providecommand*{\toclevel@subtable}{1}%
2175 }%
2176 }%
2177 }{}

```

7.3 Package xr and xr-hyper

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

```

2178 \ifundefined{XR@addURL}{%
2179 }%

```

```

2180 \def\XR@addURL#1{\XR@@dURL#1}{-}{-}{-}\}%
2181 \def\XR@@dURL#1#2#3#4#5\\{%
2182   {-#1}{-#2}%
2183   \if!#4!%
2184   \else
2185     {#3}{#4}{\XR@URL}%
2186   \fi
2187 }%
2188 }

2189 \def\Hy@true{true}
2190 \def\Hy>false{false}

```

```

2191 \let\literalps@out\@gobble
2192 \newcommand\pdfbookmark[3][{}]{
2193 \def\Acrobatmenu#1#2{\leavevmode#2}
2194 \def\Hv@writebookmark#1#2#3#4#5#{}%

```

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):

- ```

2195 \let\HyperRaiseLinkHook\@empty
2196 \def\HyperRaiseLinkDefault{\baselineskip}

```

```

2197 \def\Hy@raisedlink#1{%
2198 \ifvmode
2199 #1%
2200 \else
2201 \penalty\@M
2202 \smash{%
2203 \begingroup
2204 \let\HyperRaiseLinkLength\@tempdima
2205 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2206 \HyperRaiseLinkHook
2207 \expandafter\endgroup
2208 \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
2209 }%
2210 \fi
2211 }

```

2212 \def\Hy@SaveLastskip{%

```

2213 \let\Hy@RestoreLastskip\relax
2214 \ifvmode
2215 \ifdim\lastskip=\z@
2216 \let\Hy@RestoreLastskip\nobreak
2217 \else
2218 \begingroup
2219 \skip@=-\lastskip
2220 \edef\x{%
2221 \endgroup
2222 \def\noexpand\Hy@RestoreLastskip{%
2223 \noexpand\ifvmode
2224 \noexpand\nobreak
2225 \vskip\the\skip@
2226 \vskip\the\lastskip\relax
2227 \noexpand\fi
2228 }%
2229 }%
2230 \x
2231 \fi
2232 \else
2233 \ifhmode
2234 \ifdim\lastskip=\z@
2235 \let\Hy@RestoreLastskip\nobreak
2236 \else
2237 \begingroup
2238 \skip@=-\lastskip
2239 \edef\x{%
2240 \endgroup
2241 \def\noexpand\Hy@RestoreLastskip{%
2242 \noexpand\ifhmode
2243 \noexpand\nobreak
2244 \hskip\the\skip@
2245 \hskip\the\lastskip\relax
2246 \noexpand\fi
2247 }%
2248 }%
2249 \x
2250 \fi
2251 \fi
2252 \fi
2253 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

2254 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2255 \def\Hy@@boolkey[#1]#2#3{%
2256 \edef\Hy@tempa{#3}%
2257 \lowercase\expandafter{%
2258 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2259 }%
2260 \ifx\Hy@tempa\@empty
2261 \let\Hy@tempa\Hy@true
2262 \fi

```



```

2263 \ifx\Hy@tempa\Hy@true
2264 \else
2265 \ifx\Hy@tempa\Hy@false
2266 \else
2267 \let\Hy@tempa\relax
2268 \fi
2269 \fi
2270 \ifx\Hy@tempa\relax
2271 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2272 \else
2273 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2274 \csname Hy@#2\Hy@tempa\endcsname
2275 \fi
2276 }

```

\Hy@WarnOptionValue

```

2277 \def\Hy@WarnOptionValue#1#2#3{%
2278 \Hy@Warning{%
2279 Unexpected value ‘#1’\MessageBreak
2280 of option ‘#2’ instead of\MessageBreak
2281 #3%
2282 }%
2283 }

```

\Hy@DisableOption

```

2284 \def\Hy@DisableOption#1{%
2285 \@ifundefined{KV@Hyp@#1@default}{%
2286 \define@key{Hyp}{#1}%
2287 }{%
2288 \define@key{Hyp}{#1}[]%
2289 }%
2290 {\Hy@WarnOptionDisabled{#1}}%
2291 }

```

\Hy@WarnOptionDisabled

```

2292 \def\Hy@WarnOptionDisabled#1{%
2293 \Hy@Warning{%
2294 Option ‘#1’ has already been used,\MessageBreak
2295 setting the option has no effect%
2296 }%
2297 }

```

\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.

```

2298 \def\Hy@CheckOptionValue#1#2#3{%
2299 \begingroup
2300 \edef\x{#1}%
2301 \@onelevel@sanitize\x
2302 \let\y=y%
2303 \def\do##1##2{%
2304 \def\z{##1}%
2305 \@onelevel@sanitize\z
2306 \ifx\x\z
2307 \let\y=n%
2308 \let\do\@gobbles
2309 \fi
2310 }%

```

```

2311 #3%
2312 \ifx\y y%
2313 \def\do##1##2{%
2314 * '##1'%
2315 \ifx\##2\\\else\space(##2)\fi
2316 \MessageBreak
2317 }%
2318 \Hy@Warning{%
2319 Values of option '#2':\MessageBreak
2320 #3%
2321 * An empty value disables the option.\MessageBreak
2322 Unknown value '\x'%
2323 }%
2324 \fi
2325 \endgroup
2326 }

```

`\Hy@DefNameKey` **#1:** option name  
**#2:** \do list with known values, first argument of \do is value, second argument is a comment.

```

2327 \def\Hy@DefNameKey#1{%
2328 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2329 }

```

`\Hy@@DefNameKey` **#1:** macro for value storage  
**#2:** option name  
**#3:** \do list with known values.

```

2330 \def\Hy@@DefNameKey#1#2#3{%
2331 \define@key{Hyp}{#2}{%
2332 \edef#1{##1}%
2333 \ifx#1\@empty
2334 \else
2335 \Hy@CheckOptionValue{##1}{#2}{#3}%
2336 \fi
2337 }%
2338 \let#1\@empty
2339 }

```

`\Hy@UseNameKey`

```

2340 \def\Hy@UseNameKey#1#2{%
2341 \ifx#2\@empty
2342 \else
2343 /#1/#2%
2344 \fi
2345 }

```

## 9.2 Defining the options

```

2346 \define@key{Hyp}{implicit}[true]{%
2347 \Hy@boolkey{implicit}{#1}%
2348 }
2349 \define@key{Hyp}{draft}[true]{%
2350 \Hy@boolkey{draft}{#1}%
2351 }
2352 \define@key{Hyp}{final}[true]{%
2353 \Hy@boolkey{final}{#1}%

```

```

2354 }
2355 \let\KV@Hyp@nolinks\KV@Hyp@draft
2356 \def\Hy@ObsoletePaperOption#1{%
2357 \Hy@WarningNoLine{%
2358 Option '#1' is no longer used%
2359 }%
2360 \define@key{Hyp}{#1}[true]{}%
2361 }
2362 \def\Hy@temp#1{%
2363 \define@key{Hyp}{#1}[true]{%
2364 \Hy@ObsoletePaperOption{#1}%
2365 }%
2366 }
2367 \Hy@temp{a4paper}
2368 \Hy@temp{a5paper}
2369 \Hy@temp{b5paper}
2370 \Hy@temp{letterpaper}
2371 \Hy@temp{legalpaper}
2372 \Hy@temp{executivepaper}
2373 \define@key{Hyp}{setpagesize}[true]{%
2374 \Hy@boolkey{setpagesize}{#1}%
2375 }
2376 \define@key{Hyp}{debug}[true]{%
2377 \Hy@boolkey[debug]{verbose}{#1}%
2378 }
2379 \define@key{Hyp}{linktocpage}[true]{%
2380 \Hy@boolkey{linktocpage}{#1}%
2381 \ifHy@linktocpage
2382 \let\Hy@linktoc\Hy@linktoc@page
2383 \else
2384 \let\Hy@linktoc\Hy@linktoc@section
2385 \fi
2386 }
2387 \chardef\Hy@linktoc@none=0 %
2388 \chardef\Hy@linktoc@section=1 %
2389 \chardef\Hy@linktoc@page=2 %
2390 \chardef\Hy@linktoc@all=3 %
2391 \ifHy@linktocpage
2392 \let\Hy@linktoc\Hy@linktoc@page
2393 \else
2394 \let\Hy@linktoc\Hy@linktoc@section
2395 \fi
2396 \define@key{Hyp}{linktoc}{%
2397 \@ifundefined{Hy@linktoc@#1}{%
2398 \Hy@Warning{%
2399 Unexpected value '#1' of\MessageBreak
2400 option 'linktoc' instead of 'none',\MessageBreak
2401 'section', 'page' or 'all'%
2402 }%
2403 }{%
2404 \expandafter\let\expandafter\Hy@linktoc
2405 \csname Hy@linktoc@#1\endcsname
2406 }%
2407 }
2408 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2409 \let\XR@ext\relax
2410 \define@key{Hyp}{verbose}[true]{%

```

```

2411 \Hy@boolkey{verbose}{#1}%
2412 }
2413 \define@key{Hyp}{typexml}[true]{%
2414 \Hy@boolkey{typexml}{#1}%
2415 }

```

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.

```

2416 \define@key{Hyp}{raiselinks}[true]{%
2417 \Hy@boolkey{raiselinks}{#1}%
2418 }

```

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

```

2419 \def\Hy@setbreaklinks#1{%
2420 \csname breaklinks#1\endcsname
2421 }

2422 \def\Hy@breaklinks@unsupported{%
2423 \ifx\Hy@setbreaklinks\@gobble
2424 \ifHy@breaklinks
2425 \Hy@WarningNoLine{%
2426 You have enabled option 'breaklinks'.\MessageBreak
2427 But driver '\Hy@driver.def' does not support this.\MessageBreak
2428 Expect trouble with the link areas of broken links%
2429 }%
2430 \fi
2431 \fi
2432 }

2433 \define@key{Hyp}{breaklinks}[true]{%
2434 \Hy@boolkey{breaklinks}{#1}%
2435 \let\Hy@setbreaklinks\@gobble
2436 }

```

Determines whether an automatic anchor is put on each page

```

2437 \define@key{Hyp}{pageanchor}[true]{%
2438 \Hy@boolkey{pageanchor}{#1}%
2439 }

```

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.

```

2440 \define@key{Hyp}{plainpages}[true]{%
2441 \Hy@boolkey{plainpages}{#1}%
2442 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L<sup>A</sup>T<sub>E</sub>X provides?

```

2443 \define@key{Hyp}{naturalnames}[true]{%
2444 \Hy@boolkey{naturalnames}{#1}%
2445 }

```

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

```

2446 \define@key{Hyp}{hypertexnames}[true]{%
2447 \Hy@boolkey{hypertexnames}{#1}%
2448 }

```

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

```

2449 \define@key{Hyp}{nesting}[true]{%
2450 \Hy@boolkey{nesting}{#1}%

```

```

2451 }
2452 \define@key{Hyp}{unicode}[true]{%
2453 \Hy@boolkey{unicode}{#1}%
2454 \ifHy@unicode
2455 \def\HyPsd@pdfencoding{unicode}%
2456 \HyPsd@LoadUnicode
2457 \else
2458 \def\HyPsd@pdfencoding{pdfdoc}%
2459 \fi
2460 }
2461 \def\HyPsd@LoadUnicode{%
2462 \@ifundefined{T@PU}{%
2463 \input{puenc.def}%
2464 \HyLinguex@Restore
2465 }{}%
2466 \DeclareFontFamily{PU}{pdf}{}%
2467 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2468 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2469 \global\let\HyPsd@LoadUnicode\relax
2470 }
2471 \AtBeginDocument{%
2472 \ifx\HyPsd@LoadUnicode\relax
2473 \else
2474 \def\HyPsd@LoadUnicode{%
2475 \PackageError{hyperref}{%
2476 Unicode support for bookmarks is not available.\MessageBreak
2477 Activate unicode support by using one of the options\MessageBreak
2478 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2479 in the preamble%
2480 }\@ehc
2481 \global\let\HyPsd@LoadUnicode\relax
2482 \global\Hy@unicodedefalse
2483 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2484 }%
2485 \fi
2486 }
2487 \define@key{Hyp}{pdfencoding}{%
2488 \edef\HyPsd@temp{#1}%
2489 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2490 \let\HyPsd@pdfencoding\HyPsd@temp
2491 \Hy@unicodedefalse
2492 \else
2493 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2494 \z@
2495 \else
2496 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2497 \z@
2498 \else
2499 \@ne
2500 \fi
2501 \fi
2502 \let\HyPsd@pdfencoding\HyPsd@temp
2503 \hypersetup{unicode}%
2504 \ifHy@unicode
2505 \def\HyPsd@pdfencoding{#1}%
2506 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2507 \HyPsd@LoadStringEncoding

```

```

2508 \fi
2509 \else
2510 \Hy@Warning{Cannot switch to unicode bookmarks}%
2511 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2512 \fi
2513 \else
2514 \@onelevel@sanitize\HyPsd@temp
2515 \Hy@Warning{%
2516 Values of option 'pdfencoding':\MessageBreak
2517 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2518 Ignoring unknown value '\HyPsd@temp'%
2519 }%
2520 \fi
2521 \fi
2522 }
2523 \def\HyPsd@pdfencoding@auto{auto}
2524 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2525 \def\HyPsd@pdfencoding@unicode{unicode}
2526 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2527 \def\HyPsd@LoadStringEnc{%
2528 \RequirePackage{stringenc}[2009/12/15]%
2529 \let\HyPsd@LoadStringEnc\relax
2530 }
2531 \AtBeginDocument{%
2532 \ifpackageloaded{stringenc}{%
2533 \let\HyPsd@LoadStringEnc\relax
2534 }{%
2535 \def\HyPsd@LoadStringEnc{%
2536 \Hy@WarningNoLine{%
2537 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2538 in the preamble or load the package there%
2539 }%
2540 }%
2541 }%
2542 }
2543 \newif\ifHy@setpdfversion
2544 \define@key{Hyp}{pdfversion}{%
2545 \ifundefined{Hy@pdfversion@#1}{%
2546 \PackageWarning{hyperref}{%
2547 Unsupported PDF version '#1'.\MessageBreak
2548 Valid values: 1.2 until 1.9%
2549 }%
2550 }{%
2551 \Hy@setpdfversiontrue
2552 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2553 }%
2554 }
2555 \@namedef{Hy@pdfversion@1.2}{2}%
2556 \@namedef{Hy@pdfversion@1.3}{3}%
2557 \@namedef{Hy@pdfversion@1.4}{4}%
2558 \@namedef{Hy@pdfversion@1.5}{5}%
2559 \@namedef{Hy@pdfversion@1.6}{6}%
2560 \@namedef{Hy@pdfversion@1.7}{7}%
2561 \@namedef{Hy@pdfversion@1.8}{8}%
2562 \@namedef{Hy@pdfversion@1.9}{9}%
2563 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2564 \define@key{Hyp}{hyperref}[true]{}
2565 \define@key{Hyp}{tex4ht}[true]{%
2566 \Hy@texhttrue
2567 \setkeys{Hyp}{colorlinks=true}%
2568 \def\BeforeTeXIVht{\usepackage{color}}%
2569 \def\Hy@driver{htex4ht}%
2570 \def\MaybeStopEarly{%
2571 \typeout{Hyperref stopped early}%
2572 \AfterBeginDocument{%
2573 \PDF@FinishDoc
2574 \gdef\PDF@FinishDoc{}}%
2575 }%
2576 \endinput
2577 }%
2578 }
2579 \define@key{Hyp}{pdftex}[true]{%
2580 \def\Hy@driver{hpdftex}%
2581 }
2582 \define@key{Hyp}{nativepdf}[true]{%
2583 \def\Hy@driver{hdvips}%
2584 }
2585 \define@key{Hyp}{dvipdfm}[true]{%
2586 \def\Hy@driver{hdvipdfm}%
2587 }
2588 \define@key{Hyp}{dvipdfmx}[true]{%
2589 \def\Hy@driver{hdvipdfm}%
2590 }
2591 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2592 \expandafter\ifx\csname if#1\expandafter\endcsname
2593 \csname iftrue\endcsname
2594 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2595 \else
2596 \chardef\SpecialDvipdfmxOutlineOpen\z@
2597 \fi
2598 }
2599 \define@key{Hyp}{xetex}[true]{%
2600 \def\Hy@driver{hxetex}%
2601 }
2602 \define@key{Hyp}{pdfmark}[true]{%
2603 \def\Hy@driver{hdvips}%
2604 }
2605 \define@key{Hyp}{dvips}[true]{%
2606 \def\Hy@driver{hdvips}%
2607 }
2608 \define@key{Hyp}{hypertex}[true]{%
2609 \def\Hy@driver{hypertex}%
2610 }
2611 \let\Hy@MaybeStopNow\relax
2612 \define@key{Hyp}{vtex}[true]{%
2613 \begingroup\expandafter\expandafter\expandafter\endgroup
2614 \expandafter\ifx\csname OpMode\endcsname\relax
2615 \@latex@error{Non-VTeX processor}{}%
2616 \global\let\Hy@MaybeStopNow\endinput
2617 \endinput
2618 \else

```

```

2619 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2620 \def\Hy@driver{hvtex}%
2621 \else
2622 \ifnum\OpMode=10\relax
2623 \def\Hy@driver{hvtexhtm}%
2624 \def\MaybeStopEarly{%
2625 \typeout{Hyperref stopped early}%
2626 \AfterBeginDocument{%
2627 \PDF@FinishDoc
2628 \gdef\PDF@FinishDoc{}}%
2629 }%
2630 \endinput
2631 }%
2632 \else
2633 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2634 \global\let\Hy@MaybeStopNow\endinput
2635 \endinput
2636 \fi
2637 \fi
2638 \fi
2639 }
2640 \define@key{Hyp}{vtexpdfmark}[true]{%
2641 \begingroup\expandafter\expandafter\expandafter\endgroup
2642 \expandafter\ifx\csname OpMode\endcsname\relax
2643 \@latex@error{Non-VTeX processor}{}%
2644 \let\Hy@MaybeStopNow\endinput
2645 \endinput
2646 \else
2647 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2648 \def\Hy@driver{hvtexmrk}%
2649 \else
2650 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2651 \let\Hy@MaybeStopNow\endinput
2652 \endinput
2653 \fi
2654 \fi
2655 }
2656 \define@key{Hyp}{dviwindo}[true]{%
2657 \def\Hy@driver{hdviwind}%
2658 \setkeys{Hyp}{colorlinks}%
2659 \ifpdf
2660 \else
2661 \ifxetex
2662 \else
2663 \PassOptionsToPackage{dviwindo}{color}%
2664 \fi
2665 \fi
2666 }
2667 \define@key{Hyp}{dvipsone}[true]{%
2668 \def\Hy@driver{hdvipson}%
2669 }
2670 \define@key{Hyp}{textures}[true]{%
2671 \def\Hy@driver{htexture}%
2672 }
2673 \define@key{Hyp}{latex2html}[true]{%
2674 \AtBeginDocument{\@@latextohtmlX}%
2675 }

```



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

```
2676 \define@key{Hyp}{ps2pdf}[true]{%
2677 \def\Hy@driver{hdvips}%
2678 \providecommand*\@pdfborder{0 0 1}%
2679 }
```

## 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.

```
2680 \define@key{Hyp}{hyperfigures}[true]{%
2681 \Hy@boolkey[hyperfigures]{figures}{#1}%
2682 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2683 \define@key{Hyp}{hyperfootnotes}[true]{%
2684 \Hy@boolkey{hyperfootnotes}{#1}%
2685 }
```

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

```
2686 \def\back@none{none}
2687 \def\back@section{section}
2688 \def\back@page{page}
2689 \def\back@slide{slide}
2690 \define@key{Hyp}{backref}[section]{%
2691 \lowercase{\def\Hy@tempa{#1}}%
2692 \ifx\Hy@tempa\@empty
2693 \let\Hy@tempa\back@section
2694 \fi
2695 \ifx\Hy@tempa\Hy@false
2696 \let\Hy@tempa\back@none
2697 \fi
2698 \ifx\Hy@tempa\back@slide
2699 \let\Hy@tempa\back@section
2700 \fi
2701 \ifx\Hy@tempa\back@page
2702 \PassOptionsToPackage{hyperpageref}{backref}%
2703 \Hy@backreftrue
2704 \else
2705 \ifx\Hy@tempa\back@section
2706 \PassOptionsToPackage{hyperref}{backref}%
2707 \Hy@backreftrue
2708 \else
2709 \ifx\Hy@tempa\back@none
2710 \Hy@backreffalse
2711 \else
2712 \Hy@WarnOptionValue{#1}{backref}{%
2713 'section', 'slide', 'page', 'none',\MessageBreak
2714 or 'false'}%
2715 \fi
2716 \fi
2717 \fi
2718 }
2719 \define@key{Hyp}{pagebackref}[true]{%
2720 \edef\Hy@tempa{#1}%
2721 \lowercase\expandafter{%
2722 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2723 }%
```

```

2724 \ifx\Hy@tempa\@empty
2725 \let\Hy@tempa\Hy@true
2726 \fi
2727 \ifx\Hy@tempa\Hy@true
2728 \PassOptionsToPackage{hyperpageref}{backref}%
2729 \Hy@backreftrue
2730 \else
2731 \ifx\Hy@tempa\Hy@false
2732 \Hy@backreffalse
2733 \else
2734 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2735 \fi
2736 \fi
2737 }

```

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

```

2738 \define@key{Hyp}{hyperindex}[true]{%
2739 \Hy@boolkey{hyperindex}{#1}%
2740 }

```

Configuration of encap char.

```

2741 \define@key{Hyp}{encap}[|]{%
2742 \def\HyInd@EncapChar{#1}%
2743 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2744 \def\HyLang@afrikaans{%
2745 \def\equationautorefname{Vergelyking}%
2746 \def\footnoteautorefname{Voetnota}%
2747 \def\itemautorefname{Item}%
2748 \def\figureautorefname{Figuur}%
2749 \def\tableautorefname{Tabel}%
2750 \def\partautorefname{Deel}%
2751 \def\appendixautorefname{Bylae}%
2752 \def\chapterautorefname{Hoofstuk}%
2753 \def\sectionautorefname{Afdeling}%
2754 \def\subsectionautorefname{Subafdeling}%
2755 \def\subsubsectionautorefname{Subsubafdeling}%
2756 \def\paragraphautorefname{Paragraaf}%
2757 \def\subparagraphautorefname{Subparagraaf}%
2758 \def\FancyVerbLineautorefname{Lyn}%
2759 \def\theoremautorefname{Teorema}%
2760 \def\pageautorefname{Bladsy}%
2761 }
2762 \def\HyLang@english{%
2763 \def\equationautorefname{Equation}%
2764 \def\footnoteautorefname{footnote}%
2765 \def\itemautorefname{item}%
2766 \def\figureautorefname{Figure}%
2767 \def\tableautorefname{Table}%
2768 \def\partautorefname{Part}%
2769 \def\appendixautorefname{Appendix}%
2770 \def\chapterautorefname{chapter}%
2771 \def\sectionautorefname{section}%

```

```

2772 \def\subsectionautorefname{subsection}%
2773 \def\subsubsectionautorefname{subsubsection}%
2774 \def\paragraphautorefname{paragraph}%
2775 \def\subparagraphautorefname{subparagraph}%
2776 \def\FancyVerbLineautorefname{line}%
2777 \def\theoremautorefname{Theorem}%
2778 \def\pageautorefname{page}%
2779 }
2780 \def\HyLang@french{%
2781 \def\equationautorefname{'Equation}%
2782 \def\footnoteautorefname{note}%
2783 \def\itemautorefname{item}%
2784 \def\figureautorefname{Figure}%
2785 \def\tableautorefname{Tableau}%
2786 \def\partautorefname{Partie}%
2787 \def\appendixautorefname{Appendice}%
2788 \def\chapterautorefname{chapitre}%
2789 \def\sectionautorefname{section}%
2790 \def\subsectionautorefname{sous-section}%
2791 \def\subsubsectionautorefname{sous-sous-section}%
2792 \def\paragraphautorefname{paragraphe}%
2793 \def\subparagraphautorefname{sous-paragraphe}%
2794 \def\FancyVerbLineautorefname{ligne}%
2795 \def\theoremautorefname{Th\'eor\'eme}%
2796 \def\pageautorefname{page}%
2797 }
2798 \def\HyLang@german{%
2799 \def\equationautorefname{Gleichung}%
2800 \def\footnoteautorefname{Fu\ss note}%
2801 \def\itemautorefname{Punkt}%
2802 \def\figureautorefname{Abbildung}%
2803 \def\tableautorefname{Tabelle}%
2804 \def\partautorefname{Teil}%
2805 \def\appendixautorefname{Anhang}%
2806 \def\chapterautorefname{Kapitel}%
2807 \def\sectionautorefname{Abschnitt}%
2808 \def\subsectionautorefname{Unterabschnitt}%
2809 \def\subsubsectionautorefname{Unterunterabschnitt}%
2810 \def\paragraphautorefname{Absatz}%
2811 \def\subparagraphautorefname{Unterabsatz}%
2812 \def\FancyVerbLineautorefname{Zeile}%
2813 \def\theoremautorefname{Theorem}%
2814 \def\pageautorefname{Seite}%
2815 }
2816 \def\HyLang@italian{%
2817 \def\equationautorefname{Equazione}%
2818 \def\footnoteautorefname{nota}%
2819 \def\itemautorefname{punto}%
2820 \def\figureautorefname{Figura}%
2821 \def\tableautorefname{Tabella}%
2822 \def\partautorefname{Parte}%
2823 \def\appendixautorefname{Appendice}%
2824 \def\chapterautorefname{Capitolo}%
2825 \def\sectionautorefname{sezione}%
2826 \def\subsectionautorefname{sottosezione}%
2827 \def\subsubsectionautorefname{sottosottosezione}%
2828 \def\paragraphautorefname{paragrafo}%

```

```

2829 \def\subparagraphautorefname{sottoparagrafo}%
2830 \def\FancyVerbLineautorefname{linea}%
2831 \def\theoremautorefname{Teorema}%
2832 \def\pageautorefname{Pag.\@}%
2833 }
2834 \def\HyLang@magyar{%
2835 \def\equationautorefname{Egyenlet}%
2836 \def\footnoteautorefname{l\'abjegyzet}%
2837 \def\itemautorefname{Elem}%
2838 \def\figureautorefname{'Abra}%
2839 \def\tableautorefname{T\'abl\'azat}%
2840 \def\partautorefname{R\'esz}%
2841 \def\appendixautorefname{F\'uggel\'ek}%
2842 \def\chapterautorefname{fejezet}%
2843 \def\sectionautorefname{szakasz}%
2844 \def\subsectionautorefname{alszakasz}%
2845 \def\subsubsectionautorefname{alalszakasz}%
2846 \def\paragraphautorefname{bekezd\'es}%
2847 \def\subparagraphautorefname{albekezd\'es}%
2848 \def\FancyVerbLineautorefname{sor}%
2849 \def\theoremautorefname{T\'etel}%
2850 \def\pageautorefname{oldal}%
2851 }
2852 \def\HyLang@portuges{%
2853 \def\equationautorefname{Equa\c c\~ao}%
2854 \def\footnoteautorefname{Nota de rodap\'e}%
2855 \def\itemautorefname{Item}%
2856 \def\figureautorefname{Figura}%
2857 \def\tableautorefname{Tabela}%
2858 \def\partautorefname{Parte}%
2859 \def\appendixautorefname{Ap\~endice}%
2860 \def\chapterautorefname{Cap\'itulo}%
2861 \def\sectionautorefname{Se\c c\~ao}%
2862 \def\subsectionautorefname{Subse\c c\~ao}%
2863 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2864 \def\paragraphautorefname{par\'agrafo}%
2865 \def\subparagraphautorefname{subpar\'agrafo}%
2866 \def\FancyVerbLineautorefname{linha}%
2867 \def\theoremautorefname{Teorema}%
2868 \def\pageautorefname{P\'agina}%
2869 }

```

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`.

```

2870 \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`?

```

2871 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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.

```
2872 % \def\equationautorefname{%
2873 % \cyr\cyrv\cyry\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
2874 % }%
```

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

```
2875 \def\footnoteautorefname{%
2876 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2877 }%
```

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}”

```
2878 % \def\footnoteautorefname{%
2879 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrzh\cyrn\cyro\cyre\ %
2880 % \cyrp\cyrr\cyri\cyrm\cyre\cyrrzh\cyra\cyrn\cyri\cyre
2881 % }%
```

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

```
2882 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2883 % \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.

```
2884 \def\itemautorefname{\cyr\cyrp.}%
2885 % \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.

```
2886 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2887 \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.

```
2888 \def\partautorefname{\cyr\cyrrh.}%
2889 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2890 \def\sectionautorefname{\cyr\cyrr\cyra\cyrrzh\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.

```
2891 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2892 % \def\appendixautorefname{%
2893 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2894 % }%
```

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.

```
2895 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrrzh\cyrd.}%
2896 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrrzh\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.

```
2897 \def\paragraphautorefname{\cyr\cyrp.}%
2898 \def\subparagraphautorefname{\cyr\cyrp.}%
```

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

```
2899 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2900 % \def\subparagraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

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

```
2901 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2902 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2903 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2904 % \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 . . .

```
2905 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2906 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2907 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2908 \def\pageautorefname{\cyr\cyrs.}%
2909 }
```

```
2910 \def\HyLang@spanish{%
2911 \def\equationautorefname{Ecuaci'on}%
2912 \def\footnoteautorefname{Nota a pie de p'agina}%
2913 \def\itemautorefname{Elemento}%
2914 \def\figureautorefname{Figura}%
2915 \def\tableautorefname{Tabla}%
2916 \def\partautorefname{Parte}%
2917 \def\appendixautorefname{Ap'endice}%
2918 \def\chapterautorefname{Cap'itulo}%
2919 \def\sectionautorefname{Secci'on}%
2920 \def\subsectionautorefname{Subsecci'on}%
2921 \def\subsubsectionautorefname{Subsubsecci'on}%
2922 \def\paragraphautorefname{P'arrafo}%
2923 \def\subparagraphautorefname{Subp'arrafo}%
2924 \def\FancyVerbLineautorefname{L'inea}%
2925 \def\theoremautorefname{Teorema}%
2926 \def\pageautorefname{P'agina}%
2927 }
```

```
2928 \def\HyLang@vietnamese{%
2929 \def\equationautorefname{Ph\uhorn{ }\ohorn{ }ng tr'inh}%
2930 \def\footnoteautorefname{Ch'u th'ich}%
2931 \def\itemautorefname{m\d{u}c}%
2932 \def\figureautorefname{H'inh}%
2933 \def\tableautorefname{B'h{a}ng}%
2934 \def\partautorefname{Ph'\acircumflex{n}%
2935 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
```

```

2936 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
2937 \def\sectionautorefname{m\du{c}}%
2938 \def\subsectionautorefname{m\du{c}}%
2939 \def\subsubsectionautorefname{m\du{c}}%
2940 \def\paragraphautorefname{dj{o\da{n}}%
2941 \def\subparagraphautorefname{dj{o\da{n}}%
2942 \def\FancyVerbLineautorefname{d'ong}%
2943 \def\theoremautorefname{DJ{d{i}nh l'y}%
2944 \def\pageautorefname{Trang}%
2945 }

```

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

```

2946 \def\HyLang@addto#1#2{%
2947 #2%
2948 \@temptokena{#2}%
2949 \ifx#1\relax
2950 \let#1\@empty
2951 \fi
2952 \ifx#1\@undefined
2953 \edef#1{\the\@temptokena}%
2954 \else
2955 \toks@\expandafter{#1}%
2956 \edef#1{\the\toks@\the\@temptokena}%
2957 \fi
2958 \@temptokena{}\toks@\@temptokena
2959 }

2960 \def\HyLang@DeclareLang#1#2#3{%
2961 \begingroup
2962 \edef\x#1#2{%
2963 \noexpand\ifx##2\relax
2964 \errmessage{No definitions for language #2' found!}%
2965 \noexpand\fi
2966 \endgroup
2967 \noexpand\define@key{Hyp}{#1}[]{}%
2968 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2969 #3%
2970 }%
2971 }%
2972 \expandafter\x\csname extras#1\expandafter\endcsname
2973 \csname HyLang@#2\endcsname
2974 }

2975 \HyLang@DeclareLang{english}{english}{}
2976 \HyLang@DeclareLang{UKenglish}{english}{}
2977 \HyLang@DeclareLang{british}{english}{}
2978 \HyLang@DeclareLang{USenglish}{english}{}
2979 \HyLang@DeclareLang{american}{english}{}
2980 \HyLang@DeclareLang{german}{german}{}
2981 \HyLang@DeclareLang{austrian}{german}{}
2982 \HyLang@DeclareLang{ngerman}{german}{}
2983 \HyLang@DeclareLang{naustrian}{german}{}
2984 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2985 \HyLang@DeclareLang{brazil}{portuges}{}
2986 \HyLang@DeclareLang{brazilian}{portuges}{}
2987 \HyLang@DeclareLang{portuguese}{portuges}{}
2988 \HyLang@DeclareLang{spanish}{spanish}{}
2989 \HyLang@DeclareLang{afrikaans}{afrikaans}{}

```

```

2990 \HyLang@DeclareLang{french}{french}{}
2991 \HyLang@DeclareLang{frenchb}{french}{}
2992 \HyLang@DeclareLang{francais}{french}{}
2993 \HyLang@DeclareLang{acadian}{french}{}
2994 \HyLang@DeclareLang{canadien}{french}{}
2995 \HyLang@DeclareLang{italian}{italian}{}
2996 \HyLang@DeclareLang{magyar}{magyar}{}
2997 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2998 \define@key{Hyp}{vietnamese}[]{}%
2999 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3000 \AtEndOfPackage{%
3001 \ifundefined{T@PU}{}{}%
3002 \input{puvnenc.def}%
3003 }%
3004 }%
3005 }
3006 \define@key{Hyp}{vietnam}[]{}%
3007 \HyLang@addto\extravietnam\HyLang@vietnamese
3008 \AtEndOfPackage{%
3009 \ifundefined{T@PU}{}{}%
3010 \input{puvnenc.def}%
3011 }%
3012 }%
3013 }

```

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

```

3014 \define@key{Hyp}{arabic}[]{}%
3015 \AtEndOfPackage{%
3016 \ifundefined{T@PU}{}{}%
3017 \input{puarenc.def}%
3018 }%
3019 }%
3020 }

```

## 13 Options to change appearance of links

Colouring links at the L<sup>A</sup>T<sub>E</sub>X level is useful for debugging, perhaps.

```

3021 \define@key{Hyp}{colorlinks}[true]{}%
3022 \Hy@boolkey{colorlinks}{#1}%
3023 }
3024 \define@key{Hyp}{ocgcolorlinks}[true]{}%
3025 \Hy@boolkey{ocgcolorlinks}{#1}%
3026 }
3027 \AtBeginDocument{%
3028 \begingroup
3029 \ifundefined{OBJ@OCG@view}{}%
3030 \ifHy@ocgcolorlinks
3031 \Hy@Warning{%
3032 Driver does not support ‘ocgcolorlinks’,\MessageBreak
3033 using ‘colorlinks’ instead%
3034 }%
3035 \fi
3036 }{}%
3037 \endgroup
3038 }

```



```

3039 \define@key{Hyp}{frenchlinks}[true]{%
3040 \Hy@boolkey{frenchlinks}{#1}%
3041 }

```

## 14 Bookmarking

```

3042 \begingroup\expandafter\expandafter\expandafter\endgroup
3043 \expandafter\ifx\csname chapter\endcsname\relax
3044 \def\toclevel@part{0}%
3045 \else
3046 \def\toclevel@part{-1}%
3047 \fi
3048 \def\toclevel@chapter{0}
3049 \def\toclevel@section{1}
3050 \def\toclevel@subsection{2}
3051 \def\toclevel@subsubsection{3}
3052 \def\toclevel@paragraph{4}
3053 \def\toclevel@subparagraph{5}
3054 \def\toclevel@figure{0}
3055 \def\toclevel@table{0}
3056 \ifpackageloaded{listings}{%
3057 \providecommand*\theHlstlisting{\thelstlisting}%
3058 \providecommand*\toclevel@lstlisting{0}%
3059 }{}
3060 \ifpackageloaded{listing}{%
3061 \providecommand*\theHlisting{\thelisting}%
3062 \providecommand*\toclevel@listing{0}%
3063 }{}

3064 \define@key{Hyp}{bookmarks}[true]{%
3065 \Hy@boolkey{bookmarks}{#1}%
3066 }

3067 \define@key{Hyp}{bookmarksopen}[true]{%
3068 \Hy@boolkey{bookmarksopen}{#1}%
3069 }

```

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.

```

3070 \let\Hy@bookmarksdepth\c@tocdepth
3071 \define@key{Hyp}{bookmarksdepth}[]{}%
3072 \begingroup
3073 \edef\x{#1}%
3074 \ifx\x\empty
3075 \global\let\Hy@bookmarksdepth\c@tocdepth
3076 \else
3077 \ifundefined{toclevel@\x}{%
3078 \@onelevel@sanitize\x
3079 \edef\y{\expandafter\@car\x\@nil}%

```

```

3080 \ifcase 0\expandafter\ifx\y-1\fi
3081 \expandafter\ifnum\expandafter'\y>47 %
3082 \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3083 \Hy@Warning{Unknown document division name (\x)}%
3084 \else
3085 \setbox\z@=\hbox{%
3086 \count@=\x
3087 \xdef\Hy@bookmarksdepth{\the\count@}%
3088 }%
3089 \fi
3090 }{%
3091 \setbox\z@=\hbox{%
3092 \count@=\csname toplevel@\x\endcsname
3093 \xdef\Hy@bookmarksdepth{\the\count@}%
3094 }%
3095 }%
3096 \fi
3097 \endgroup
3098 }

```

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

```

3099 \define@key{Hyp}{bookmarksopenlevel}{%
3100 \def\@bookmarksopenlevel{#1}%
3101 }
3102 \def\@bookmarksopenlevel{\maxdimen}
3103 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3104 \define@key{Hyp}{bookmarkstype}{%
3105 \def\Hy@bookmarkstype{#1}%
3106 }
3107 \def\Hy@bookmarkstype{toc}

```

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

```

3108 \define@key{Hyp}{bookmarksnumbered}[true]{%
3109 \Hy@boolkey{bookmarksnumbered}{#1}%
3110 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3111 \define@key{Hyp}{CJKbookmarks}[true]{%
3112 \Hy@boolkey{CJKbookmarks}{#1}%
3113 }

3114 \def\Hy@temp#1{%
3115 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3116 }

3117 \def\Hy@@temp#1#2#3{%
3118 \define@key{Hyp}{#2color}{%
3119 \HyColor@HyperrefColor{##1}#1%
3120 }%
3121 \def#1{#3}%
3122 }

3123 \Hy@temp{link}{red}
3124 \Hy@temp{anchor}{black}
3125 \Hy@temp{cite}{green}
3126 \Hy@temp{file}{cyan}
3127 \Hy@temp{url}{magenta}
3128 \Hy@temp{menu}{red}
3129 \Hy@temp{run}{\@filecolor}
3130 \define@key{Hyp}{pagecolor}{%

```

```

3131 \Hy@WarningPageColor
3132 }
3133 \def\Hy@WarningPageColor{%
3134 \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3135 \global\let\Hy@WarningPageColor\relax
3136 }

3137 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3138 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3139 \let\@baseurl\@empty
3140 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3141 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3142 \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.

```

3143 \let\@pdfpagetransition\relax
3144 \define@key{Hyp}{pdfpagetransition}{\def\@pdfpagetransition{#1}}

```

`\@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.

```

3145 \let\@pdfpageduration\relax
3146 \define@key{Hyp}{pdfpageduration}{\def\@pdfpageduration{#1}}

```

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

```

3147 \newif\ifHy@useHidKey
3148 \Hy@useHidKeyfalse
3149 \define@key{Hyp}{pdfpagehidden}[true]{%
3150 \Hy@boolkey{pdfpagehidden}{#1}%
3151 \ifHy@pdfpagehidden
3152 \global\Hy@useHidKeytrue
3153 \fi
3154 }

```

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).

```

3155 \def\Hy@ColorList{cite,file,link,menu,run,url}
3156 \@for\Hy@temp:=\Hy@ColorList\do{%
3157 \edef\Hy@temp{%
3158 \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3159 \noexpand\Hy@Color@HyperrefBorderColor
3160 {##1}%
3161 \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3162 {hyperref}%
3163 {\Hy@temp bordercolor}%

```

```

3164 }%
3165 }%
3166 \Hy@temp
3167 }
3168 \define@key{Hyp}{pagebordercolor}{%
3169 \Hy@WarningPageBorderColor
3170 }
3171 \def\Hy@WarningPageBorderColor{%
3172 \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3173 \global\let\Hy@WarningPageBorderColor\relax
3174 }

3175 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3176 \Hy@DefNameKey{pdfhighlight}{%
3177 \do{/I}{Invert}%
3178 \do{/N}{None}%
3179 \do{/O}{Outline}%
3180 \do{/P}{Push}%
3181 }
3182 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
3183 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3184 \def\Hy@setpdfborder{%
3185 \ifx\@pdfborder\@empty
3186 \else
3187 /Border[\@pdfborder]%
3188 \fi
3189 \ifx\@pdfborderstyle\@empty
3190 \else
3191 /BS<<\@pdfborderstyle>>%
3192 \fi
3193 }
3194 \Hy@DefNameKey{pdfpagemode}{%
3195 \do{UseNone}{}%
3196 \do{UseOutlines}{}%
3197 \do{UseThumbs}{}%
3198 \do{FullScreen}{}%
3199 \do{UseOC}{PDF 1.5}%
3200 \do{UseAttachments}{PDF 1.6}%
3201 }
3202 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3203 \do{UseNone}{}%
3204 \do{UseOutlines}{}%
3205 \do{UseThumbs}{}%
3206 \do{FullScreen}{}%
3207 \do{UseOC}{PDF 1.5}%
3208 \do{UseAttachments}{PDF 1.6}%
3209 }
3210 \Hy@DefNameKey{pdfdirection}{%
3211 \do{L2R}{Left to right}%
3212 \do{R2L}{Right to left}%
3213 }
3214 \Hy@DefNameKey{pdfviewarea}{%
3215 \do{MediaBox}{}%
3216 \do{CropBox}{}%
3217 \do{BleedBox}{}%
3218 \do{TrimBox}{}%
3219 \do{ArtBox}{}%
3220 }

```

```

3221 \Hy@DefNameKey{pdfviewclip}{%
3222 \do{MediaBox}{}%
3223 \do{CropBox}{}%
3224 \do{BleedBox}{}%
3225 \do{TrimBox}{}%
3226 \do{ArtBox}{}%
3227 }
3228 \Hy@DefNameKey{pdfprintarea}{%
3229 \do{MediaBox}{}%
3230 \do{CropBox}{}%
3231 \do{BleedBox}{}%
3232 \do{TrimBox}{}%
3233 \do{ArtBox}{}%
3234 }
3235 \Hy@DefNameKey{pdfprintclip}{%
3236 \do{MediaBox}{}%
3237 \do{CropBox}{}%
3238 \do{BleedBox}{}%
3239 \do{TrimBox}{}%
3240 \do{ArtBox}{}%
3241 }
3242 \Hy@DefNameKey{pdfprintscaling}{%
3243 \do{AppDefault}{}%
3244 \do{None}{}%
3245 }
3246 \Hy@DefNameKey{pdfduplex}{%
3247 \do{Simplex}{}%
3248 \do{DuplexFlipShortEdge}{}%
3249 \do{DuplexFlipLongEdge}{}%
3250 }
3251 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3252 \do{true}{}%
3253 \do{false}{}%
3254 }
3255 \define@key{Hyp}{pdfprintpagerange}{%
3256 \def\@pdfprintpagerange{#1}%
3257 }
3258 \Hy@DefNameKey{pdfnumcopies}{%
3259 \do{2}{two copies}%
3260 \do{3}{three copies}%
3261 \do{4}{four copies}%
3262 \do{5}{five copies}%
3263 }
3264 \define@key{Hyp}{pdfusetitle}[true]{%
3265 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3266 }
3267 \def\HyXeTeX@CheckUnicode{%
3268 \ifxetex
3269 \ifHy@unicode
3270 \else
3271 \Hy@WarningNoLine{%
3272 XeTeX driver only supports unicode.\MessageBreak
3273 Enabling option 'unicode'%
3274 }%
3275 \setkeys{Hyp}{unicode}%
3276 \fi
3277 \else

```

```

3278 \let\HyXeTeX@CheckUnicode\relax
3279 \fi
3280 }
3281 \def\HyPsd@PrerenderUnicode#1{%
3282 \begingroup
3283 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3284 \else
3285 \sbox0{%
3286 \let\GenericInfo\@gobbletwo
3287 \let\GenericWarning\@gobbletwo
3288 \let\GenericError\@gobblefour
3289 \PrerenderUnicode{#1}%
3290 }%
3291 \fi
3292 \endgroup
3293 }
3294 \define@key{Hyp}{pdftitle}{%
3295 \HyXeTeX@CheckUnicode
3296 \HyPsd@XeTeXBigCharstrue
3297 \HyPsd@PrerenderUnicode{#1}%
3298 \pdfstringdef\@pdftitle{#1}%
3299 }
3300 \define@key{Hyp}{pdfauthor}{%
3301 \HyXeTeX@CheckUnicode
3302 \HyPsd@XeTeXBigCharstrue
3303 \HyPsd@PrerenderUnicode{#1}%
3304 \pdfstringdef\@pdfauthor{#1}%
3305 }
3306 \define@key{Hyp}{pdfproducer}{%
3307 \HyXeTeX@CheckUnicode
3308 \HyPsd@XeTeXBigCharstrue
3309 \HyPsd@PrerenderUnicode{#1}%
3310 \pdfstringdef\@pdfproducer{#1}%
3311 }
3312 \define@key{Hyp}{pdfcreator}{%
3313 \HyXeTeX@CheckUnicode
3314 \HyPsd@XeTeXBigCharstrue
3315 \HyPsd@PrerenderUnicode{#1}%
3316 \pdfstringdef\@pdfcreator{#1}%
3317 }
3318 \define@key{Hyp}{pdfcreationdate}{%
3319 \begingroup
3320 \Hy@unicodedefalse
3321 \pdfstringdef\@pdfcreationdate{#1}%
3322 \endgroup
3323 }
3324 \define@key{Hyp}{pdfmoddate}{%
3325 \begingroup
3326 \Hy@unicodedefalse
3327 \pdfstringdef\@pdfmoddate{#1}%
3328 \endgroup
3329 }
3330 \define@key{Hyp}{pdfsubject}{%
3331 \HyXeTeX@CheckUnicode
3332 \HyPsd@XeTeXBigCharstrue
3333 \HyPsd@PrerenderUnicode{#1}%
3334 \pdfstringdef\@pdfsubject{#1}%

```

```

3335 }
3336 \define@key{Hyp}{pdfkeywords}{%
3337 \HyXeTeX@CheckUnicode
3338 \HyPsd@XeTeXBigCharstrue
3339 \HyPsd@PrerenderUnicode{#1}%
3340 \pdfstringdef\@pdfkeywords{#1}%
3341 }
3342 \define@key{Hyp}{pdftrapped}{%
3343 \lowercase{\edef\Hy@temp{#1}}%
3344 \ifx\Hy@temp\HyInfo@trapped@true
3345 \def\@pdftrapped{True}%
3346 \else
3347 \ifx\Hy@temp\HyInfo@trapped@false
3348 \def\@pdftrapped{False}%
3349 \else
3350 \ifx\Hy@temp\HyInfo@trapped@unknown
3351 \def\@pdftrapped{Unknown}%
3352 \else
3353 \ifx\Hy@temp\@empty
3354 \else
3355 \Hy@Warning{%
3356 Unsupported value ‘#1’\MessageBreak
3357 for option ‘pdftrapped’%
3358 }%
3359 \fi
3360 \def\@pdftrapped{}%
3361 \fi
3362 \fi
3363 \fi
3364 }
3365 \def\HyInfo@trapped@true{true}
3366 \def\HyInfo@trapped@false{false}
3367 \def\HyInfo@trapped@unknown{unknown}
3368 \def\HyInfo@TrappedUnsupported{%
3369 \ifx\@pdftrapped\@empty
3370 \else
3371 \Hy@WarningNoLine{‘pdftrapped’ is not supported by this driver}%
3372 \gdef\HyInfo@TrappedUnsupported{}%
3373 \fi
3374 }
3375 \define@key{Hyp}{pdfinfo}{%
3376 \kvsetkeys{pdfinfo}{#1}%
3377 }
3378 \def\Hy@temp#1{%
3379 \lowercase{\Hy@temp@A{#1}}{#1}%
3380 }
3381 \def\Hy@temp@A#1#2{%
3382 \define@key{pdfinfo}{#2}{%
3383 \hypersetup{pdf#1={##1}}%
3384 }%
3385 }
3386 \Hy@temp{Title}
3387 \Hy@temp{Author}
3388 \Hy@temp{Keywords}
3389 \Hy@temp{Subject}
3390 \Hy@temp{Creator}
3391 \Hy@temp{Producer}

```

```

3392 \Hy@temp{CreationDate}
3393 \Hy@temp{ModDate}
3394 \Hy@temp{Trapped}
3395 \newif\ifHyInfo@AddonUnsupported
3396 \kv@set@family@handler{pdfinfo}{%
3397 \HyInfo@AddonHandler{#1}{#2}%
3398 }
3399 \let\HyInfo@do\relax
3400 \def\HyInfo@AddonHandler#1#2{%
3401 \ifx\kv@value\relax
3402 \Hy@Warning{%
3403 Option 'pdfinfo': ignoring key '\kv@key' without value%
3404 }%
3405 \else
3406 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3407 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3408 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3409 \ifHyInfo@AddonUnsupported
3410 \Hy@Warning{%
3411 This driver does not support additional\MessageBreak
3412 information entries, therefore\MessageBreak
3413 '\kv@key' is ignored%
3414 }%
3415 \else
3416 \define@key{pdfinfo}{\HyInfo@Key}{%
3417 \HyXeTeX@CheckUnicode
3418 \HyPsd@XeTeXBigCharstrue
3419 \HyPsd@PrerenderUnicode{##1}%
3420 \pdfstringdef\HyInfo@Value{##1}%
3421 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3422 \HyInfo@Value
3423 }%
3424 \edef\HyInfo@AddonList{%
3425 \HyInfo@AddonList
3426 \HyInfo@do{\HyInfo@Key}%
3427 }%
3428 \kv@parse@normalized{%
3429 \HyInfo@Key={#2}%
3430 }{%
3431 \kv@processor@default{pdfinfo}%
3432 }%
3433 \fi
3434 \else
3435 \kv@parse@normalized{%
3436 \HyInfo@Key={#2}%
3437 }{%
3438 \kv@processor@default{pdfinfo}%
3439 }%
3440 \fi
3441 \fi
3442 }
3443 \def\HyInfo@GenerateAddons{%
3444 \ifHyInfo@AddonUnsupported
3445 \def\HyInfo@Addons{}%
3446 \else
3447 \begingroup
3448 \toks@{}%

```



```

3449 \def\HyInfo@do##1{%
3450 \EdefEscapeName\HyInfo@Key{##1}%
3451 \edef\x{%
3452 \toks@{%
3453 \the\toks@
3454 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3455 }%
3456 }%
3457 \x
3458 }%
3459 \HyInfo@AddonList
3460 \edef\x{\endgroup
3461 \def\noexpand\HyInfo@Addons{\the\toks@}%
3462 }%
3463 \x
3464 \fi
3465 }
3466 \def\HyInfo@AddonList{}

3467 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3468 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3469 \let\setpdfinkmargin\@gobble
3470 \def\calculate@pdfview#1 #2\{\%
3471 \def\@pdfview{#1}%
3472 \ifx\#2\%
3473 \def\@pdfviewparams{-32768}%
3474 \else
3475 \def\@pdfviewparams{#2}%
3476 \fi
3477 }

3478 \begingroup\expandafter\expandafter\expandafter\endgroup
3479 \expandafter\ifx\csname numexpr\endcsname\relax
3480 \def\Hy@number#1{%
3481 \expandafter\@firstofone\expandafter{\number#1}%
3482 }%
3483 \else
3484 \def\Hy@number#1{%
3485 \the\numexpr#1\relax
3486 }%
3487 \fi

3488 \define@key{Hyp}{pdfstartpage}{%
3489 \ifx\#1\%
3490 \def\@pdfstartpage{}%
3491 \else
3492 \edef\@pdfstartpage{\Hy@number{#1}}%
3493 \fi
3494 }%

3495 \define@key{Hyp}{pdfstartview}{%
3496 \ifx\#1\%
3497 \def\@pdfstartview{}%
3498 \else
3499 \hypercalcbpdef\@pdfstartview{/#1}%
3500 \fi
3501 }

3502 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3503 \define@key{Hyp}{pdftoolbar}[true]{%
3504 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3505 }

```

```

3506 \define@key{Hyp}{pdfmenubar}[true]{%
3507 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3508 }
3509 \define@key{Hyp}{pdfwindowui}[true]{%
3510 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3511 }
3512 \define@key{Hyp}{pdffitwindow}[true]{%
3513 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3514 }
3515 \define@key{Hyp}{pdfcenterwindow}[true]{%
3516 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3517 }
3518 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3519 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3520 }
3521 \define@key{Hyp}{pdfa}[true]{%
3522 \Hy@boolkey{pdfa}{#1}%
3523 }
3524 \define@key{Hyp}{pdfnewwindow}[true]{%
3525 \def\Hy@temp{#1}%
3526 \ifx\Hy@temp\@empty
3527 \Hy@newwindowsetfalse
3528 \else
3529 \Hy@newwindowsettrue
3530 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3531 \fi
3532 }
3533 \def\Hy@SetNewWindow{%
3534 \ifHy@newwindowset
3535 /NewWindow %
3536 \ifHy@newwindow true\else false\fi
3537 \fi
3538 }
3539 \Hy@DefNameKey{pdfpagelayout}{%
3540 \do{SinglePage}{}%
3541 \do{OneColumn}{}%
3542 \do{TwoColumnLeft}{}%
3543 \do{TwoColumnRight}{}%
3544 \do{TwoPageLeft}{PDF 1.5}%
3545 \do{TwoPageRight}{PDF 1.5}%
3546 }
3547 \define@key{Hyp}{pdflang}{%
3548 \def\@pdflang{#1}%
3549 }
3550 \define@key{Hyp}{pdfpagelabels}[true]{%
3551 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3552 }
3553 \define@key{Hyp}{pdfescapeform}[true]{%
3554 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3555 }

```

Default values:

```

3556 \def\@linkbordercolor{1 0 0}
3557 \def\@urlbordercolor{0 1 1}
3558 \def\@menubordercolor{1 0 0}
3559 \def\@filebordercolor{0 .5 .5}
3560 \def\@runbordercolor{0 .7 .7}
3561 \def\@citebordercolor{0 1 0}

```

```

3562 \def\@pdfhighlight{/I}
3563 \def\@pdftitle{}
3564 \def\@pdfauthor{}
3565 \let\@pdfproducer\relax
3566 \def\@pdfcreator{LaTeX with hyperref package}
3567 \def\@pdfcreationdate{}
3568 \def\@pdfmoddate{}
3569 \def\@pdfsubject{}
3570 \def\@pdfkeywords{}
3571 \def\@pdftrapped{}
3572 \def\@pdfpagescrop{}
3573 \def\@pdfstartview{ /Fit }
3574 \def\@pdfstartpage{1}
3575 \def\@pdfprintpagerange{}
3576 \def\@pdflang{}
3577 \let\PDF@SetupDoc\@empty
3578 \let\PDF@FinishDoc\@empty
3579 \let\phantomsection\@empty
3580 \let\special@paper\@empty
3581 \def\HyperDestNameFilter#1{#1}
3582 \AtBeginDocument{%
3583 \begingroup
3584 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3585 \dimen@=\x\relax
3586 \ifdim\dimen@>\z@
3587 \else
3588 \dimen@=11in\relax
3589 \Hy@WarningNoLine{%
3590 Height of page (\expandafter\string\x) %
3591 is invalid (\the\x),\MessageBreak
3592 using 11in%
3593 }%
3594 \fi
3595 \dimen@=0.99626401\dimen@
3596 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3597 \endgroup
3598 }
3599 \def\HyInd@EncapChar{\|}
3600 \def\hypersetup{\setkeys{Hyp}}

```

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.

```

3601 \let\hyper@normalise\ExecuteOptions
3602 \let\ExecuteOptions\hypersetup
3603 \Hy@RestoreCatcodes
3604 \InputIfFileExists{hyperref.cfg}{-}{-}
3605 \Hy@SetCatcodes
3606 \let\ExecuteOptions\hyper@normalise
3607 \Hy@MaybeStopNow

```

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.

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

```

3608 \RequirePackage{kvoptions}[2009/07/21]
3609 \SetupKeyvalOptions{family=Hyp}

```

```

3610 \DeclareLocalOptions{%
3611 a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3612 }

```

Add option tex4ht if package tex4ht is loaded.

```

3613 \@ifpackageloaded{tex4ht}{%
3614 \@ifpackagewith{hyperref}{tex4ht}{%}%
3615 \PassOptionsToPackage{tex4ht}{hyperref}%
3616 }%
3617 }{}

3618 \let\ReadBookmarks\relax
3619 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3620 \AtBeginDocument{%
3621 \ifHy@draft
3622 \let\hyper@@anchor\@gobble
3623 \gdef\hyper@link#1#2#3{#3}%
3624 \let\hyper@anchorstart\@gobble
3625 \let\hyper@anchorend\@empty
3626 \let\hyper@linkstart\@gobbletwo
3627 \let\hyper@linkend\@empty
3628 \def\hyper@linkurl#1#2{#1}%
3629 \def\hyper@linkfile#1#2#3{#1}%
3630 \def\hyper@link@[#1]#2#3{}%
3631 \def\Acrobatmenu#1#2{\leavevmode#2}%
3632 \let\PDF@SetupDoc\@empty
3633 \let\PDF@FinishDoc\@empty
3634 \let\@fifthoffive\@secondoftwo
3635 \let\@secondoffive\@secondoftwo
3636 \let\ReadBookmarks\relax
3637 \let\WriteBookmarks\relax
3638 \Hy@WarningNoLine{ draft mode on}%
3639 \fi
3640 \Hy@DisableOption{draft}%
3641 \Hy@DisableOption{nolinks}%
3642 \Hy@DisableOption{final}%
3643 }

```

## 15.1 PDF/A

```

3644 \Hy@DisableOption{pdfa}

3645 \ifHy@pdfa
3646 \setkeys{Hyp}{pdfversion=1.4}%
3647 \def\Hy@Acrobatmenu#1#2{%
3648 \leavevmode
3649 \begingroup
3650 \edef\x{#1}%
3651 \@onelevel@sanitize\x
3652 \ifx\x\Hy@NextPage
3653 \let\y=Y%
3654 \else
3655 \ifx\x\Hy@PrevPage
3656 \let\y=Y%
3657 \else
3658 \ifx\x\Hy@FirstPage
3659 \let\y=Y%

```

```

3660 \else
3661 \ifx\x\Hy@LastPage
3662 \let\y=Y%
3663 \else
3664 \let\y=N%
3665 \fi
3666 \fi
3667 \fi
3668 \fi
3669 \expandafter\endgroup
3670 \ifx\y Y%
3671 \else
3672 \PackageError{hyperref}{%
3673 PDF/A: Named action '#1' is not permitted%
3674 }{\@ehc
3675 {#2}%
3676 \expandafter\@gobble
3677 \fi
3678 }%
3679 \def\Hy@temp#1{%
3680 \expandafter\def\csname Hy@#1\endcsname{#1}%
3681 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3682 }%
3683 \Hy@temp{NextPage}%
3684 \Hy@temp{PrevPage}%
3685 \Hy@temp{FirstPage}%
3686 \Hy@temp{LastPage}%
3687 \else
3688 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3689 \fi

```

## 15.2 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.

```

3690 \Hy@nextfalse
3691 \ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3692 \ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3693 \ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3694 \ifHy@next
3695 \let\texttilde\~%
3696 \fi
3697 \ifHy@figures
3698 \Hy@Info{Hyper figures ON}%
3699 \else
3700 \Hy@Info{Hyper figures OFF}%
3701 \fi
3702 \ifHy@nesting
3703 \Hy@Info{Link nesting ON}%
3704 \else
3705 \Hy@Info{Link nesting OFF}%
3706 \fi
3707 \ifHy@hyperindex
3708 \Hy@Info{Hyper index ON}%
3709 \else
3710 \Hy@Info{Hyper index OFF}%
3711 \fi

```

```

3712 \ifHy@plainpages
3713 \Hy@Info{Plain pages ON}%
3714 \else
3715 \Hy@Info{Plain pages OFF}%
3716 \fi
3717 \ifHy@backref
3718 \Hy@Info{Backreferencing ON}%
3719 \else
3720 \Hy@Info{Backreferencing OFF}%
3721 \fi
3722 \ifHy@typexml
3723 \AtEndOfPackage{%
3724 \RequirePackage{color}%
3725 \RequirePackage{nameref}%
3726 }%
3727 \fi
3728 \Hy@DisableOption{typexml}
3729 \ifHy@implicit
3730 \typeout{Implicit mode ON; LaTeX internals redefined}%
3731 \else
3732 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3733 \def\MaybeStopEarly{%
3734 \typeout{Hyperref stopped early}%
3735 \AfterBeginDocument{%
3736 \PDF@FinishDoc
3737 \gdef\PDF@FinishDoc{}%
3738 }%
3739 \endinput
3740 }%
3741 \AtBeginDocument{%
3742 \let\autoref\ref
3743 \let\autopageref\pageref
3744 \ifx\@pdfpagemode\@empty
3745 \gdef\@pdfpagemode{UseNone}%
3746 \fi
3747 \global\Hy@backreffalse
3748 }%
3749 \AtEndOfPackage{%
3750 \global\let\ReadBookmarks\relax
3751 \global\let\WriteBookmarks\relax
3752 }%
3753 \fi
3754 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3755 \AtEndOfPackage{%
3756 \@ifpackageloaded{tex4ht}{%
3757 \def\Hy@driver{htex4ht}%
3758 \Hy@texhttrue
3759 }{}%

```

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.

```

3760 \ifx\Hy@driver\@empty
3761 \else
3762 \def\Hy@temp{hpdfTeX}%
3763 \ifpdf

```

```

3764 \ifx\Hy@driver\Hy@temp
3765 \else
3766 \Hy@WarningNoLine{%
3767 Wrong driver '\Hy@driver.def';\MessageBreak
3768 pdfTeX is running in PDF mode.\MessageBreak
3769 Forcing driver '\Hy@temp.def'%
3770 }%
3771 \let\Hy@driver\Hy@temp
3772 \fi
3773 \else
3774 \ifx\Hy@driver\Hy@temp
3775 \Hy@WarningNoLine{%
3776 Wrong driver '\Hy@driver.def';\MessageBreak
3777 pdfTeX is not running in PDF mode.\MessageBreak
3778 Using default driver%
3779 }%
3780 \let\Hy@driver\@empty
3781 \fi
3782 \fi
3783 \fi
3784 \ifx\Hy@driver\@empty
3785 \else
3786 \def\Hy@temp{hxtex}%
3787 \ifxetex
3788 \ifx\Hy@driver\Hy@temp
3789 \else
3790 \Hy@WarningNoLine{%
3791 Wrong driver '\Hy@driver.def';\MessageBreak
3792 XeTeX is running.\MessageBreak
3793 Forcing driver '\Hy@temp.def' for XeTeX%
3794 }%
3795 \let\Hy@driver\Hy@temp
3796 \fi
3797 \fi
3798 \fi
3799 \ifx\Hy@driver\@empty
3800 \else
3801 \def\Hy@temp{hvtexhtm}%
3802 \ifvtexhtml
3803 \ifx\Hy@driver\Hy@temp
3804 \else
3805 \Hy@WarningNoLine{%
3806 Wrong driver '\Hy@driver.def';\MessageBreak
3807 VTeX is running in HTML mode.\MessageBreak
3808 Forcing driver '\Hy@temp.def'%
3809 }%
3810 \let\Hy@driver\Hy@temp
3811 \fi
3812 \else
3813 \ifx\Hy@driver\Hy@temp
3814 \Hy@WarningNoLine{%
3815 Wrong driver '\Hy@driver.def';\MessageBreak
3816 VTeX is not running in HTML mode.\MessageBreak
3817 Using default driver%
3818 }%
3819 \let\Hy@driver\@empty
3820 \fi

```

```

3821 \fi
3822 \fi
If the driver is not given, find the right driver or use the default driver.
3823 \ifx\Hy@driver\@empty
3824 \providecommand*{\Hy@defaultdriver}{hypertex}%
3825 \ifpdf
3826 \def\Hy@driver{hpdfTeX}%
3827 \else
3828 \ifxetex
3829 \def\Hy@driver{hxetex}%
3830 \else
3831 \ifvtexhtml
3832 \def\Hy@driver{hvtexhtm}%
3833 \def\MaybeStopEarly{%
3834 \typeout{Hyperref stopped early}%
3835 \AfterBeginDocument{%
3836 \PDF@FinishDoc
3837 \gdef\PDF@FinishDoc{}%
3838 }%
3839 \endinput
3840 }%
3841 \else
3842 \ifvtexpdf
3843 \def\Hy@driver{hvtex}%
3844 \else
3845 \ifvtexps
3846 \def\Hy@driver{hvtex}%
3847 \else
3848 \let\Hy@driver\Hy@defaultdriver
3849 \fi
3850 \fi
3851 \fi
3852 \fi
3853 \fi
3854 \ifx\Hy@driver\Hy@defaultdriver
3855 \def\Hy@temp{hdvwind}%
3856 \ifx\Hy@temp\Hy@driver
3857 \setkeys{Hyp}{colorlinks}%
3858 \PassOptionsToPackage{dvwindo}{color}%
3859 \fi
3860 \fi
3861 \typeout{*hyperref using default driver \Hy@driver*}%
3862 \else
3863 \typeout{*hyperref using driver \Hy@driver*}%
3864 \fi
3865 \input{\Hy@driver.def}%
3866 \let\@unprocessedoptions\relax
3867 \Hy@RestoreCatcodes
3868 }

```

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.

```

3869 \newif\ifHy@DvipdfmxOutlineOpen
3870 \ifxetex
3871 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3872 \else
3873 \Hy@DvipdfmxOutlineOpentrue

```



```

3874 \fi
3875 \fi
3876 \begingroup\expandafter\expandafter\expandafter\endgroup
3877 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3878 \else
3879 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3880 \Hy@DvipdfmxOutlineOpentruer
3881 \fi
3882 \fi
3883 \Hy@DisableOption{tex4ht}
3884 \Hy@DisableOption{pdftex}
3885 \Hy@DisableOption{nativepdf}
3886 \Hy@DisableOption{dvipdfm}
3887 \Hy@DisableOption{dvipdfmx}
3888 \Hy@DisableOption{dvipdfmx-outline-open}
3889 \Hy@DisableOption{pdfmark}
3890 \Hy@DisableOption{dvips}
3891 \Hy@DisableOption{hypertex}
3892 \Hy@DisableOption{vtex}
3893 \Hy@DisableOption{vtexpdfmark}
3894 \Hy@DisableOption{dviwindo}
3895 \Hy@DisableOption{dvipsone}
3896 \Hy@DisableOption{textures}
3897 \Hy@DisableOption{latex2html}
3898 \Hy@DisableOption{ps2pdf}
3899 \Hy@DisableOption{xetex}
3900 \AtEndOfPackage{%
3901 \Hy@DisableOption{pdfversion}%
3902 }

```

### 15.2.2 Bookmarks

```

3903 \def\WriteBookmarks{0}
3904 \def\@bookmarkopenstatus#1{%
3905 \ifHy@bookmarksopen

```

The purpose of the \@firstofone-number-space-construct is that no \relax will be inserted by T<sub>E</sub>X before the \else:

```

3906 \ifnum#1<\expandafter\@firstofone\expandafter
3907 {\number\@bookmarksopenlevel} % explicit space
3908 \else
3909 -%
3910 \fi
3911 \else
3912 -%
3913 \fi
3914 }
3915 \ifHy@bookmarks
3916 \Hy@Info{Bookmarks ON}%
3917 \ifx\@pdfpagemode\@empty
3918 \def\@pdfpagemode{UseOutlines}%
3919 \fi
3920 \else
3921 \def\@bookmarkopenstatus#1{%
3922 \Hy@Info{Bookmarks OFF}%
3923 \AtEndOfPackage{%
3924 \global\let\ReadBookmarks\relax
3925 \global\let\WriteBookmarks\relax
3926 }%

```

```

3927 \ifx\@pdfpagemode\@empty
3928 \def\@pdfpagemode{UseNone}%
3929 \fi
3930 \fi
3931 \Hy@DisableOption{bookmarks}

```

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

```

3932 \def\Hy@CatcodeWrapper#1{%
3933 \def\Hy@endWrap{%
3934 \def\TMP@EnsureCode##1##2{%
3935 \edef\Hy@endWrap{%
3936 \Hy@endWrap
3937 \catcode##1 \the\catcode##1\relax
3938 }%
3939 \catcode##1 ##2\relax
3940 }%
3941 \TMP@EnsureCode{10}{12}% ^^J
3942 \TMP@EnsureCode{33}{12}% !
3943 \TMP@EnsureCode{34}{12}% "
3944 \TMP@EnsureCode{36}{3}% $ (math)
3945 \TMP@EnsureCode{38}{4}% & (alignment)
3946 \TMP@EnsureCode{39}{12}% '
3947 \TMP@EnsureCode{40}{12}% (
3948 \TMP@EnsureCode{41}{12}%)
3949 \TMP@EnsureCode{42}{12}% *
3950 \TMP@EnsureCode{43}{12}% +
3951 \TMP@EnsureCode{44}{12}% ,
3952 \TMP@EnsureCode{45}{12}% -
3953 \TMP@EnsureCode{46}{12}% .
3954 \TMP@EnsureCode{47}{12}% /
3955 \TMP@EnsureCode{58}{12}% :
3956 \TMP@EnsureCode{59}{12}% ;
3957 \TMP@EnsureCode{60}{12}% <
3958 \TMP@EnsureCode{61}{12}% =
3959 \TMP@EnsureCode{62}{12}% >
3960 \TMP@EnsureCode{63}{12}% ?
3961 \TMP@EnsureCode{91}{12}% [
3962 \TMP@EnsureCode{93}{12}%]
3963 \TMP@EnsureCode{94}{7}% ^ (superscript)
3964 \TMP@EnsureCode{95}{8}% _ (subscript)
3965 \TMP@EnsureCode{96}{12}% '
3966 \TMP@EnsureCode{124}{12}% |
3967 \TMP@EnsureCode{126}{13}% ~ (active)
3968 ##1\relax
3969 \Hy@endWrap
3970 }

```

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

```

3971 \AtBeginDocument{%
3972 \ifHy@ocgcolorlinks
3973 \setkeys{Hyp}{colorlinks}%
3974 \ifHy@pdfa
3975 \Hy@Warning{%
3976 PDF/A: Optional Content Groups are prohibited,\MessageBreak
3977 using 'colorlinks' instead of 'ocgcolorlinks'%
3978 }%
3979 \Hy@ocgcolorlinksfalse
3980 \fi

```

```

3981 \fi
3982 \ifHy@ocgcolorlinks
3983 \else
3984 \Hy@DisableOption{ocgcolorlinks}%
3985 \fi
3986 \ifHy@colorlinks
3987 \def\@pdfborder{0 0 0}%
3988 \let\@pdfborderstyle\@empty
3989 \ifHy@typexml
3990 \else
3991 \Hy@CatcodeWrapper{%
3992 \RequirePackage{color}%
3993 }%
3994 \fi
3995 \def\Hy@colorlink#1{%
3996 \begingroup
3997 \HyColor@UseColor#1%
3998 }%
3999 \def\Hy@endcolorlink{\endgroup}%
4000 \Hy@Info{Link coloring ON}%
4001 \else
4002 \ifHy@frenchlinks
4003 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4004 \def\Hy@endcolorlink{\endgroup}%
4005 \Hy@Info{French linking ON}%
4006 \else
for grouping consistency:
4007 \def\Hy@colorlink#1{\begingroup}%
4008 \def\Hy@endcolorlink{\endgroup}%
4009 \Hy@Info{Link coloring OFF}%
4010 \fi
4011 \fi
4012 \Hy@DisableOption{colorlinks}%
4013 \Hy@DisableOption{frenchlinks}%
4014 \ifHy@texht
4015 \long\def\@firstoffive#1#2#3#4#5{#1}%
4016 \long\def\@secondoffive#1#2#3#4#5{#2}%
4017 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4018 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4019 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4020 \providecommand*\@safe@activetrue{}%
4021 \providecommand*\@safe@activesfalse{}%
4022 \def\T@ref#1{%
4023 \Hy@safe@activetrue
4024 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4025 \Hy@safe@activesfalse
4026 }%
4027 \def\T@pageref#1{%
4028 \Hy@safe@activetrue
4029 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4030 \Hy@safe@activesfalse
4031 }%
4032 \else
4033 \ifHy@typexml
4034 \else
4035 \Hy@CatcodeWrapper{%
4036 \RequirePackage{nameref}%

```

```

4037 }%
4038 \fi
4039 \fi
4040 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
4041 \DeclareRobustCommand\pageref{%
4042 \@ifstar\@pagerefstar\T@pageref
4043 }%
4044 }
4045 \AfterBeginDocument{%
4046 \ifHy@texht
4047 \else
4048 \Hy@CatcodeWrapper{%
4049 \ReadBookmarks
4050 }%
4051 \fi
4052 }
4053 \ifHy@backref
4054 \RequirePackage{backref}%
4055 \else
4056 \let\Hy@backout\@gobble
4057 \fi
4058 \Hy@DisableOption{backref}
4059 \Hy@DisableOption{pagebackref}
4060 \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.

```

4061 \begingroup
4062 \endlinechar=-1 %
4063 \catcode'\^^A=14 %
4064 \catcode'\^^M\active
4065 \catcode'\%\active
4066 \catcode'\#\active
4067 \catcode'_\active
4068 \catcode'\$\active
4069 \catcode'\&\active
4070 \gdef\hyper@normalise{^^A
4071 \begingroup
4072 \catcode'\^^M\active
4073 \def^^M{ }^^A
4074 \catcode'\%\active
4075 \let%\@percentchar
4076 \let\%\@percentchar
4077 \catcode'\#\active
4078 \def#{\hyper@hash}^^A
4079 \def\#{\hyper@hash}^^A
4080 \@makeother\&^^A
4081 \edef&{\string&}^^A
4082 \edef\&{\string&}^^A
4083 \edef\textunderscore{\string_}^^A

```

```

4084 \let_ \textunderscore
4085 \catcode'_ \active
4086 \let_ \textunderscore
4087 \let~\hyper@tilde
4088 \let\~\hyper@tilde
4089 \let\textasciitilde\hyper@tilde
4090 \let\\ \@backslashchar
4091 \edef\string^^A
4092 \Hy@safe@activetrue
4093 \hyper@n@rmalise
4094 }^^A
4095 \catcode'\#=6 ^^A
4096 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4097 \gdef\hyper@n@rmalise#1#2{^^A
4098 \def\Hy@tempa{#2}^^A
4099 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4100 \Hy@ReturnAfterElseFi{^^A
4101 \hyper@@normalise{#1}^^A
4102 }^^A
4103 \else
4104 \Hy@ReturnAfterFi{^^A
4105 \hyper@@normalise{#1}{#2}^^A
4106 }^^A
4107 \fi
4108 }^^A
4109 \gdef\hyper@@normalise#1#2{^^A
4110 \edef\Hy@tempa{^^A
4111 \endgroup
4112 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4113 }^^A
4114 \Hy@tempa
4115 }^^A
4116 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4117 #1^^A
4118 \ifx\limits#2\limits
4119 \else
4120 \Hy@ReturnAfterFi{^^A
4121 \Hy@RemovePercentCr #2\@nil
4122 }^^A
4123 \fi
4124 }^^A
4125 \endgroup
4126 \providecommand*\hyper@chars{%
4127 \let\#\hyper@hash
4128 \let\%\@percentchar
4129 \Hy@safe@activetrue
4130 }

4131 \def\hyperlink#1#2{%
4132 \hyper@@link{}{#1}{#2}%
4133 }

4134 \def\Hy@VerboseLinkStart#1#2{%
4135 \ifHy@verbose
4136 \begingroup
4137 \Hy@safe@activetrue
4138 \Hy@Info{Reference (#1) to '#2'}%
4139 \endgroup
4140 \fi

```

```

4141 }
4142 \def\Hy@VerboseAnchor#1{%
4143 \ifHy@verbose
4144 \begingroup
4145 \Hy@safe@activetrue
4146 \Hy@Info{Anchor '\Hy@DestNameFilter{#1}'}%
4147 \endgroup
4148 \fi
4149 }

4150 \def\Hy@AllowHyphens{%
4151 \relax
4152 \ifhmode
4153 \penalty\@M
4154 \hskip\z@skip
4155 \fi
4156 }

4157 \DeclareRobustCommand*\href{%
4158 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4159 }
4160 \def\Hy@href#1{%
4161 \hyper@normalise\href@
4162 }
4163 \begingroup
4164 \catcode'\$=6 %
4165 \catcode'\#=12 %
4166 \gdef\href@#1{\expandafter\href@split$1##\}%
4167 \gdef\href@split$1#$2#$3\{%
4168 \hyper@@link{$1}{$2}%
4169 }%
4170 \endgroup

```

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

```

4171 \RequirePackage{url}
4172 \let\HyOrg@url\url
4173 \def\Hurl{\begingroup \Url}
4174 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4175 \def\nolinkurl@#1{\Hurl{#1}}
4176 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4177 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4178 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4179 \providecommand\hyper@image[2]{#2}

4180 \def\hypertarget#1#2{%
4181 \ifHy@nesting
4182 \hyper@@anchor{#1}{#2}%
4183 \else
4184 \hyper@@anchor{#1}{\relax}#2%
4185 \fi
4186 }

```

\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 L<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of \hyperref later, to avoid remembering the name and category.

```

4187 \DeclareRobustCommand*{\hyperref}{%
4188 \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4189 }
4190 \def\Hy@babelnormalise#1[#2]{%
4191 \begingroup
4192 \Hy@safe@activetrue
4193 \edef\Hy@tempa{%
4194 \endgroup
4195 \noexpand#1[#2]}%
4196 }%
4197 \Hy@tempa
4198 }
4199 \def\@hyperref{\hyper@normalise\@hyperref}
4200 \def\@hyperref#1#2#3{%
4201 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4202 \expandafter\tryhyper@link\ref@one\{#1}%
4203 }
4204 \def\tryhyper@link#1\#2{%
4205 \hyper@@link{#2}{#1}%
4206 }
4207 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
4208 \def\@hyperdef#1#2#3{%, category, name, text
4209 \ifx\#1\%
4210 \def\Hy@AnchorName{#2}%
4211 \else
4212 \def\Hy@AnchorName{#1.#2}%
4213 \fi
4214 \ifHy@nesting
4215 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4216 \else
4217 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4218 \fi
4219 }

```

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

```

4220 \def\label@hyperref[#1]{%
4221 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4222 }%
4223 \def\label@@hyperref#1#2#3{%
4224 \ifx#1\relax
4225 \protect\G@refundefinedtrue
4226 \@latex@warning{%
4227 Hyper reference ‘#2’ on page \thepage \space undefined%
4228 }%
4229 \hyper@@link{}{??}{#3}%
4230 \else
4231 \hyper@@link{\expandafter\@fifthoffive#1}%
4232 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4233 \fi
4234 }
4235 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4236 % anchor text
4237 \@bsphack
4238 \ifx\#2\%
4239 \def\Hy@AnchorName{#3}%
4240 \else

```

```

4241 \def\Hy@AnchorName{#2.#3}%
4242 \fi
4243 \if@filesw
4244 \protected@write\@auxout{}\{-%
4245 \string\newlabel{#1}\{ }\{ }\{ \Hy@AnchorName\} \} %
4246 }%
4247 \fi
4248 \@esphack
4249 \ifHy@nesting
4250 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4251 \else
4252 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4253 \fi
4254 }

```

## 17 Underlying basic hypertext macros

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

```

4255 \def\hyper@@link{\let\Hy@reserved@a\relax
4256 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
4257 }
4258 \def\hyper@link@[#1]#2#3#4{%
4259 \begingroup
4260 \protected@edef\Hy@tempa{#2}%
4261 \Hy@safe@activetrue
4262 \edef\x{#3}%
4263 \ifx\Hy@tempa\@empty
4264 \toks0{\hyper@link{#1}}%
4265 \else
4266 \toks0{\expandafter\hyper@readexternallink#2\{#1\}}%
4267 \fi
4268 \toks2{%
4269 \Hy@safe@activesfalse
4270 #4%
4271 }%
4272 \edef\Hy@tempa{\the\toks2}%
4273 \edef\x{\endgroup
4274 \ifx\Hy@tempa\@empty
4275 \noexpand\Hy@Warning{Suppressing empty link}%
4276 \else
4277 \the\toks0 {\x}{\the\toks2}%
4278 \fi
4279 }%
4280 \x
4281 }

```

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.

```

4282 \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.

```
4283 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4284 }
```

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

```
4285 \def\@pdftempwordfile{file}%
4286 \def\@pdftempwordrun{run}%
4287 \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:

```
4288 \ifx\\#6\\%
4289 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
4290 \else
4291 \ifx\\#4\\%
4292 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
4293 \else
```

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

```
4294 \def\@pdftempa{#4}%
4295 \ifx\@pdftempa\@pdftempwordfile
4296 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
4297 \else
```

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

```
4298 \ifx\@pdftempa\@pdftempwordrun
4299 \ifHy@pdfa
4300 \PackageError{hyperref}{%
4301 PDF/A: Launch action is prohibited%
4302 }\@ehc
4303 \begingroup
4304 \leavevmode
4305 #2%
4306 \endgroup
4307 \else
4308 \expandafter\@hyper@launch#7\\{#3}{#2}%
4309 \fi
4310 \else
```

otherwise its a URL

```
4311 \hyper@linkurl{#3}{#7\ifx\\#2\\%
4312 \fi
4313 \fi
4314 \fi
4315 \fi
4316 }
```

By default, turn run: into file:

```

4317 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text, linkname
4318 \hyper@linkurl{#2}{%
4319 \Hy@linkfileprefix
4320 #1%
4321 \ifx\|#3\|%
4322 \else
4323 \hyper@hash
4324 #3%
4325 \fi
4326 }%
4327 }

```

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

```

4328 \def\@hyper@linkfile file:#1\|#2#3{%
4329 %file url,link string, name
4330 \filename@parse{#1}%
4331 \ifx\filename@ext\relax
4332 \edef\filename@ext{\XR@ext}%
4333 \fi
4334 \def\use@file{\filename@area\filename@base.\filename@ext}%
4335 \ifx\filename@ext\XR@ext
4336 \hyper@linkfile{#2}{\use@file}{#3}%
4337 \else
4338 \ifx\@baseurl\@empty
4339 \hyper@linkurl{#2}{%
4340 \Hy@linkfileprefix\use@file\ifx\|#3\|\\else\hyper@hash#3\fi
4341 }%
4342 \else
4343 \hyper@linkurl{#2}{\use@file\ifx\|#3\|\\else\hyper@hash#3\fi}%
4344 \fi
4345 \fi
4346 }

```

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.

```

4347 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4348 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4349 \ifx\|#1\|%
4350 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
4351 \else
4352 \def\anchor@spot{#2#3}%
4353 \let\put@me@back\@empty
4354 \ifx\relax#2\relax
4355 \else
4356 \ifHy@nesting
4357 \else
4358 \ifcat a\noexpand#2\relax
4359 \else
4360 \ifcat 0\noexpand#2 \relax
4361 \else

```

```

4362 % \typeout{Anchor start is not alphanumeric %
4363 % on input line\the\inputlineno%
4364 % }%
4365 \let\anchor@spot\@empty
4366 \def\put@me@back{#2#3}%
4367 \fi
4368 \fi
4369 \fi
4370 \fi
4371 \ifHy@activeanchor
4372 \anchor@spot
4373 \else
4374 \hyper@anchor{#1}%
4375 \fi
4376 \expandafter\put@me@back
4377 \fi
4378 \let\anchor@spot\@empty
4379 }

```

## 18 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* package

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

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

```

4380 \let\htmladding\hyperimage
4381 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4382 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4383 \def\htmlref#1#2{% anchor text, label
4384 \label@hyperref[{#2}]{#1}%
4385 }

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

4386 \def\@l@texttohtmlX{%
4387 \let\hyperref\hyperref
4388 \def\hyperref##1##2##3##4{% anchor text for HTML
4389 % text to print before label in print
4390 % label
4391 % post-label text in print
4392 ##2\ref{##4}##3%
4393 }%
4394 }

```

## 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.

```
4395 \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

```
4396 \def\HyField@NewFlag#1#2{%
4397 \lowercase{\HyField@NewOption{#2}}%
4398 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4399 }
```

\HyField@NewFlagOnly

```
4400 \def\HyField@NewFlagOnly#1#2{%
4401 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4402 }
```

\HyField@NewOption #1: option name

```
4403 \def\HyField@NewOption#1{%
4404 \expandafter\newif\csname ifFld@#1\endcsname
4405 \define@key{Field}{#1}[true]{%
4406 \lowercase{\Field@boolkey{##1}}{#1}%
4407 }%
4408 }
```

\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

```
4409 \def\HyField@NewBitsetFlag#1#2#3#4{%
4410 \begingroup
4411 \count@=#4\relax
4412 \advance\count@\m@ne
4413 \def\x##1{%
4414 \endgroup
4415 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4416 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4417 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4418 (\number#4) #2%
4419 }%
4420 \else
4421 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4422 \csname HyField@#3@##1\endcsname
4423 /#2%
4424 }%
4425 \fi
4426 }%
4427 \expandafter\x\expandafter{\the\count@}%
4428 }
```

```

\HyField@UseFlag The bit set is HyField@#1
4429 \def\HyField@UseFlag#1#2{%
4430 \lowercase{\HyField@@UseFlag{#2}}{#1}%
4431 }

\HyField@@UseFlag
4432 \def\HyField@@UseFlag#1#2{%
4433 \bitsetSetValue{HyField@#2}{%
4434 \csname HyField@#2@#1\endcsname
4435 }{%
4436 \csname ifFld@#1\endcsname 1\else 0\fi
4437 }%
4438 }

\HyField@SetFlag The bit set is HyField@#1
4439 \def\HyField@SetFlag#1#2{%
4440 \lowercase{\HyField@@SetFlag{#2}}{#1}%
4441 }

\HyField@@SetFlag
4442 \def\HyField@@SetFlag#1#2{%
4443 \bitsetSetValue{HyField@#2}{%
4444 \csname HyField@#2@#1\endcsname
4445 }{1}%
4446 }

\HyField@PrintFlags
4447 \def\HyField@PrintFlags#1#2{%
4448 \ifHy@verbose
4449 \begingroup
4450 \let\Hy@temp\@empty
4451 \let\MessageBreak\relax
4452 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4453 \bitsetGetSetBitList{HyField@#1}\do{%
4454 \edef\Hy@temp{%
4455 \Hy@temp
4456 \csname HyField@#1@\x\endcsname\MessageBreak
4457 }%
4458 }%
4459 \edef\x{\endgroup
4460 \noexpand\Hy@Info{%
4461 Field flags: %
4462 \expandafter\ifx\@car#1\@nil S\else/\fi
4463 #1 %
4464 \bitsetGetDec{HyField@#1} %
4465 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4466 \Hy@temp
4467 for #2%
4468 }%
4469 }\x
4470 \fi
4471 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4472 \HyField@NewFlag{Ff}{ReadOnly}{1}
4473 \HyField@NewFlag{Ff}{Required}{2}
4474 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4475 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4476 \HyField@NewFlag{Ff}{Radio}{16}
4477 \HyField@NewFlag{Ff}{Pushbutton}{17}
4478 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4479 \HyField@NewFlag{Ff}{Multiline}{13}
4480 \HyField@NewFlag{Ff}{Password}{14}
4481 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4482 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4483 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4484 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4485 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4486 \HyField@NewFlag{Ff}{Combo}{18}
4487 \HyField@NewFlag{Ff}{Edit}{19}
4488 \HyField@NewFlag{Ff}{Sort}{20}
4489 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4490 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4491 \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.

```

4492 \newif\ifFld@popdown
4493 \define@key{Field}{popdown}{true}{%
4494 \lowercase{\Field@boolkey{#1}}{popdown}%
4495 }

```

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.

```

4496 \HyField@NewFlag{F}{Invisible}{1}
4497 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4498 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4499 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4500 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4501 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4502 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4503 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4504 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4505 \ifHy@pdfa
4506 \def\HyField@PDFAFlagWarning#1#2{%
4507 \Hy@Warning{%
4508 PDF/A: Annotation flag ‘#1’ must\MessageBreak
4509 be set to ‘#2’%
4510 }%
4511 }%
4512 \Fld@invisiblefalse
4513 \def\Fld@invisibletrue{%

```

```

4514 \HyField@PDFAFIagWarning{invisible}{false}%
4515 }%
4516 \Fld@hiddenfalse
4517 \def\Fld@hiddentrue{%
4518 \HyField@PDFAFIagWarning{hidden}{false}%
4519 }%
4520 \Fld@printrtrue
4521 \def\Fld@printfalse{%
4522 \HyField@PDFAFIagWarning{print}{true}%
4523 }%
4524 \Fld@nozoomtrue
4525 \def\Fld@nozoomfalse{%
4526 \HyField@PDFAFIagWarning{nozoom}{true}%
4527 }%
4528 \Fld@norotatetrue
4529 \def\Fld@norotatefalse{%
4530 \HyField@PDFAFIagWarning{norotate}{true}%
4531 }%
4532 \Fld@noviewfalse
4533 \def\Fld@noviewtrue{%
4534 \HyField@PDFAFIagWarning{noview}{false}%
4535 }%
4536 \fi

```

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

```

4537 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4538 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4539 \HyField@NewFlag{Submit}{GetMethod}{4}
4540 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4541 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4542 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4543 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4544 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4545 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4546 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4547 \HyField@NewFlag{Submit}{ExclFKey}{12}
4548 \HyField@NewFlag{Submit}{EmbedForm}{14}

4549 \define@key{Field}{export}{%
4550 \lowercase{\def\Hy@temp{#1}}%
4551 \@ifundefined{Fld@export@\Hy@temp}{%
4552 \@onelevel@sanitize\Hy@temp
4553 \PackageError{hyperref}{%
4554 Unknown export format '\Hy@temp'.\MessageBreak
4555 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4556 }\@ehc
4557 }{%
4558 \let\Fld@export\Hy@temp
4559 }%
4560 }
4561 \def\Fld@export{fdf}
4562 \@namedef{Fld@export@fdf}{0}%
4563 \@namedef{Fld@export@html}{1}%
4564 \@namedef{Fld@export@xfdf}{2}%
4565 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```
4566 \def\HyField@FlagsSubmit{%
4567 \bitsetReset{HyField@Submit}%
4568 \ifcase\@nameuse{Fld@export@\Fld@export} %
4569 % FDF
4570 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4571 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4572 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4573 \HyField@UseFlag{Submit}{IncludeAnnotations}%
4574 \HyField@UseFlag{Submit}{CanonicalFormat}%
4575 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4576 \HyField@UseFlag{Submit}{ExclFKey}%
4577 \HyField@UseFlag{Submit}{EmbedForm}%
4578 \or % HTML
4579 \HyField@SetFlag{Submit}{ExportFormat}%
4580 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4581 \HyField@UseFlag{Submit}{GetMethod}%
4582 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4583 \HyField@UseFlag{Submit}{CanonicalFormat}%
4584 \or % XFDF
4585 \HyField@SetFlag{Submit}{XFDF}%
4586 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4587 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4588 \HyField@UseFlag{Submit}{CanonicalFormat}%
4589 \or % PDF
4590 \HyField@SetFlag{Submit}{SubmitPDF}%
4591 \HyField@UseFlag{Submit}{GetMethod}%
4592 \fi
4593 \HyField@PrintFlags{Submit}{submit button field}%
4594 \bitsetIsEmpty{HyField@Submit}{%
4595 \def\Fld@submitflags{%
4596 }{%
4597 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4598 }%
4599 }
```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
4600 \def\HyField@FlagsAnnot#1{%
4601 \bitsetReset{HyField@F}%
4602 \HyField@UseFlag{F}{Invisible}%
4603 \HyField@UseFlag{F}{Hidden}%
4604 \HyField@UseFlag{F}{Print}%
4605 \HyField@UseFlag{F}{NoZoom}%
4606 \HyField@UseFlag{F}{NoRotate}%
4607 \HyField@UseFlag{F}{NoView}%
4608 \HyField@UseFlag{F}{Locked}%
4609 \HyField@UseFlag{F}{ToggleNoView}%
4610 \HyField@UseFlag{F}{LockedContents}%
4611 \HyField@PrintFlags{F}{#1}%
4612 \bitsetIsEmpty{HyField@F}{%
4613 \def\Fld@annotflags{%
4614 }{%
4615 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
```



```

4616 }%
4617 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4618 \def\HyField@FlagsPushButton{%
4619 \HyField@FlagsAnnot{push button field}%
4620 \bitsetReset{HyField@Ff}%
4621 \HyField@UseFlag{Ff}{ReadOnly}%
4622 \HyField@UseFlag{Ff}{Required}%
4623 \HyField@UseFlag{Ff}{NoExport}%
4624 \HyField@SetFlag{Ff}{Pushbutton}%
4625 \HyField@PrintFlags{Ff}{push button field}%
4626 \bitsetIsEmpty{HyField@Ff}{%
4627 \def\Fld@flags{%
4628 }{%
4629 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4630 }%
4631 }

```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4632 \def\HyField@FlagsCheckBox{%
4633 \HyField@FlagsAnnot{check box field}%
4634 \bitsetReset{HyField@Ff}%
4635 \HyField@UseFlag{Ff}{ReadOnly}%
4636 \HyField@UseFlag{Ff}{Required}%
4637 \HyField@UseFlag{Ff}{NoExport}%
4638 \HyField@PrintFlags{Ff}{check box field}%
4639 \bitsetIsEmpty{HyField@Ff}{%
4640 \def\Fld@flags{%
4641 }{%
4642 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4643 }%
4644 }

```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4645 \def\HyField@FlagsRadioButton{%
4646 \HyField@FlagsAnnot{radio button field}%
4647 \bitsetReset{HyField@Ff}%
4648 \HyField@UseFlag{Ff}{ReadOnly}%
4649 \HyField@UseFlag{Ff}{Required}%
4650 \HyField@UseFlag{Ff}{NoExport}%
4651 \HyField@UseFlag{Ff}{NoToggleToOff}%
4652 \HyField@SetFlag{Ff}{Radio}%
4653 \HyField@UseFlag{Ff}{RadiosInUnison}%
4654 \HyField@PrintFlags{Ff}{radio button field}%
4655 \bitsetIsEmpty{HyField@Ff}{%
4656 \def\Fld@flags{%
4657 }{%
4658 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4659 }%

```

4660 }

### 19.1.7 Text fields

\HyField@FlagsText

```
4661 \def\HyField@FlagsText{%
4662 \HyField@FlagsAnnot{text field}%
4663 \bitsetReset{HyField@Ff}%
4664 \HyField@UseFlag{Ff}{ReadOnly}%
4665 \HyField@UseFlag{Ff}{Required}%
4666 \HyField@UseFlag{Ff}{NoExport}%
4667 \HyField@UseFlag{Ff}{Multiline}%
4668 \HyField@UseFlag{Ff}{Password}%
4669 \HyField@UseFlag{Ff}{FileSelect}%
4670 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4671 \HyField@UseFlag{Ff}{DoNotScroll}%
4672 \ifFld@comb
4673 \ifcase0\ifFld@multiline
4674 \else\ifFld@password
4675 \else\ifFld@fileselect
4676 \else 1\fi\fi\fi\relax
4677 \PackageError{hyperref}{%
4678 Field option ‘comb’ cannot used together with\MessageBreak
4679 ‘multiline’, ‘password’, or ‘fileselect’%
4680 }\@ehc
4681 \else
4682 \HyField@UseFlag{Ff}{Comb}%
4683 \fi
4684 \fi
4685 \HyField@UseFlag{Ff}{RichText}%
4686 \HyField@PrintFlags{Ff}{text field}%
4687 \bitsetIsEmpty{HyField@Ff}{%
4688 \def\Fld@flags{%
4689 }{%
4690 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4691 }%
4692 }
```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```
4693 \def\HyField@FlagsChoice{%
4694 \HyField@FlagsAnnot{choice field}%
4695 \bitsetReset{HyField@Ff}%
4696 \HyField@UseFlag{Ff}{ReadOnly}%
4697 \HyField@UseFlag{Ff}{Required}%
4698 \HyField@UseFlag{Ff}{NoExport}%
4699 \HyField@UseFlag{Ff}{Combo}%
4700 \ifFld@combo
4701 \HyField@UseFlag{Ff}{Edit}%
4702 \fi
4703 \HyField@UseFlag{Ff}{Sort}%
4704 \HyField@UseFlag{Ff}{MultiSelect}%
4705 \ifFld@combo
4706 \ifFld@edit
4707 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4708 \fi
4709 \fi
4710 }
```

```

4708 \fi
4709 \fi
4710 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4711 \HyField@PrintFlags{Ff}{choice field}%
4712 \bitsetIsEmpty{HyField@Ff}{%
4713 \def\Fld@flags{%
4714 }{%
4715 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4716 }%
4717 }

```

## 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`.

```

4718 \def\HyField@PDFChoices#1{%
4719 \begingroup
4720 \gdef\Fld@choices{%
4721 \def\HyTmp@optlist{%
4722 \let\HyTmp@optitem\relax
4723 \count@=0 %
4724 \kv@parse{#1}{%
4725 \Hy@pdfstringdef\kv@key\kv@key
4726 \ifx\kv@value\relax
4727 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4728 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4729 \else
4730 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4731 \fi
4732 \else
4733 \Hy@pdfstringdef\kv@value\kv@value
4734 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4735 \fi
4736 \edef\HyTmp@optlist{%
4737 \HyTmp@optlist
4738 \HyTmp@optitem{\the\count@}{\kv@key}0%
4739 }%
4740 \advance\count@ by 1 %
4741 \@gobbletwo
4742 }%
4743 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4744 \ifFld@multiselect
4745 \HyField@@PDFChoices{DV}\Fld@default
4746 \HyField@@PDFChoices{V}\Fld@value
4747 \else
4748 \ifx\Fld@default\relax
4749 \else
4750 \pdfstringdef\Hy@gtemp\Fld@default
4751 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4752 \fi
4753 \ifx\Fld@value\relax
4754 \else
4755 \pdfstringdef\Hy@gtemp\Fld@value
4756 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4757 \fi
4758 \fi

```

```

4759 \endgroup
4760 }

```

\HyField@@PDFChoices

```

4761 \def\HyField@@PDFChoices#1#2{%
4762 \ifx#2\relax
4763 \else
4764 \count@=0 %
4765 \def\HyTmp@optitem##1##2##3{%
4766 \def\HyTmp@key{##2}%
4767 \ifx\HyTmp@key\Hy@gtemp
4768 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4769 \HyTmp@optlist
4770 \HyTmp@optitem{##1}{##2}1%
4771 }%
4772 \let\HyTmp@found=Y%
4773 \else
4774 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4775 \HyTmp@optlist
4776 \HyTmp@optitem{##1}{##2}##3%
4777 }%
4778 \fi
4779 }%
4780 \expandafter\comma@parse\expandafter{#2}{%
4781 \pdfstringdef\Hy@gtemp\comma@entry
4782 \let\HyTmp@found=N %
4783 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4784 \HyTmp@optlist
4785 \ifx\HyTmp@found Y%
4786 \advance\count@ by 1 %
4787 \else
4788 \@onelevel@sanitize\comma@entry
4789 \PackageWarning{hyperref}{%
4790 \string\ChoiceBox: Ignoring value '\comma@entry',%
4791 \MessageBreak
4792 it cannot be found in the choices%
4793 }%
4794 \fi
4795 \@gobble
4796 }%
4797 \def\HyTmp@optitem##1##2##3{%
4798 \ifnum##3=1 %
4799 (##2)%
4800 \fi
4801 }%
4802 \ifcase\count@
4803 \or
4804 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4805 \else
4806 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4807 \ifx#1V%
4808 \def\HyTmp@optitem##1##2##3{%
4809 \ifnum##3=1 %
4810 \@firstofone{ ##1}%
4811 \fi
4812 }%
4813 \edef\HyTmp@optlist{\HyTmp@optlist}%

```

```

4814 \xdef\Fld@choices{%
4815 \Fld@choices
4816 /I[\expandafter\@firstofone\HyTmp@optlist]%
4817 }%
4818 \fi
4819 \fi
4820 \fi
4821 }

```

## 19.3 Forms

\HyField@SetKeys

```

4822 \def\HyField@SetKeys{%
4823 \setkeys{Field}%
4824 }

4825 \newif\ifFld@checked
4826 \newif\ifFld@disabled
4827 \Fld@checkedfalse
4828 \Fld@disabledfalse
4829 \newcount\Fld@menulength
4830 \newdimen\Fld@Width
4831 \newdimen\Fld@charsize
4832 \Fld@charsize=10\p@
4833 \def\Fld@maxlen{0}
4834 \def\Fld@align{0}
4835 \def\Fld@color{0 0 0 rg}
4836 \def\Fld@bcolor{1 1 1}
4837 \def\Fld@bordercolor{1 0 0}
4838 \def\Fld@bordersep{1\p@}
4839 \def\Fld@borderwidth{1}
4840 \def\Fld@borderstyle{S}
4841 \def\Fld@cbsymbol{4}
4842 \def\Fld@radiosymbol{H}
4843 \def\Fld@rotation{0}
4844 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4845 \def\endForm{\@endForm}
4846 \newif\ifForm@html
4847 \Form@htmlfalse
4848 \def\Form@boolkey#1#2{%
4849 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4850 }
4851 \define@key{Form}{action}{%
4852 \hyper@normalise\Hy@DefFormAction{#1}%
4853 }
4854 \def\Hy@DefFormAction{\def\Form@action}
4855 \def\enc@@html{html}
4856 \define@key{Form}{encoding}{%
4857 \def\Hy@tempa{#1}%
4858 \ifx\Hy@tempa\enc@@html
4859 \Form@htmltrue
4860 \def\Fld@export{html}%
4861 \else
4862 \typeout{hyperref: form 'encoding' key set to #1 %
4863 -- unknown type%
4864 }%
4865 \Form@htmlfalse

```

```

4866 \fi
4867 }
4868 \define@key{Form}{method}{%
4869 \lowercase{\def\Hy@temp{#1}}%
4870 \@ifundefined{Form@method@\Hy@temp}{%
4871 \onelevel@sanitize\Hy@temp
4872 \PackageError{hyperref}{%
4873 Unknown method '\Hy@temp'.\MessageBreak
4874 Known values are 'post' and 'get'%
4875 }\@ehc
4876 }{%
4877 \let\Form@method\Hy@temp
4878 \ifcase\@nameuse{Form@method@\Hy@temp} %
4879 \Fld@getmethodfalse
4880 \else
4881 \Fld@getmethodtrue
4882 \fi
4883 }%
4884 }
4885 \def\Form@method{}
4886 \@namedef{Form@method@post}{0}
4887 \@namedef{Form@method@get}{1}
4888 \def\Fld@boolkey#1#2{%
4889 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4890 }
4891 \newtoks\Fld@toks
4892 \Fld@toks={ }%
4893 \def\Fld@addtoks#1#2{%
4894 \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4895 \@processme
4896 }
4897 \def\Fld@checkequals#1=#2=#3\\{%
4898 \def\@currDisplay{#1}%
4899 \ifx\\#2\\%
4900 \def\@currValue{#1}%
4901 \else
4902 \def\@currValue{#2}%
4903 \fi
4904 }
4905 \define@key{Field}{loc}{%
4906 \def\Fld@loc{#1}%
4907 }
4908 \define@key{Field}{checked}[true]{%
4909 \lowercase{\Field@boolkey{#1}}{checked}%
4910 }
4911 \define@key{Field}{disabled}[true]{%
4912 \lowercase{\Field@boolkey{#1}}{disabled}%
4913 }
4914 \define@key{Field}{accesskey}{%
4915 \Field@addtoks{accesskey}{#1}%
4916 }
4917 \define@key{Field}{tabkey}{%
4918 \Field@addtoks{tabkey}{#1}%
4919 }
4920 \define@key{Field}{name}{%
4921 \def\Fld@name{#1}%
4922 }

```

```

4923 \define@key{Field}{width}{%
4924 \def\Fld@width{#1}%
4925 \Field@Width#1\setbox0=\hbox{m}%
4926 }
4927 \define@key{Field}{maxlen}{%
4928 \def\Fld@maxlen{#1}%
4929 }
4930 \define@key{Field}{menulength}{%
4931 \Fld@menulength=#1\relax
4932 }
4933 \define@key{Field}{height}{%
4934 \def\Fld@height{#1}%
4935 }
4936 \define@key{Field}{charsize}{%
4937 \Fld@charsize#1%
4938 }
4939 \define@key{Field}{borderwidth}{%
4940 \def\Fld@borderwidth{#1}%
4941 }
4942 \define@key{Field}{borderstyle}{%
4943 \def\Fld@borderstyle{#1}%
4944 }
4945 \define@key{Field}{bordersep}{%
4946 \def\Fld@bordersep{#1}%
4947 }
4948 \define@key{Field}{default}{%
4949 \def\Fld@default{#1}%
4950 }
4951 \define@key{Field}{align}{%
4952 \def\Fld@align{#1}%
4953 }
4954 \define@key{Field}{value}{%
4955 \def\Fld@value{#1}%
4956 }
4957 \define@key{Field}{checkboxsymbol}{%
4958 \Fld@DingDef\Fld@cbsymbol{#1}%
4959 }
4960 \define@key{Field}{radiosymbol}{%
4961 \Fld@DingDef\Fld@radiosymbol{#1}%
4962 }
4963 \def\Fld@DingDef#1#2{%
4964 \def\Fld@temp{}%
4965 \Fld@@DingDef#2\ding{}\@nil
4966 \let#1\Fld@temp
4967 }
4968 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4969 \expandafter\def\expandafter\Fld@temp\expandafter{%
4970 \Fld@temp
4971 #1%
4972 }%
4973 \ifx\#3\%
4974 \expandafter\@gobble
4975 \else
4976 \begingroup
4977 \lccode'0=#2\relax
4978 \lowercase{\endgroup
4979 \expandafter\def\expandafter\Fld@temp\expandafter{%

```

```

4980 \Fld@temp
4981 0%
4982 }%
4983 }%
4984 \expandafter\@firstofone
4985 \fi
4986 {%
4987 \Fld@@DingDef#3\@nil
4988 }%
4989 }

4990 \define@key{Field}{rotation}{%
4991 \def\Fld@rotation{#1}%
4992 }

4993 \define@key{Field}{backgroundcolor}{%
4994 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4995 }
4996 \define@key{Field}{bordercolor}{%
4997 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4998 }
4999 \define@key{Field}{color}{%
5000 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5001 }

5002 \def\Fld@onclick@code{}
5003 \def\Fld@format@code{}
5004 \def\Fld@validate@code{}
5005 \def\Fld@calculate@code{}
5006 \def\Fld@keystroke@code{}
5007 \def\Fld@onfocus@code{}
5008 \def\Fld@onblur@code{}
5009 \def\Fld@onmousedown@code{}
5010 \def\Fld@onmouseup@code{}
5011 \def\Fld@onenter@code{}
5012 \def\Fld@onexit@code{}
5013 \def\Hy@temp#1{%
5014 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5015 }
5016 \def\Hy@@temp#1#2{%
5017 \ifHy@pdfa
5018 \define@key{Field}{#2}{%
5019 \PackageError{hyperref}{%
5020 PDF/A: Additional action ‘#2’ is prohibited%
5021 }\@ehc
5022 }%
5023 \else
5024 \define@key{Field}{#2}{%
5025 \def#1{##1}%
5026 }%
5027 \fi
5028 }
5029 \Hy@temp{keystroke}
5030 \Hy@temp{format}
5031 \Hy@temp{validate}
5032 \Hy@temp{calculate}
5033 \Hy@temp{onfocus}
5034 \Hy@temp{onblur}
5035 \Hy@temp{onenter}

```



```

5036 \Hy@temp{onexit}
5037 \def\Hy@temp#1{%
5038 \define@key{Field}{#1}{%
5039 \Field@addtoks{#1}{##1}%
5040 }%
5041 }
5042 \Hy@temp{onselect}
5043 \Hy@temp{onchange}
5044 \Hy@temp{ondblclick}
5045 \Hy@temp{onmousedown}
5046 \Hy@temp{onmouseup}
5047 \Hy@temp{onmouseover}
5048 \Hy@temp{onmousemove}
5049 \Hy@temp{onmouseout}
5050 \Hy@temp{onkeypress}
5051 \Hy@temp{onkeydown}
5052 \Hy@temp{onkeyup}
5053 \ifHy@pdfa
5054 \define@key{Field}{onclick}{%
5055 \PackageError{hyperref}{%
5056 PDF/A: Action 'onclick' is prohibited%
5057 }\@ehc
5058 }%
5059 \else
5060 \define@key{Field}{onclick}{%
5061 \def\Fld@onclick@code{#1}%
5062 \Field@addtoks{onclick}{#1}%
5063 }%
5064 \fi

5065 \DeclareRobustCommand\TextField{%
5066 \@ifnextchar[{\@TextField}{\@TextField[]}%
5067 }
5068 \DeclareRobustCommand\ChoiceMenu{%
5069 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5070 }
5071 \DeclareRobustCommand\CheckBox{%
5072 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5073 }
5074 \DeclareRobustCommand\PushButton{%
5075 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5076 }
5077 \DeclareRobustCommand\Gauge{%
5078 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5079 }
5080 \DeclareRobustCommand\Submit{%
5081 \@ifnextchar[{\@Submit}{\@Submit[]}%
5082 }
5083 \DeclareRobustCommand\Reset{%
5084 \@ifnextchar[{\@Reset}{\@Reset[]}%
5085 }
5086 \def\LayoutTextField#1#2{% label, field
5087 #1 #2%
5088 }
5089 \def\LayoutChoiceField#1#2{% label, field
5090 #1 #2%
5091 }
5092 \def\LayoutCheckField#1#2{% label, field

```

```

5093 #1 #2%
5094 }
5095 \def\LayoutPushButtonField#1{% button
5096 #1%
5097 }
5098 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5099 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5100 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5101 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5102 \def\MakeButtonField#1{%
5103 \sbox0{%
5104 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5105 }%
5106 \@tempdima\ht0 %
5107 \advance\@tempdima by \Fld@borderwidth bp %
5108 \advance\@tempdima by \Fld@borderwidth bp %
5109 \ht0\@tempdima
5110 \@tempdima\dp0 %
5111 \advance\@tempdima by \Fld@borderwidth bp %
5112 \advance\@tempdima by \Fld@borderwidth bp %
5113 \dp0\@tempdima
5114 \box0\relax
5115 }
5116 \def\DefaultHeightofSubmit{14pt}
5117 \def\DefaultWidthofSubmit{2cm}
5118 \def\DefaultHeightofReset{14pt}
5119 \def\DefaultWidthofReset{2cm}
5120 \def\DefaultHeightofCheckBox{\baselineskip}
5121 \def\DefaultWidthofCheckBox{\baselineskip}
5122 \def\DefaultHeightofChoiceMenu{\baselineskip}
5123 \def\DefaultWidthofChoiceMenu{\baselineskip}
5124 \def\DefaultHeightofText{\baselineskip}
5125 \def\DefaultHeightofTextMultiline{4\baselineskip}
5126 \def\DefaultWidthofText{3cm}
5127 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5128 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5129 \def\DefaultOptionsofPushButton{print}
5130 \def\DefaultOptionsofCheckBox{print}
5131 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5132 \def\DefaultOptionsofListBox{print}
5133 \def\DefaultOptionsofComboBox{print,edit,sort}
5134 \def\DefaultOptionsofPopdownBox{print}
5135 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

5136 \ifHy@figures
5137 \Hy@Info{Hyper figures ON}%
5138 \else
5139 \Hy@Info{Hyper figures OFF}%
5140 \fi
5141 \ifHy@nesting
5142 \Hy@Info{Link nesting ON}%
5143 \else
5144 \Hy@Info{Link nesting OFF}%

```

```

5145 \fi
5146 \ifHy@hyperindex
5147 \Hy@Info{Hyper index ON}%
5148 \else
5149 \Hy@Info{Hyper index OFF}%
5150 \fi
5151 \ifHy@backref
5152 \Hy@Info{backreferencing ON}%
5153 \else
5154 \Hy@Info{backreferencing OFF}%
5155 \fi
5156 \ifHy@colorlinks
5157 \Hy@Info{Link coloring ON}%
5158 \else
5159 \Hy@Info{Link coloring OFF}%
5160 \fi
5161 \ifHy@ocgcolorlinks
5162 \Hy@Info{Link coloring with OCG ON}%
5163 \else
5164 \Hy@Info{Link coloring with OCG OFF}%
5165 \fi
5166 \ifHy@pdfa
5167 \Hy@Info{PDF/A mode ON}%
5168 \else
5169 \Hy@Info{PDF/A mode OFF}%
5170 \fi

```

## 21 Low-level utility macros

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

```

5171 \edef\hyper@hash{\string#}
5172 \edef\hyper@tilde{\string~}
5173 \edef\hyper@quote{\string"}
5174 \let\@currentHref\@empty
5175 \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.

```

5176 \AfterBeginDocument{%
5177 \Hy@pdfstringtrue
5178 \PDF@SetupDoc
5179 \let\PDF@SetupDoc\@empty
5180 \Hy@DisableOption{pdfpagescrop}%
5181 \Hy@DisableOption{pdfpagemode}%
5182 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5183 \Hy@DisableOption{pdfdirection}%
5184 \Hy@DisableOption{pdfviewarea}%
5185 \Hy@DisableOption{pdfviewclip}%
5186 \Hy@DisableOption{pdfprintarea}%
5187 \Hy@DisableOption{pdfprintclip}%
5188 \Hy@DisableOption{pdfprintscaling}%
5189 \Hy@DisableOption{pdfduplex}%
5190 \Hy@DisableOption{pdfpicktraybypdfsize}%
5191 \Hy@DisableOption{pdfprintpagerange}%
5192 \Hy@DisableOption{pdfnumcopies}%
5193 \Hy@DisableOption{pdfstartview}%
5194 \Hy@DisableOption{pdfstartpage}%

```

```

5195 \Hy@DisableOption{pdftoolbar}%
5196 \Hy@DisableOption{pdfmenubar}%
5197 \Hy@DisableOption{pdfwindowui}%
5198 \Hy@DisableOption{pdfwindow}%
5199 \Hy@DisableOption{pdfcenterwindow}%
5200 \Hy@DisableOption{pdfdisplaydoctitle}%
5201 \Hy@DisableOption{pdfpagelayout}%
5202 \Hy@DisableOption{pdflang}%
5203 \Hy@DisableOption{baseurl}%
5204 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5205 \Hy@pdfstringfalse
5206 }

```

Ignore star from referencing macros:

```

5207 \LetLtxMacro\NoHy@OrgRef\ref
5208 \DeclareRobustCommand*\ref{%
5209 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5210 }
5211 \LetLtxMacro\NoHy@OrgPageRef\pageref
5212 \DeclareRobustCommand*\pageref{%
5213 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5214 }

```

## 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.

```

5215 \def\NoHyper{%
5216 \def\hyper@link@{##1}##2##3##4{##4}%
5217 \def\hyper@@anchor##1{%
5218 \global\let\hyper@livelink\hyper@link
5219 \gdef\hyper@link##1##2##3{##3}%
5220 \def\hyper@anchor##1{%
5221 \def\hyper@anchorstart##1{%
5222 \let\hyper@anchorend\@empty
5223 \def\hyper@linkstart##1##2{%
5224 \let\hyper@linkend\@empty
5225 \def\hyper@linkurl##1##2{##1}%
5226 \def\hyper@linkfile##1##2##3{##1}%
5227 \def\hyper@link@{##1}##2##3{%
5228 \let\Hy@backout\@gobble
5229 }
5230 \def\stop@hyper{%
5231 \def\hyper@link@{##1}##2##3##4{##4}%
5232 \let\Hy@backout\@gobble
5233 \def\hyper@@anchor##1{%
5234 \def\hyper@link##1##2##3{##3}%
5235 \def\hyper@anchor##1{%
5236 \def\hyper@anchorstart##1{%
5237 \let\hyper@anchorend\@empty
5238 \def\hyper@linkstart##1##2{%
5239 \let\hyper@linkend\@empty
5240 \def\hyper@linkurl##1##2{##1}%
5241 \def\hyper@linkfile##1##2##3{##1}%

```

```

5242 \def\hyper@link@[##1]##2##3{%
5243 }
5244 \def\endNoHyper{%
5245 \global\let\hyper@link\hyper@livelink
5246 }
5247 \</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:

```

5248 *nohyperref
5249 \RequirePackage{letltxmacro}[2008/06/13]
5250 \let\hyper@@anchor\@gobble
5251 \def\hyper@link#1##2##3{##3}%
5252 \let\hyper@anchorstart\@gobble
5253 \let\hyper@anchorend\@empty
5254 \let\hyper@linkstart\@gobbletwo
5255 \let\hyper@linkend\@empty
5256 \def\hyper@linkurl#1##2{##1}%
5257 \def\hyper@linkfile#1##2##3{##1}%
5258 \def\hyper@link@[##1]##2##3{%
5259 \let\PDF@SetupDoc\@empty
5260 \let\PDF@FinishDoc\@empty
5261 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

5262 \def\Acrobatmenu#1##2{\leavevmode#2}
5263 \let\pdfstringdefDisableCommands\@gobbletwo
5264 \let\texorpdfstring\@firstoftwo
5265 \let\pdfbookmark\@undefined
5266 \newcommand\pdfbookmark[3]{}{}
5267 \let\phantomsection\@empty
5268 \let\hypersetup\@gobble
5269 \let\hyperbaseurl\@gobble
5270 \let\href\@gobble
5271 \let\hyperdef\@gobbletwo
5272 \let\hyperlink\@gobble
5273 \let\hypertarget\@gobble
5274 \def\hyperref{%
5275 \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5276 }
5277 \long\def\@gobbleopt[#1]{}
5278 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5279 \LetLtxMacro\NoHy@OrgRef\ref
5280 \DeclareRobustCommand*\ref{%
5281 \ifstar\NoHy@OrgRef\NoHy@OrgRef
5282 }
5283 \LetLtxMacro\NoHy@OrgPageRef\pageref
5284 \DeclareRobustCommand*\pageref{%

```

```

5285 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5286 }
5287 \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}`

```

5288 *package
5289 \AfterBeginDocument{%

```

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

```

5290 \if@files
5291 \ifHy@typexml
5292 \immediate\closeout\@mainaux
5293 \immediate\openout\@mainaux\jobname.aux\relax
5294 \immediate\write\@auxout{<relaxxml>\relax}%
5295 \fi
5296 \immediate\write\@auxout{%
5297 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5298 \global\let\string\oldcontentsline\string\contentsline^^J%
5299 \gdef\string\contentsline%
5300 \string#1\string#2\string#3\string#4{%
5301 \string\oldcontentsline%
5302 {\string#1}{\string#2}{\string#3}}^^J%
5303 \global\let\string\oldnewlabel\string\newlabel^^J%
5304 \gdef\string\newlabel\string#1\string#2{%
5305 \string\newlabelxx{\string#1}\string#2^^J%
5306 \gdef\string\newlabelxx%
5307 \string#1\string#2\string#3\string#4\string#5\string#6{%
5308 \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.

```

5309 \string\AtEndDocument{%
5310 \let\string\contentsline\string\oldcontentsline^^J%
5311 \let\string\newlabel\string\oldnewlabel^^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.

```

5312 \string\else^^J%
5313 \global\let\string\hyper@last\relax^^J%
5314 \string\fi^^J%
5315 }%
5316 \fi

```

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. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

5317 \ifx\hyper@last\@undefined
5318 \def\@starttoc#1{%

```

```

5319 \begingroup
5320 \makeatletter
5321 \IfFileExists{\jobname.#1}{%
5322 \Hy@WarningNoLine{%
5323 old #1 file detected, not used; run LaTeX again%
5324 }%
5325 }{}%
5326 \if@filesw
5327 \expandafter\newwrite\csname tf@#1\endcsname
5328 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5329 \fi
5330 \@nobreakfalse
5331 \endgroup
5332 }%
5333 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5334 \fi
5335 }

```

## 25 Title strings

If options pdftitle and pdfauthor are not used, these informations for the pdf information dictionary can be extracted by the nd

```

5336 \ifHy@usetitle
5337 \let\HyOrg@title\title
5338 \let\HyOrg@author\author
5339 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5340 \def\Hy@scanopttitle[#1]{%
5341 \gdef\Hy@title{#1}%
5342 \HyOrg@title{#1}%
5343 }%
5344 \def\Hy@scantitle#1{%
5345 \gdef\Hy@title{#1}%
5346 \HyOrg@title{#1}%
5347 }%
5348 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5349 \def\Hy@scanoptauthor[#1]{%
5350 \gdef\Hy@author{#1}%
5351 \HyOrg@author{#1}%
5352 }%
5353 \def\Hy@scanauthor#1{%
5354 \gdef\Hy@author{#1}%
5355 \HyOrg@author{#1}%
5356 }%

```

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

```

5357 \begingroup
5358 \def\process@me#1\@nil#2{%
5359 \expandafter\let\expandafter\x\csname @#2\endcsname
5360 \edef\y{\expandafter\strip@prefix\meaning\x}%
5361 \def\c##1#1##2\@nil{%
5362 \ifx\##1\%
5363 \else
5364 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5365 \expandafter{\x}%
5366 \fi

```

```

5367 }%
5368 \expandafter\c\y\relax#1\@nil
5369 }%
5370 \expandafter\process@me\string\@latex@\@nil{title}%
5371 \expandafter\process@me\string\@latex@\@nil{author}%
5372 \endgroup
5373 \fi
5374 \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.

```

5375 \def\Hy@UseMaketitleString#1{%
5376 \ifundefined{Hy@#1}{}%
5377 \begingroup
5378 \let\Hy@saved@hook\pdfstringdefPreHook
5379 \pdfstringdefDisableCommands{%
5380 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5381 \let\newline\\%
5382 }%
5383 \expandafter\ifx\csname @pdf#1\endcsname\@empty
5384 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5385 \csname Hy@#1\endcsname\@empty
5386 }%
5387 \fi
5388 \global\let\pdfstringdefPreHook\Hy@saved@hook
5389 \endgroup
5390 }%
5391 }
5392 \def\Hy@newline@title#1{ #1}
5393 \def\Hy@newline@author#1{, #1}
5394 \def\Hy@UseMaketitleInfos{%
5395 \Hy@UseMaketitleString{title}%
5396 \Hy@UseMaketitleString{author}%
5397 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

5398 \RequirePackage{atbegshi}[2007/09/09]
5399 \def\Hy@EveryPageHook{}
5400 \def\Hy@EveryPageBoxHook{}
5401 \def\Hy@FirstPageHook{}
5402 \AtBeginShipout{%
5403 \Hy@EveryPageHook
5404 \ifx\Hy@EveryPageBoxHook\@empty

```



```

5405 \else
5406 \setbox\AtBeginShipoutBox=\vbox{%
5407 \offinterlineskip
5408 \Hy@EveryPageBoxHook
5409 \box\AtBeginShipoutBox
5410 }%
5411 \fi
5412 }
5413 \AtBeginShipoutFirst{%
5414 \Hy@FirstPageHook
5415 }
5416 \g@addto@macro\Hy@FirstPageHook{%
5417 \PDF@FinishDoc
5418 \gdef\PDF@FinishDoc{}}%
5419 }

```

## 27.1 PDF /PageLabels

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

```

5420 \ifHy@pagelabels
5421 \begingroup\expandafter\expandafter\expandafter\endgroup
5422 \expandafter\ifx\csname thepage\endcsname\relax
5423 \Hy@pagelabelsfalse
5424 \Hy@WarningNoLine{%
5425 Option 'pdfpagelabels' is turned off\MessageBreak
5426 because \string\thepage\space is undefined%
5427 }%
5428 \csname fi\endcsname
5429 \csname iffalse\expandafter\endcsname
5430 \fi

```

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

```

5431 \def\thispdfpagelabel#1{%
5432 \gdef\HyPL@thisLabel{#1}%
5433 }%
5434 \global\let\HyPL@thisLabel\relax

```

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

```

5435 \def\HyPL@Labels{}%

```

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

```

5436 \newcount\Hy@abspage
5437 \Hy@abspage=0 %

```

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

```

5438 \def\HyPL@LastType{init}%
5439 \def\HyPL@LastNumber{0}%
5440 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L<sup>A</sup>T<sub>E</sub>X pendants.

```

5441 \def\HyPL@arabic{D}%
5442 \def\HyPL@Roman{R}%
5443 \def\HyPL@roman{r}%
5444 \def\HyPL@Alph{A}%
5445 \def\HyPL@alph{a}%

```

`\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.

```

5446 \def\HyPL@EveryPage{%
5447 \begingroup
5448 \ifx\HyPL@thisLabel\relax
5449 \let\HyPL@page\thepage
5450 \else
5451 \let\HyPL@page\HyPL@thisLabel
5452 \global\let\HyPL@thisLabel\relax
5453 \fi
5454 \let\HyPL@Type\relax
5455 \ifnum\the\c@page>0 %
5456 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5457 \fi
5458 \let\Hy@temp Y%
5459 \ifx\HyPL@Type\HyPL@LastType
5460 \else
5461 \let\Hy@temp N%
5462 \fi
5463 \ifx\HyPL@Type\relax
5464 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5465 \else
5466 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5467 \fi
5468 \ifx\HyPL@Prefix\HyPL@LastPrefix
5469 \else
5470 \let\Hy@temp N%
5471 \fi
5472 \if Y\Hy@temp
5473 \advance\c@page by -1 %
5474 \ifnum\HyPL@LastNumber=\the\c@page\relax
5475 \else
5476 \let\Hy@temp N%
5477 \fi
5478 \Hy@StepCount\c@page
5479 \fi
5480 \if N\Hy@temp
5481 \ifx\HyPL@Type\relax
5482 \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
5483 \else
5484 \HyPL@storePageLabel{%
5485 \ifx\HyPL@Prefix\@empty
5486 \else
5487 /P(\HyPL@Prefix)%
5488 \fi
5489 /S/\csname HyPL\HyPL@Type\endcsname
5490 \ifnum\the\c@page=1 %
5491 \else
5492 \space/St \the\c@page
5493 \fi
5494 }%
5495 \fi
5496 \fi
5497 \xdef\HyPL@LastNumber{\the\c@page}%
5498 \global\let\HyPL@LastType\HyPL@Type
5499 \global\let\HyPL@LastPrefix\HyPL@Prefix
5500 \endgroup

```

```

5501 \Hy@GlobalStepCount\Hy@abspage
5502 }%

```

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

```

5503 \def\HyPL@CheckThePage#1\@nil{%
5504 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5505 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L<sup>A</sup>T<sub>E</sub>X, 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`.

```

5506 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5507 \def\Hy@tempa{#4}%
5508 \def\Hy@tempb{\csname\endcsname\c@page}%
5509 \ifx\Hy@tempa\Hy@tempb
5510 \expandafter\ifx\csname HyPL#3\endcsname\relax
5511 \else
5512 \def\HyPL@Type{#3}%
5513 \def\HyPL@Prefix{#2}%
5514 \fi
5515 \else
5516 \begingroup
5517 \let\Hy@next\endgroup
5518 \let\HyPL@found\@undefined
5519 \def\arabic{\HyPL@Format{arabic}}%
5520 \def\Roman{\HyPL@Format{Roman}}%
5521 \def\roman{\HyPL@Format{roman}}%
5522 \def\Alph{\HyPL@Format{Alph}}%
5523 \def\alph{\HyPL@Format{alph}}%
5524 \protected@edef\Hy@temp{#1}%
5525 \ifx\HyPL@found\relax
5526 \toks@ \expandafter{\Hy@temp}%
5527 \edef\Hy@next{\endgroup
5528 \noexpand\HyPL@@CheckThePage\the\toks@
5529 \noexpand\HyPL@found\relax\noexpand\@nil
5530 }%
5531 \fi
5532 \Hy@next
5533 \fi
5534 }%

```

`\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`.

```

5535 \def\HyPL@Format#1#2{%
5536 \ifx\HyPL@found\@undefined
5537 \expandafter\ifx\csname c@#2\endcsname\c@page
5538 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5539 \else
5540 \expandafter\noexpand\csname#1\endcsname{#2}%
5541 \fi
5542 \else
5543 \expandafter\noexpand\csname#1\endcsname{#2}%
5544 \fi
5545 }%

```

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

```
5546 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5547 \def\Hy@tempa{#3}%
5548 \def\Hy@tempb{\HyPL@found\relax}%
5549 \ifx\Hy@tempa\Hy@tempb
5550 \def\HyPL@Type{@#2}%
5551 \def\HyPL@Prefix{#1}%
5552 \fi
5553 }%
```

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

```
5554 \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`.

```
5555 \def\HyPL@Useless{0<</S/D>>}%
5556 \@onelevel@sanitize\HyPL@Useless
```

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

```
5557 \def\HyPL@SetPageLabels{%
5558 \@onelevel@sanitize\HyPL@Labels
5559 \ifx\HyPL@Labels\@empty
5560 \else
5561 \ifx\HyPL@Labels\HyPL@Useless
5562 \else
5563 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5564 \fi
5565 \fi
5566 }%
```

```
5567 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5568 \fi
```

Option ‘pdfpagelabels’ has been used and is now disabled.

```
5569 \Hy@DisableOption{pdfpagelabels}
5570 </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`

```
5571 <pdfTeX>\let\Hy@PutCatalog\pdfcatalog
```

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.

```
5572 <*vTeX>
5573 \providecommand*{\XR@ext}{pdf}
5574 \edef\Hy@VTeXversion{%
5575 \ifx\VTeXversion\@undefined
5576 \z@
```

```

5577 \else
5578 \ifx\VTexversion\relax
5579 \z@
5580 \else
5581 \VTexversion
5582 \fi
5583 \fi
5584 }
5585 \begingroup
5586 \ifnum\Hy@VTexversion<660 %
5587 \gdef\Hy@PutCatalog#1{%
5588 \Hy@WarningNoLine{%
5589 VTeX 6.59g or above required for pdfpagelabels%
5590 }%
5591 }%
5592 \else
5593 \gdef\Hy@PutCatalog#1{%
5594 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5595 }%
5596 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5597 \ifx\#2\%
5598 \else
5599 \immediate\special{!pdfpagelabels #2}%
5600 \fi
5601 }%
5602 \fi
5603 \endgroup
5604 </vtex>

5605 <*pdfTeX | vTeX>

```

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

```

5606 \ifHy@pagelabels
5607 \def\HyPL@StorePageLabel#1{%
5608 \toks@\expandafter{\HyPL@Labels}%
5609 \xdef\HyPL@Labels{%
5610 \the\toks@
5611 \the\Hy@abspage<<#1>>%
5612 }%
5613 }%

```

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.

```

5614 \RequirePackage{atveryend}[2009/12/07]%
5615 \AtVeryEndDocument{%
5616 \HyPL@SetPageLabels
5617 }%

5618 \fi
5619 </pdfTeX | vTeX>

```

### 27.1.2 xetex

```

5620 <*xetex>
5621 \HyPsd@LoadUnicode
5622 \Hy@unicodetrue
5623 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode

```

```

5624 \else
5625 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5626 \fi
5627 \HyPsd@LoadStringEncoding
5628 \define@key{Hyp}{unicode}[true]{%
5629 \Hy@boolkey{unicode}{#1}%
5630 \ifHy@unicode
5631 \else
5632 \Hy@Warning{%
5633 XeTeX driver only supports 'unicode=true'.\MessageBreak
5634 Ignoring option setting 'unicode=false'%
5635 }%
5636 \Hy@unicodetrue
5637 \fi
5638 }
5639 \define@key{Hyp}{pdfencoding}{%
5640 \edef\HyPsd@temp{#1}%
5641 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5642 \let\HyPsd@pdfencoding\HyPsd@temp
5643 \else
5644 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5645 \let\HyPsd@pdfencoding\HyPsd@temp
5646 \else
5647 \Hy@Warning{%
5648 XeTeX driver only supports 'pdfencoding=unicode|auto.%
5649 \MessageBreak
5650 Ignoring option setting 'pdfencoding=\HyPsd@temp'%
5651 }%
5652 \fi
5653 \fi
5654 }
5655 \let\HyXeTeX@CheckUnicode\relax
5656 \</xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

5657 \<*pdfmarkbase>
5658 \begingroup
5659 \@ifundefined{headerps@out}{-}{%
5660 \toks@{\expandafter{\Hy@FirstPageHook}}%
5661 \xdef\Hy@FirstPageHook{%
5662 \noexpand\headerps@out{%
5663 systemdict /pdfmark known%
5664 {%
5665 userdict /?pdfmark systemdict /exec get put%
5666 }{%
5667 userdict /?pdfmark systemdict /pop get put %
5668 userdict /pdfmark systemdict /cleartomark get put%
5669 }%
5670 ifelse%
5671 }%
5672 \the\toks@
5673 }%
5674 }%
5675 \endgroup
5676 \</pdfmarkbase>

```

\Hy@PutCatalog

```

5677 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
5678 <*pdfmarkbase>
5679 \def\Hy@PutCatalog#1{%
5680 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}}%
5681 }
5682 </pdfmarkbase>

5683 <*pdfmarkbase | dvipdfm | xetex>
5684 \ifHy@pagelabels

```

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

```

5685 \def\HyPL@StorePageLabel#1{%
5686 \if@filesw
5687 \begingroup
5688 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5689 \immediate\write\@mainaux{%
5690 \string\HyPL@Entry{\Hy@tempa}%
5691 }%
5692 \endgroup
5693 \fi
5694 }%

```

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.

```

5695 \AfterBeginDocument{%
5696 \if@filesw
5697 \immediate\write\@mainaux{%
5698 \string\providecommand\string*\string\HyPL@Entry[1]{}%
5699 }%
5700 \fi
5701 \ifx\HyPL@Labels\@empty
5702 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5703 \else
5704 \HyPL@SetPageLabels
5705 \fi
5706 \let\HyPL@Entry\@gobble
5707 }%

```

`\HyPL@Entry`

```

5708 \def\HyPL@Entry#1{%
5709 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5710 \HyPL@Labels
5711 #1%
5712 }%
5713 }%

5714 \fi
5715 </pdfmarkbase | dvipdfm | xetex>

5716 <*package>
5717 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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

```

5718 \def\Hy@CounterExists#1{%
5719 \begingroup\expandafter\expandafter\expandafter\endgroup
5720 \expandafter\ifx\csname c@#1\endcsname\relax
5721 \expandafter\@gobble
5722 \else
5723 \begingroup\expandafter\expandafter\expandafter\endgroup
5724 \expandafter\ifx\csname the#1\endcsname\relax
5725 \expandafter\expandafter\expandafter\@gobble
5726 \else
5727 \expandafter\expandafter\expandafter\@firstofone
5728 \fi
5729 \fi
5730 }
5731 \Hy@CounterExists{section}{%
5732 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5733 }
5734 \Hy@CounterExists{part}{%
5735 \newcommand\theHpart{\arabic{part}}}%
5736 }
5737 \ifundefined{thechapter}{%
5738 \newcommand\theHsection {\arabic{section}}}%
5739 \newcommand\theHfigure {\arabic{figure}}}%
5740 \newcommand\theHtable {\arabic{table}}}%
5741 }{%
5742 \newcommand\theHchapter {\arabic{chapter}}}%
5743 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
5744 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
5745 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
5746 }
5747 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5748 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5749 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5750 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
5751 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5752 \newcommand\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.

```

5753 \let\H@item\item
5754 \newcounter{Item}
5755 \def\theHItem{\arabic{Item}}

```



```

5756 \def\item{%
5757 \@hyper@itemfalse
5758 \if@nmbrlist\@hyper@itemtrue\fi
5759 \H@item
5760 }

5761 \newcommand\theHenumi {\theHItem}
5762 \newcommand\theHenumii {\theHItem}
5763 \newcommand\theHenumiii {\theHItem}
5764 \newcommand\theHenumiv {\theHItem}
5765 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5766 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5767 \let\theHHmpfootnote\theHHfootnote

```

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.

```

5768 \let\H@refstepcounter\refstepcounter
5769 \edef\name@of@eq{equation}%
5770 \edef\name@of@slide{slide}%

```

We do not want the handler for `\refstepcounter` to cut in during the processing of `\item` (we handle that separately), so we provide a bypass conditional.

```

5771 \newif\if@hyper@item
5772 \newif\if@skiphyperref
5773 \@hyper@itemfalse
5774 \@skiphyperreffalse
5775 \def\refstepcounter#1{%
5776 \ifHy@pdfstring
5777 \else
5778 \H@refstepcounter{#1}%
5779 \edef\This@name{#1}%
5780 \ifx\This@name\name@of@slide
5781 \else
5782 \if@skiphyperref
5783 \else
5784 \if@hyper@item
5785 \stepcounter{Item}%
5786 \hyper@refstepcounter{Item}%
5787 \@hyper@itemfalse
5788 \else
5789 \hyper@refstepcounter{#1}%
5790 \fi
5791 \fi
5792 \fi
5793 \fi
5794 }

```

AMS<sub>La</sub>TeX 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.

```

5795 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5796 \def\hyper@refstepcounter#1{%
5797 \edef\This@name{#1}%
5798 \ifx\This@name\name@of@eq
5799 \@ifundefined{theHequation}{%

```

```

5800 \make@stripped@name{\theequation}%
5801 \let\theHequation\newname
5802 }{}%
5803 \fi
5804 \@ifundefined{theH#1}{%
5805 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5806 }{}%
5807 \hyper@makecurrent{#1}%
5808 \ifmeasuring@
5809 \else
5810 \Hy@raisedlink{%
5811 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5812 }%
5813 \fi
5814 }

```

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`.

```

5815 \begingroup\expandafter\expandafter\expandafter\endgroup
5816 \expandafter\ifx\csname chapter\endcsname\relax
5817 \def\Hy@chapterstring{section}%
5818 \else
5819 \def\Hy@chapterstring{chapter}%
5820 \fi
5821 \def\Hy@appendixstring{appendix}
5822 \def\Hy@chapapp{\Hy@chapterstring}
5823 \let\HyOrg@appendix\appendix
5824 \def\appendix{%
5825 \@ifundefined{chapter}%
5826 {\gdef\theHsection{\Alph{section}}}%
5827 {\gdef\theHchapter{\Alph{chapter}}}%
5828 \xdef\Hy@chapapp{\Hy@appendixstring}%
5829 \HyOrg@appendix
5830 }

```

`\hyper@makecurrent` Because of Babel mucking around, nullify `\textlatin` when making names. And `\@number` because of babel’s `lrbabel.def`.

```

5831 \def\hyper@makecurrent#1{%
5832 \begingroup
5833 \edef\Hy@param{#1}%
5834 \ifx\Hy@param\Hy@chapterstring
5835 \let\Hy@param\Hy@chapapp
5836 \fi
5837 \ifHy@hypertexnames
5838 \let\@number\@firstofone
5839 \@ifundefined{latin@Alph}{%
5840 \ifx\@Alph\greek@Alph
5841 \def\@Alph{Alph\@arabic}%
5842 \fi
5843 }%
5844 \ifx\@Alph\@Alph@bul
5845 \def\@Alph{Alph\@arabic}%
5846 \fi

```

```

5847 \ifx\@alph\@alph@bul
5848 \def\@alph{alph\@arabic}%
5849 \fi
5850 \ifHy@naturalnames
5851 \let\textlatin\@firstofone
5852 \xdef\@currentHlabel{\csname the#1\endcsname}%
5853 \else
5854 \xdef\@currentHlabel{%
5855 \csname
5856 the%
5857 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5858 #1%
5859 \endcsname
5860 }%
5861 \fi
5862 \xdef\@currentHref{%
5863 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5864 }%
5865 \else
5866 \Hy@GlobalStepCount\Hy@linkcounter
5867 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5868 \fi
5869 \endgroup
5870 }

5871 \@ifpackageloaded{fancyvrb}{%
5872 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5873 \def\FV@StepLineNo{%
5874 \FV@SetLineNo
5875 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5876 \FV@SetLineNo
5877 }%
5878 }%
5879 }{-}

```

## 29 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options `hypertextnames` and `plainpages`) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 38). The link will not work if option `pageanchor` is set to false.

`\lastpage@putlabel`

```

5880 \AtBeginDocument{%
5881 \ifclassloaded{revtex4}{%
5882 \@namedef{ver@lastpage.sty}{1994/06/25}%
5883 }{-}%
5884 \@ifpackageloaded{lastpage}{%
5885 \ifHy@pageanchor
5886 \else
5887 \Hy@WarningNoLine{%
5888 The \string\pageref{LastPage} link doesn't work\MessageBreak
5889 with disabled option 'pageanchor'%

```

```

5890 }%
5891 \fi
5892 \def\lastpage@putlabel{%
5893 \addtocounter{page}{-1}%
5894 \if@filesw
5895 \begingroup
5896 \let\@number\@firstofone
5897 \ifHy@pageanchor
5898 \ifHy@hypertexnames
5899 \ifHy@plainpages
5900 \def\Hy@temp{\arabic{page}}%
5901 \else
5902 \Hy@unicodefalse
5903 \pdfstringdef\Hy@temp{\thepage}%
5904 \fi
5905 \else
5906 \def\Hy@temp{\the\Hy@pagecounter}%
5907 \fi
5908 \fi
5909 \immediate\write\@auxout{%
5910 \string\newlabel
5911 {LastPage}{\thepage}{\thepage}%
5912 \ifHy@pageanchor page.\Hy@temp\fi}}%
5913 }%
5914 \endgroup
5915 \fi
5916 \addtocounter{page}{1}%
5917 }%
5918 \@ifclassloaded{revtex4}{%
5919 \begingroup
5920 \toks@\expandafter{\lastpage@putlabel}%
5921 \edef\x{\endgroup
5922 \def\noexpand\lastpage@putlabel{%
5923 \noexpand\stepcounter{page}%
5924 \the\toks@
5925 \noexpand\addtocounter{page}\noexpand\m@ne
5926 }%
5927 }%
5928 \x
5929 }{}%
5930 }{}%
5931 }
5932 \</package>
5933 \< *check>
5934 \checkpackage{lastpage}[1994/06/25]
5935 \checkcommand\def\lastpage@putlabel{%
5936 \addtocounter{page}{-1}%
5937 \immediate\write\@auxout{%
5938 \string\newlabel{LastPage}{\thepage}{\thepage}%
5939 }%
5940 \addtocounter{page}{1}%
5941 }
5942 \</check>
5943 \< *package>

```

## 30 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.

```
5944 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
5945 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}
```

## 31 Package titlesec and titletoc support

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

Package titlesec support:

```
5946 \@ifpackageloaded{titlesec}{%
5947 \def\ttl@Hy@steplink#1{%
5948 \Hy@GlobalStepCount\Hy@linkcounter
5949 \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5950 \edef\ttl@Hy@saveanchor{%
5951 \noexpand\Hy@raisedlink{%
5952 \noexpand\hyper@anchorstart{\@currentHref}%
5953 \noexpand\hyper@anchorend
5954 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
5955 \noexpand\ttl@Hy@PatchSaveWrite
5956 }%
5957 }%
5958 }%
5959 \def\ttl@Hy@PatchSaveWrite{%
5960 \begingroup
5961 \toks@\expandafter{\ttl@savewrite}%
5962 \edef\x{\endgroup
5963 \def\noexpand\ttl@savewrite{%
5964 \let\noexpand\@currentHref
5965 \noexpand\ttl@Hy@SavedCurrentHref
5966 \the\toks@
5967 }%
5968 }%
5969 \x
5970 }%
5971 \def\ttl@Hy@refstepcounter#1{%
5972 \let\ttl@b\Hy@raisedlink
5973 \def\Hy@raisedlink##1{%
5974 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5975 }%
5976 \refstepcounter{#1}%
5977 \let\Hy@raisedlink\ttl@b
5978 }%
5979 }
```

Package titletoc support:

```
5980 \@ifpackageloaded{titletoc}{%
5981 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5982 }
```

## 32 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net).

```
5983 \def\Hy@varioref@undefined{{?}{?}{}}{}{}
5984 \@ifpackageloaded{varioref}{%
5985 \def\vref@pagenum#1#2{%
5986 \@ifundefined{r@#2}{%
5987 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5988 }{}%
5989 \edef#1{\getpagerefnumber{#2}}%
5990 }%
5991 }
```

## 33 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

```
5992 \@ifpackageloaded{longtable}{%
5993 \begingroup
5994 \def\y{\LT@array}%
5995 \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
5996 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5997 \expandafter\endgroup
5998 \expandafter\def\y[#1]#2{%
5999 \H@refstepcounter{#1}%
6000 \hyper@makecurrent{table}%
6001 \let\Hy@LT@currentHlabel\@currentHlabel
6002 \let\Hy@LT@currentHref\@currentHref
6003 #2\@sharp###4%
6004 }%
6005 }%
6006 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
```

Patch of \LT@start: add anchor before first line after \vskip\LTpre

```
6007 \begingroup
6008 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
6009 \endgroup
6010 \def\LT@start{%
6011 #1%
6012 \let\@currentHlabel\Hy@LT@currentHlabel
6013 \let\@currentHref\Hy@LT@currentHref
6014 \Hy@raisedlink{%
6015 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6016 }%
6017 \ifvoid\LT@firsthead\copy
6018 #2%
6019 }%
6020 }%
6021 \expandafter\x\LT@start\@nil
6022 }
```

## 34 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 41). 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.

```

6023 \let\new@refstepcounter\refstepcounter
6024 \let\H@equation\equation
6025 \let\H@endequation\endequation

6026 \ifpackageloaded{amsmath}{%
6027 \long\def\Hy@temp{%
6028 \incr@eqnum
6029 \mathdisplay@push
6030 \st@rredfalse \global\@eqnswtrue
6031 \mathdisplay{equation}%
6032 }%
6033 \ifx\Hy@temp\equation
6034 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6035 \csname iftrue\endcsname
6036 \else
6037 \long\def\equation{%
6038 \mathdisplay@push
6039 \st@rredfalse \global\@eqnswtrue
6040 \mathdisplay{equation}%
6041 \incr@eqnum
6042 }%
6043 \fi
6044 \fi
6045 }{%
6046 \def\equation{%
6047 \let\refstepcounter\H@refstepcounter
6048 \H@equation
6049 \ifundefined{theHequation}{%
6050 \make@stripped@name{\theequation}%
6051 \let\theHequation\newname
6052 }{%
6053 \hyper@makecurrent{equation}%
6054 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6055 \let\refstepcounter\new@refstepcounter
6056 }%
6057 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6058 }
```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X 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.

```

6059 \newif\if@eqnstar
6060 \@eqnstarfalse
6061 \let\H@eqnarray\eqnarray
6062 \let\H@endeqnarray\endeqnarray
6063 \def\eqnarray{%
6064 \let\Hy@reserved@a\relax
6065 \def\@currentHref{}%
```

```

6066 \H@eqnarray
6067 \if@eqnstar
6068 \else
6069 \ifx\\ \@currentHref\\ %
6070 \else
6071 \ifundefined{theHequation}{%
6072 \make@stripped@name{\theequation}%
6073 \let\theHequation\newname
6074 }{%
6075 \hyper@makecurrent{equation}%
6076 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6077 \fi
6078 \fi
6079 }
6080 \def\endeqnarray{%
6081 \H@endeqnarray
6082 }

```

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.

```

6083 \@namedef{eqnarray*}{%
6084 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6085 }
6086 \@namedef{endeqnarray*}{%
6087 \nonumber\endeqnarray\@eqnstarfalse
6088 }

```

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

```

6089 \ifundefined{subeqnarray}{%
6090 \let\H@subeqnarray\subeqnarray
6091 \let\H@endsubeqnarray\endsubeqnarray
6092 \def\subeqnarray{%
6093 \let\Hy@reserved@a\relax
6094 \H@subeqnarray
6095 \ifundefined{theHequation}{%
6096 \make@stripped@name{\theequation}%
6097 \let\theHequation\newname
6098 }{%
6099 \hyper@makecurrent{equation}%
6100 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6101 }%
6102 \def\endsubeqnarray{%
6103 \H@endsubeqnarray
6104 }%
6105 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6106 }

```

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

```

6107 \def\make@stripped@name#1{%
6108 \begingroup
6109 \escapechar\m@ne
6110 \global\let\newname\@empty
6111 \protected@edef\Hy@tempa{#1}%
6112 \edef\@tempb{%
6113 \noexpand\@tfor\noexpand\Hy@tempa:=%
6114 \expandafter\strip@prefix\meaning\Hy@tempa
6115 }%
6116 \@tempb\do{%

```



```

6117 \if\Hy@tempa\else
6118 \if\Hy@tempa\else
6119 \xdef\newname{\newname\Hy@tempa}%
6120 \fi
6121 \fi
6122 }%
6123 \endgroup
6124 }

```

Support for amsmath's subequations:

```

6125 \begingroup\expandafter\expandafter\expandafter\endgroup
6126 \expandafter\ifx\csname subequations\endcsname\relax
6127 \else
6128 \let\HyOrg@subequations\subequations
6129 \def\subequations{%
6130 \stepcounter{equation}%
6131 \protected@edef\theHparentequation{%
6132 \ifundefined{theHequation}\theequation\theHequation
6133 }%
6134 \addtocounter{equation}{-1}%
6135 \HyOrg@subequations
6136 \def\theHequation{\theHparentequation\alph{equation}}%
6137 \ignorespaces
6138 }%
6139 \fi

```

Support for package amsthm (Daniel Müllner):

```

6140 \ifpackageloaded{amsthm}{%
6141 \def\@thm#1#2#3{%
6142 \ifhmode
6143 \unskip\unskip\par
6144 \fi
6145 \normalfont
6146 \trivlist
6147 \let\thmheadnl\relax
6148 \let\thm@swap\@gobble
6149 \thm@notefont{\fontseries\mddefault\upshape}%
6150 \thm@headpunct{.}% add period after heading
6151 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6152 \thm@space@setup
6153 #1% style overrides
6154 \@topsep \thm@preskip % used by thm head
6155 \@topsepadd \thm@postskip % used by \@endparentv
6156 \def\dth@counter{#2}%
6157 \ifx\@empty\dth@counter
6158 \def\@tempa{%
6159 \@oparg{\@begintheorem{#3}{}}[]%
6160 }%
6161 \else
6162 \H@refstepcounter{#2}%
6163 \hyper@makecurrent{#2}%
6164 \def\@tempa{%
6165 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6166 }%
6167 \fi
6168 \@tempa
6169 }%
6170 \dth@everypar={%

```

```

6171 \@minipagefalse
6172 \global\@newlistfalse
6173 \@noparitemfalse
6174 \if@inlabel
6175 \global\@inlabelfalse
6176 \begingroup
6177 \setbox\z@\lastbox
6178 \ifvoid\z@
6179 \kern-\itemindent
6180 \fi
6181 \endgroup
6182 \ifx\@empty\dth@counter
6183 \else
6184 \Hy@raisedlink{%
6185 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6186 }%
6187 \fi
6188 \unhbox\@labels
6189 \fi
6190 \if@nobreak
6191 \@nobreakfalse \clubpenalty\@M
6192 \else
6193 \clubpenalty\@clubpenalty \everypar{}%
6194 \fi
6195 }%
6196 }{}

```

## 35 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.

Tabularx causes footnote problems, disable the linking if that is loaded.

```

6197 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6198 \ifHy@hyperfootnotes
6199 \newcounter{Hfootnote}%
6200 \let\H@@footnotetext\@footnotetext
6201 \let\H@@footnotemark\@footnotemark
6202 \def\xfootnotenext[#1]{%
6203 \begingroup
6204 \csname c@\@mpfn\endcsname #1\relax
6205 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6206 \endgroup
6207 \ifx\@footnotetext\@mpfootnotetext
6208 \expandafter\H@@mpfootnotetext
6209 \else
6210 \expandafter\H@@footnotetext
6211 \fi
6212 }%
6213 \def\xfootnotemark[#1]{%
6214 \begingroup
6215 \c@footnote #1\relax
6216 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6217 \endgroup
6218 \H@@footnotemark

```

```

6219 }%
6220 \let\H@@mpfootnotetext\@mpfootnotetext
6221 \long\def\@mpfootnotetext#1{%
6222 \H@@mpfootnotetext{%
6223 \ifHy@nesting
6224 \expandafter\hyper@@@anchor\expandafter{%
6225 \Hy@footnote@currentHref
6226 }{#1}%
6227 \else
6228 \Hy@raisedlink{%
6229 \expandafter\hyper@@@anchor\expandafter{%
6230 \Hy@footnote@currentHref
6231 }{\relax}%
6232 }#1%
6233 \fi
6234 }%
6235 }%
6236 \long\def\@footnotetext#1{%
6237 \H@@footnotetext{%
6238 \ifHy@nesting
6239 \expandafter\hyper@@@anchor\expandafter{%
6240 \Hy@footnote@currentHref
6241 }{#1}%
6242 \else
6243 \Hy@raisedlink{%
6244 \expandafter\hyper@@@anchor\expandafter{%
6245 \Hy@footnote@currentHref
6246 }{\relax}%
6247 }%
6248 \let\@currentHlabel\Hy@footnote@currentHlabel
6249 \let\@currentHref\Hy@footnote@currentHref
6250 \let\@currentlabelname\@empty
6251 #1%
6252 \fi
6253 }%
6254 }%

```

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.

```

6255 \def\@footnotemark{%
6256 \leavevmode
6257 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6258 \stepcounter{Hfootnote}%
6259 \global\let\Hy@saved@currentHlabel\@currentHlabel
6260 \global\let\Hy@saved@currentHref\@currentHref
6261 \hyper@makecurrent{Hfootnote}%
6262 \global\let\Hy@footnote@currentHlabel\@currentHlabel
6263 \global\let\Hy@footnote@currentHref\@currentHref
6264 \global\let\@currentHlabel\Hy@saved@currentHlabel
6265 \global\let\@currentHref\Hy@saved@currentHref
6266 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6267 \@makefnmark
6268 \hyper@linkend
6269 \ifhmode\spacefactor\@x@sf\fi
6270 \relax
6271 }%

```

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

```

6272 \ifpackageloaded{longtable}{%
6273 \CheckCommand*{\LT@p@ftntext}[1]{%
6274 \edef\@tempa{%
6275 \the\LT@p@ftn
6276 \noexpand\footnotetext[\the\c@footnote]%
6277 }%
6278 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6279 }%
6280 \long\def\LT@p@ftntext#1{%
6281 \edef\@tempa{%
6282 \the\LT@p@ftn
6283 \begingroup
6284 \noexpand\c@footnote=\the\c@footnote\relax
6285 \noexpand\protected@xdef
6286 \noexpand\@thefnmark{\noexpand\thempfn}%
6287 \noexpand\protected@xdef\noexpand\@thefnmark{%
6288 \noexpand\thempfn
6289 }%
6290 \expandafter\expandafter\expandafter\noexpand
6291 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
6292 \expandafter\expandafter\expandafter{%
6293 \expandafter\Hy@footnote@currentHref\expandafter
6294 }\expandafter{\Hy@footnote@currentHlabel}%
6295 }%
6296 \global\LT@p@ftn\expandafter{%
6297 \@tempa{#1}%
6298 \endgroup
6299 }%
6300 }%
6301 \long\def\Hy@LT@footnotetext#1#2#3{%
6302 \H@@@footnotetext{%
6303 \ifHy@nesting
6304 \hyper@@@anchor{#1}{#3}%
6305 \else
6306 \Hy@raisedlink{%
6307 \hyper@@@anchor{#1}{\relax}%
6308 }%
6309 \def\@currentHlabel{#2}%
6310 \def\@currentHref{#1}%
6311 \let\@currentlabelname\@empty
6312 #3%
6313 \fi
6314 }%
6315 }%
6316 }{}%
```

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

```

6317 \ifpackageloaded{fancyvrb}{%
6318 \def\V@@@footnotetext{%
6319 \insert\footins\bgroup
6320 \csize reset@font\endcsize
6321 \footnotesize
6322 \interlinepenalty\interfootnotelinepenalty
```

```

6323 \splittopskip\footnotesep
6324 \splitmaxdepth\dp\strutbox
6325 \floatingpenalty \@MM
6326 \hsize\columnwidth
6327 \@parboxrestore
6328 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6329 \@makefnmark{}%
6330 \rule{\z@}{\footnotesep}%
6331 \bgroup
6332 \aftergroup\V@@@footnotetext
6333 \Hy@raisedlink{%
6334 \expandafter\hyper@@anchor\expandafter{%
6335 \Hy@footnote@currentHref
6336 }{\relax}%
6337 }%
6338 \let\@currentHlabel\Hy@footnote@currentHlabel
6339 \let\@currentHref\Hy@footnote@currentHref
6340 \let\@currentlabelname\@empty
6341 \ignorespaces
6342 }%
6343 }{}%

```

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

```

6344 \def\Hy@temp#1{%
6345 \begingroup
6346 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6347 \endgroup
6348 \@footnotemark
6349 }%
6350 \ifx\Hy@temp\footref
6351 \def\footref#1{%
6352 \begingroup
6353 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6354 \endgroup
6355 \H@@footnotemark
6356 }%
6357 \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.

```

6358 \let\HyOrg@maketitle\maketitle
6359 \def\maketitle{%
6360 \let\Hy@saved@footnotemark\@footnotemark
6361 \let\Hy@saved@footnotetext\@footnotetext
6362 \let\@footnotemark\H@@footnotemark
6363 \let\@footnotetext\H@@footnotetext
6364 \@ifnextchar[\Hy@maketitle@optarg{%]
6365 \HyOrg@maketitle
6366 \Hy@maketitle@end
6367 }%
6368 }%
6369 \def\Hy@maketitle@optarg[#1]{%
6370 \HyOrg@maketitle[{#1}]%
6371 \Hy@maketitle@end
6372 }%
6373 \def\Hy@maketitle@end{%
6374 \ifx\@footnotemark\H@@footnotemark

```

```

6375 \let\@footnotemark\Hy@saved@footnotemark
6376 \fi
6377 \ifx\@footnotetext\H@@footnotetext
6378 \let\@footnotetext\Hy@saved@footnotetext
6379 \fi
6380 }%

```

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

```

6381 \def\realfootnote{%
6382 \ifnextchar[\@xfootnote{%
6383 \stepcounter{\@mpfn}%
6384 \protected@xdef\@thefnmark{\thempfn}%
6385 \H@@@footnotemark\H@@@footnotetext
6386 }%
6387 }%

6388 \fi
6389 \Hy@DisableOption{hyperfootnotes}

6390 </package>
6391 <*check>
6392 \checklatex
6393 \checkcommand\def\@xfootnotenext[#1]{%
6394 \begingroup
6395 \csname c@\@mpfn\endcsname #1\relax
6396 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6397 \endgroup
6398 \@footnotetext
6399 }
6400 \checkcommand\def\@xfootnotemark[#1]{%
6401 \begingroup
6402 \c@footnote #1\relax
6403 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6404 \endgroup
6405 \@footnotemark
6406 }
6407 \checkcommand\def\@footnotemark{%
6408 \leavevmode
6409 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6410 \@makefnmark
6411 \ifhmode\spacefactor\@x@sf\fi
6412 \relax
6413 }
6414 </check>
6415 <*package>

```

## 36 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.

```

6416 \def\caption{%
6417 \ifx\@caption\@undefined
6418 \latex@error{\noexpand\caption outside float}\@ehd
6419 \expandafter\@gobble
6420 \else
6421 \H@refstepcounter\@caption
6422 \let\Hy@tempa\@caption

```

```

6423 \ifundefined{float@caption}{%
6424 }{%
6425 \expandafter\ifx\csname @float@c@\@capttype\endcsname
6426 \float@caption
6427 \let\Hy@tempa\Hy@float@caption
6428 \fi
6429 }%
6430 \expandafter\@firstofone
6431 \fi
6432 {\@dblarg{\Hy@tempa\@capttype}}%
6433 }
6434 \long\def\@caption#1[#2]#3{%
6435 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6436 \csname iftrue\endcsname
6437 \global\let\@currentHref\hc@currentHref
6438 \else
6439 \hyper@makecurrent{\@capttype}%
6440 \fi
6441 \ifundefined{NR@getttitle}{%
6442 \def\@currentlabelname{#2}%
6443 }{%
6444 \NR@getttitle{#2}%
6445 }%
6446 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6447 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6448 }%
6449 \begingroup
6450 \@parboxrestore
6451 \if@minipage
6452 \setminipage
6453 \fi
6454 \normalsize
6455 \expandafter\ifx\csname if@capstart\expandafter\endcsname
6456 \csname iftrue\endcsname
6457 \global\@capstartfalse
6458 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6459 \else
6460 \@makecaption{\csname fnum@#1\endcsname}{%
6461 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6462 \ifHy@nesting
6463 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6464 \else
6465 \Hy@raisedlink{%
6466 \expandafter\hyper@@anchor\expandafter{%
6467 \@currentHref
6468 }{\relax}%
6469 }%
6470 #3%
6471 \fi
6472 }%
6473 \fi
6474 \par
6475 \endgroup
6476 }

```

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.

```

6477 \let\Hy@float@caption\@caption
6478 \ifpackageloaded{float}{%
6479 \def\Hy@float@caption{%
6480 \ifx\Hy@float@currentHref\@undefined
6481 \hyper@makecurrent{\@captive}%
6482 \global\let\Hy@float@currentHref\@currentHref
6483 \else
6484 \let\@currentHref\Hy@float@currentHref
6485 \fi
6486 \float@caption
6487 }%
6488 \let\HyOrg@float@makebox\float@makebox
6489 \renewcommand{\float@makebox}[1]{%
6490 \HyOrg@float@makebox{%
6491 #1\relax
6492 \ifx\Hy@float@currentHref\@undefined
6493 \else
6494 \expandafter\hyper@@anchor\expandafter{%
6495 \Hy@float@currentHref
6496 }\relax}%
6497 \global\let\Hy@float@currentHref\@undefined
6498 \fi
6499 }%
6500 }%
6501 }{}

6502 \</package>
6503 \<*check>
6504 \checklatex[1999/06/01 - 2000/06/01]
6505 \checkcommand\def\caption{%
6506 \ifx\@captive\@undefined
6507 \@latex@error{\noexpand\caption outside float}\@ehd
6508 \expandafter\@gobble
6509 \else
6510 \refstepcounter\@captive
6511 \expandafter\@firstofone
6512 \fi
6513 {\@dblarg{\@caption\@captive}}%
6514 }
6515 \checkcommand\long\def\@caption#1[#2]#3{%
6516 \par
6517 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6518 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6519 }%
6520 \begingroup
6521 \@parboxrestore
6522 \if@minipage
6523 \@setminipage
6524 \fi
6525 \normalsize
6526 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6527 \endgroup
6528 }
6529 \</check>
6530 \<*package>

```



## 37 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 *drfcite* may break.

However, lets make an attempt to get *natbib* right, because thats a powerful, important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for us, so all we need to do is activate them.

```

6531 \def\hyper@natlinkstart#1{%
6532 \Hy@backout{#1}%
6533 \hyper@linkstart{cite}{cite.#1}%
6534 \def\hyper@nat@current{#1}%
6535 }
6536 \def\hyper@natlinkend{%
6537 \hyper@linkend
6538 }
6539 \def\hyper@natlinkbreak#1#2{%
6540 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6541 }
6542 \def\hyper@natanchorstart#1{%
6543 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6544 }
6545 \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.

```

6546 \@ifundefined{NAT@parse}{%
6547 \providecommand*\@extra@binfo{}%
6548 \providecommand*\@extra@b@citeb{}%
6549 \def\bibcite#1#2{%
6550 \@newl@bel{b}{#1\@extra@binfo}{%
6551 \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6552 }%
6553 }%
6554 \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.”.

```

6555 \let\Hy@bibcite\bibcite
6556 \begingroup
6557 \@ifundefined{bbl@cite@choice}{%
6558 \g@addto@macro\bbl@cite@choice{%
6559 \let\bibcite\Hy@bibcite
6560 }%
6561 }%
6562 \endgroup

```

`\@BIBLABEL` is working around a ‘feature’ of *RevTeX*.

```

6563 \providecommand*\@BIBLABEL{\@biblabel}%
6564 \def\@lbibitem[#1]#2{%
6565 \@skiphyperreftrue
6566 \H@item[%
6567 \ifx\Hy@raisedlink\@empty

```

```

6568 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6569 \@BIBLABEL{#1}%
6570 \hyper@anchorend
6571 \else
6572 \Hy@raisedlink{%
6573 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6574 }%
6575 \@BIBLABEL{#1}%
6576 \fi
6577 \hfill
6578]%
6579 \@skiphypereffalse
6580 \if@files
6581 \begin{group}
6582 \let\protect\noexpand
6583 \immediate\write\@auxout{%
6584 \string\bibcite{#2}{#1}%
6585 }%
6586 \end{group}
6587 \fi
6588 \ignorespaces
6589 }%

```

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

```

6590 \def\@bibitem#1{%
6591 \@skiphyperefftrue\H@item\@skiphypereffalse
6592 \Hy@raisedlink{%
6593 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6594 }%
6595 \if@files
6596 \begin{group}
6597 \let\protect\noexpand
6598 \immediate\write\@auxout{%
6599 \string\bibcite{#1}{\the\value{\@listctr}}%
6600 }%
6601 \end{group}
6602 \fi
6603 \ignorespaces
6604 }%
6605 }{}

6606 \</package>
6607 \<*check>
6608 \checklatex
6609 \checkcommand\def\@lbibitem[#1]#2{%
6610 \item[\@biblabel{#1}\hfill]%
6611 \if@files
6612 {%
6613 \let\protect\noexpand
6614 \immediate\write\@auxout{%
6615 \string\bibcite{#2}{#1}%
6616 }%
6617 }%
6618 \fi
6619 \ignorespaces
6620 }
6621 \checkcommand\def\@bibitem#1{%

```

```

6622 \item
6623 \if@filesw
6624 \immediate\write\@auxout{%
6625 \string\bibcite{#1}{\the\value{\@listctr}}}%
6626 }%
6627 \fi
6628 \ignorespaces
6629 }
6630 \end{check}
6631 \end{package}

```

RevTeX (bless its little heart) takes over \bibcite and looks at the result to measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

```

6632 \@ifclassloaded{revtex}{%
6633 \Hy@Info{*** compatibility with revtex **** }%
6634 \def\revtex@checking#1#2{%
6635 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6636 \expandafter\def\csname b@#1\endcsname{#2}%
6637 \@SetMaxRnhefLabel{#1}%
6638 \expandafter\let\csname b@#1\endcsname\T@temp
6639 }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: extra@b@citeb

```

6640 \@ifundefined{@CITE}{\def@CITE{\@cite}}{%
6641 \providecommand*{\@extra@b@citeb}{}%
6642 \def\CITE[#1]#2{%
6643 \let\@citea\@empty
6644 \leavevmode
6645 \unskip
6646 \sim%
6647 \scriptstyle
6648 \@CITE{%
6649 \@for\@citeb:=#2\do{%
6650 \@citea
6651 \def\@citea{,\penalty\@m\ }%
6652 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6653 \if@filesw
6654 \immediate\write\@auxout{\string\citation{\@citeb}}%
6655 \fi
6656 \@ifundefined{b@\@citeb\extra@b@citeb}{%
6657 \mbox{\reset@font\bfseries ?}%
6658 \G@refundefinedtrue
6659 \@latex@warning{%
6660 Citation '\@citeb' on page \thepage \space undefined%
6661 }%
6662 }{%
6663 {\csname b@\@citeb\extra@b@citeb\endcsname}%
6664 }%
6665 }%
6666 }{#1}%
6667 }$%
6668 }%

```

No, life is too short. I am not going to understand the RevTeX \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

```

6669 \def\citex[#1]#2{%

```

```

6670 \let\@citea\@empty
6671 \@cite{%
6672 \@for\@citeb:=#2\do{%
6673 \@citea
6674 \def\@citea{,\penalty\@m\ }%
6675 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6676 \if@filesw
6677 \immediate\write\@auxout{\string\citation{\@citeb}}%
6678 \fi
6679 \ifundefined{b@\@citeb\@extra@b@citeb}{%
6680 \mbox{\reset@font\bfseries ?}%
6681 \G@refundefinedtrue
6682 \@latex@warning{%
6683 Citation '\@citeb' on page \thepage \space undefined%
6684 }%
6685 }{%
6686 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6687 }%
6688 }%
6689 }{#1}%
6690 }%
6691 }{}

```

### 37.1 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.

```

6692 \ifpackageloaded{harvard}{%
6693 \AtBeginDocument{%
6694 \Hy@Info{*** compatibility with harvard **** }%
6695 \Hy@raiselinksfalse
6696 \def\harvardcite#1#2#3#4{%
6697 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6698 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6699 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6700 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6701 }%
6702 \def\HAR@citetoaux#1{%
6703 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6704 \ifHy@backref
6705 \ifx\@empty\@currentlabel
6706 \else
6707 \@bsphack
6708 \if@filesw
6709 \protected@write\@auxout{}{%
6710 \string\@writefile{brf}{%
6711 \string\backcite{#1}{%
6712 {\thepage}{\@currentlabel}{\@currentHref}%
6713 }%
6714 }%
6715 }%
6716 \fi

```

```

6717 \@esphack
6718 \fi
6719 \fi
6720 }%
6721 \def\harvarditem{%
6722 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6723 }%
6724 \def\@harvarditem[#1]#2#3#4#5\par{%
6725 \item[]%
6726 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6727 \if@filesw
6728 \begingroup
6729 \def\protect##1{\string ##1\space}%
6730 \ifthenelse{\equal{#1}{\null}}{%
6731 {\def\next{{#4}{#2}{#2}{#3}}}%
6732 {\def\next{{#4}{#2}{#1}{#3}}}%
6733 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6734 \endgroup
6735 \fi
6736 \protect\hspace*{-\labelwidth}%
6737 \protect\hspace*{-\labelsep}%
6738 \ignorespaces
6739 #5%
6740 \ifHy@backref
6741 \newblock
6742 \backref{\csname br@#4\endcsname}%
6743 \fi
6744 \par
6745 }%

```

\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:

```

6746 \long\def\HAR@checkcitations#1#2#3#4{%
6747 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
6748 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6749 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6750 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6751 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6752 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6753 \else
6754 \@tempwattrue
6755 \fi
6756 \else
6757 \@tempwattrue
6758 \fi
6759 \else
6760 \@tempwattrue
6761 \fi
6762 }%
6763 }%
6764 }{}

```

## 37.2 Package chicago

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

```

6765 \@ifpackageloaded{chicago}{%
\citeN
6766 \def\citeN{%
6767 \def\@citesep{-1000}%
6768 \def\@cite##1##2{##1}%
6769 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
6770 \@citedata@opt
6771 }%

\shortciteN
6772 \def\shortciteN{%
6773 \def\@citesep{-1000}%
6774 \def\@cite##1##2{##1}%
6775 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
6776 \@citedata@opt
6777 }%

\@citedata@opt
6778 \def\@citedata@opt{%
6779 \let\@cite@opt\@empty
6780 \@ifnextchar [{%
6781 \@tempwattrue
6782 \@citedatax@opt
6783 }{%
6784 \@tempwafalse
6785 \@citedatax[]%
6786 }%
6787 }%

\@citedatax@opt
6788 \def\@citedatax@opt[#1]{%
6789 \def\@cite@opt{, #1}%
6790 \@citedatax[{#1}]%
6791 }%

6792 }{}

```

## 38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by `hyperref`.

This where we supply a destination for each page.

```

6793 \def\Hy@EveryPageAnchor{%
6794 \Hy@DistillerDestFix
6795 \ifHy@pageanchor
6796 \ifHy@hypertextnames
6797 \ifHy@plainpages
6798 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6799 \else
6800 \begingroup
6801 \let\@number\@firstofone

```

```

6802 \Hy@unicodedefalse
6803 \pdfstringdef\@the@H@page{\thepage}%
6804 \endgroup
6805 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6806 \fi
6807 \else
6808 \Hy@GlobalStepCount\Hy@pagecounter
6809 \def\Hy@TempPageAnchor{%
6810 \hyper@@anchor{page.\the\Hy@pagecounter}%
6811 }%
6812 \fi
6813 \vbox to 0pt{%
6814 \kern\voffset
6815 \kern\topmargin
6816 \kern-1bp\relax
6817 \hbox to 0pt{%
6818 \kern\hoffset
6819 \kern\ifodd\value{page}%
6820 \oddsidemargin
6821 \else
6822 \evensidemargin
6823 \fi
6824 \kern-1bp\relax
6825 \Hy@TempPageAnchor
6826 \hss
6827 }%
6828 \vss
6829 }%
6830 \fi
6831 }
6832 \g@addto@macro\Hy@EveryPageBoxHook{%
6833 \Hy@EveryPageAnchor
6834 }

```

## 39 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.

```

6835 \def\addcontentsline#1#2#3{% toc extension, type, tag
6836 \begingroup
6837 \let\label\@gobble
6838 \ifx\@currentHref\@empty
6839 \Hy@Warning{%
6840 No destination for bookmark of \string\addcontentsline,%
6841 \MessageBreak destination is added%
6842 }%
6843 \phantomsection
6844 \fi
6845 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6846 \begingroup
6847 \def\Hy@tempa{#1}%
6848 \ifx\Hy@tempa\Hy@bookmarkstype
6849 \Hy@WarningNoLine{%
6850 bookmark level for unknown #2 defaults to 0%
6851 }%

```

```

6852 \else
6853 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6854 \fi
6855 \endgroup
6856 \expandafter\gdef\csname toclevel@#2\endcsname{0}%
6857 \fi
6858 \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
6859 \Hy@writebookmark{\csname the#2\endcsname}%
6860 {#3}%
6861 {\@currentHref}%
6862 {\Hy@toclevel}%
6863 {#1}%
6864 \ifHy@verbose
6865 \begingroup
6866 \def\Hy@tempa{#3}%
6867 \@onelevel@sanitize\Hy@tempa
6868 \let\temp@online\on@line
6869 \let\on@line\@empty
6870 \Hy@Info{%
6871 bookmark\temp@online:\MessageBreak
6872 thecounter {\csname the#2\endcsname}\MessageBreak
6873 text {\Hy@tempa}\MessageBreak
6874 reference {\@currentHref}\MessageBreak
6875 toclevel {\Hy@toclevel}\MessageBreak
6876 type {#1}%
6877 }%
6878 \endgroup
6879 \fi
6880 \addtocontents{#1}{%
6881 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6882 }%
6883 \endgroup
6884 }
6885 \def\contentsline#1#2#3#4{%
6886 \ifx\\#4\\%
6887 \csname l@#1\endcsname{#2}{#3}%
6888 \else
6889 \ifcase\Hy@linktoc % none
6890 \csname l@#1\endcsname{#2}{#3}%
6891 \or % section
6892 \csname l@#1\endcsname{%
6893 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6894 }{#3}%
6895 \or % page
6896 \csname l@#1\endcsname{{#2}}{%
6897 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6898 }%
6899 \else % all
6900 \csname l@#1\endcsname{%
6901 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6902 }{%
6903 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6904 }%
6905 \fi
6906 \fi
6907 }
6908 \end{package}

```



```

6909 <*check>
6910 \checklatex
6911 \checkcommand\def\addcontentsline#1#2#3{%
6912 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
6913 }
6914 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6915 </check>
6916 <*package>

```

## 40 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.

```

6917 \let\H@definecounter\@definecounter
6918 \def\@definecounter#1{%
6919 \H@definecounter{#1}%
6920 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6921 }

```

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.

```

6922 \let\H@newctr\@newctr
6923 \def\@newctr#1[#2]{%
6924 \H@newctr#1[{#2}]%
6925 \expandafter\def\csname theH#1\endcsname{%
6926 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6927 }%
6928 }

```

## 41 AMS $\text{\LaTeX}$ 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.

```

6929 \ifpackageloaded{amsmath}{%
6930 \def\Hy@make@anchor{%
6931 \Hy@GlobalStepCount\Hy@linkcounter
6932 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6933 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6934 }%
6935 \def\Hy@make@df@tag@@#1{%
6936 \gdef\df@tag{%
6937 \maketag@@@{\Hy@make@anchor#1}%
6938 \def\@currentlabel{#1}%
6939 }%
6940 }%
6941 \def\Hy@make@df@tag@@@#1{%
6942 \gdef\df@tag{%
6943 \tagform@{\Hy@make@anchor#1}%
6944 \toks@{\xp{p@equation{#1}}}%
6945 \edef\@currentlabel{\the\toks@}%
6946 }%

```

```

6947 }%
6948 \let\HyOrg@make@df@tag@@\make@df@tag@@
6949 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6950 \let\make@df@tag@@@ \Hy@make@df@tag@@
6951 \let\make@df@tag@@@ \Hy@make@df@tag@@@
6952 }{}

```

Only play with `\seteqlebal` if we are using pdf<sub>tex</sub>. Other drivers cause problems; requested by Michael Downes (AMS).

```

6953 \ifpackagewith{hyperref}{pdftex}{%
6954 \let\H@seteqlabel\seteqlabel
6955 \def\@seteqlabel#1{%
6956 \H@seteqlabel{#1}%
6957 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6958 \Hy@raisedlink{%
6959 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6960 }%
6961 }%
6962 }{}

```

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}}}}

```

## 41.1 `\@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.

```

6963 \let\HyOrg@addtoreset \@addtoreset
6964 \def\@addtoreset#1#2{%
6965 \HyOrg@addtoreset{#1}{#2}%
6966 \expandafter\xdef\csname theH#1\endcsname{%
6967 \expandafter\noexpand
6968 \csname the\@ifundefined{theH#2}{H#2\endcsname
6969 .\noexpand\the\noexpand\value{#1}%
6970 }%
6971 }

```

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

```

6972 \</package>
6973 \<*check>
6974 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6975 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6976 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6977 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6978 \@addtoreset{#2}{#3}%
6979 \@xp\xdef\csname the#2\endcsname{%
6980 \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6981 }%
6982 }%

```

```

6983 }%
6984 }%
6985 \check)
6986 *package)
6987 \ifpackageloaded{amsmath}{%
6988 \ifpackagelater{amsmath}{1999/12/14}{%
6989 \renewcommand*{\numberwithin}[3][\arabic]{%
6990 \ifundefined{c@#2}{\@nocounterr{#2}}{%
6991 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6992 \HyOrg@addtoreset{#2}{#3}%
6993 \exp\xdef\csname the#2\endcsname{%
6994 \exp\xnx\csname the#3\endcsname .\nx#1{#2}%
6995 }%
6996 \exp\xdef\csname theH#2\endcsname{%
6997 \exp\xnx
6998 \csname the\ifundefined{theH#3}{H#3\endcsname
6999 .\nx#1{#2}%
7000 }%
7001 }%
7002 }%
7003 }%
7004 }{%
7005 \Hy@WarningNoLine{%
7006 \string\numberwithin\space of package 'amsmath' %
7007 only fixed\MessageBreak
7008 for version 2000/06/06 v2.12 or newer%
7009 }%
7010 }%
7011 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

7012 \ifHy@figures
7013 \let\Hy@Gin@setfile\Gin@setfile
7014 \def\Gin@setfile#1#2#3{%
7015 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7016 }%
7017 \fi
7018 \Hy@DisableOption{hyperfigures}

```

## 43 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like boldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

7019 \ifHy@hyperindex
7020 \def\HyInd@ParenLeft{(%

```

```

7021 \def\HyInd@ParenRight{)}%
7022 \def\hyperindexformat#1#2{%
7023 \let\HyOrg@hyperpage\hyperpage
7024 \let\hyperpage\@firstofone
7025 #1{\HyOrg@hyperpage{#2}}%
7026 \let\hyperpage\HyOrg@hyperpage
7027 }%
7028 \Hy@nextfalse
7029 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7030 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7031 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7032 \begingroup
7033 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7034 \lccode'\|/'=\|\\relax
7035 \lowercase{\endgroup
7036 \ifHy@next
7037 \let\HyInd@org@wrindex\@wrindex
7038 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
7039 \def\HyInd@@wrindex#1#2|#3|#4\{\%
7040 \ifx\|#3\%
7041 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7042 \else
7043 \HyInd@@@wrindex{#1}{#2}#3\%
7044 \fi
7045 }%
7046 \def\HyInd@@@wrindex#1#2#3#4\{\%
7047 \def\Hy@temp@A{#3}%
7048 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7049 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7050 \relax
7051 \HyInd@org@wrindex{#1}{%
7052 #2|hyperindexformat{/#3#4}%
7053 }%
7054 \else
7055 \ifx\|#4\%
7056 \ifx\Hy@temp@A\HyInd@ParenRight
7057 \HyInd@org@wrindex{#1}{#2|#3}%
7058 \else
7059 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7060 \fi
7061 \else
7062 \HyInd@org@wrindex{#1}{%
7063 #2|#3hyperindexformat{/#4}%
7064 }%
7065 \fi
7066 \fi
7067 }%
7068 \else
7069 \def\@wrindex#1{\@@wrindex#1||\}%
7070 \def\@@wrindex#1|#2|#3\{\%
7071 \if@files
7072 \ifx\|#2\%
7073 \protected@write\@indexfile{}{%
7074 \string\indexentry{#1|hyperpage}{\thepage}%
7075 }%
7076 \else
7077 \HyInd@@@wrindex{#1}#2\%

```

```

7078 \fi
7079 \fi
7080 \endgroup
7081 \@esphack
7082 }%
7083 \def\HyInd@@@wrindex#1#2#3\{\{%
7084 \def\Hy@temp@A{#2}%
7085 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7086 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7087 \relax
7088 \protected@write\@indexfile{}\{\%
7089 \string\indexentry{\%
7090 #1|hyperindexformat{/#2#3}%
7091 }\the page}%
7092 }%
7093 \else
7094 \ifx\#3\%
7095 \ifx\Hy@temp@A\HyInd@ParenRight
7096 \protected@write\@indexfile{}\{\%
7097 \string\indexentry{#1|#2}\the page}%
7098 }%
7099 \else
7100 \protected@write\@indexfile{}\{\%
7101 \string\indexentry{#1|#2hyperpage}\the page}%
7102 }%
7103 \fi
7104 \else
7105 \protected@write\@indexfile{}\{\%
7106 \string\indexentry{\%
7107 #1|#2hyperindexformat{/#3}%
7108 }\the page}%
7109 }%
7110 \fi
7111 \fi
7112 }%
7113 \fi
7114 }%
7115 \fi
7116 \Hy@DisableOption{hyperindex}
7117 \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.

```

7118 \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.

```

7119 \def\hyperpage#1{%
7120 \HyInd@hyperpage#1\nohyperpage{}\@nil
7121 }
7122 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7123 \HyInd@@@hyperpage{#1}%
7124 #2%
7125 \def\Hy@temp{#3}%
7126 \ifx\Hy@temp\@empty
7127 \else
7128 \Hy@ReturnAfterFi{\%

```

```

7129 \HyInd@hyperpage#3\@nil
7130 }%
7131 \fi
7132 }
7133 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7134 \def\@hyperpage#1--#2--#3\{\%
7135 \ifx\#2\%
7136 \commahyperpage{#1}%
7137 \else
7138 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7139 \fi
7140 }
7141 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
7142 \def\@commahyperpage#1, #2,#3\{\%
7143 \ifx\#2\%
7144 \HyInd@pagelink{#1}%
7145 \else
7146 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7147 \fi
7148 }

```

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

```

7149 \def\HyInd@pagelink#1{%
7150 \begingroup
7151 \toks@={}%
7152 \HyInd@removespaces#1 \@nil
7153 \endgroup
7154 }
7155 \def\HyInd@removespaces#1 #2\@nil{%
7156 \toks@=\expandafter{\the\toks@#1}%
7157 \ifx\#2\%
7158 \edef\x{\the\toks@}%
7159 \ifx\x\@empty
7160 \else
7161 \hyperlink{page.\the\toks@}{\the\toks@}%
7162 \fi
7163 \else
7164 \Hy@ReturnAfterFi{%
7165 \HyInd@removespaces#2\@nil
7166 }%
7167 \fi
7168 }

```

## 44 Compatibility with foiltex

```

7169 \@ifclassloaded{foils}{%
7170 \providecommand*\ext@table{lot}%
7171 \providecommand*\ext@figure{lof}%
7172 }{}

```

## 45 Compatibility with seminar slide package

This requires `seminar.bg2`, version 1.6 or later. Contributions by Denis Girou (`denis.girou@idris.fr`).

```

7173 \@ifclassloaded{seminar}{%

```

```

7174 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7175 }{%
7176 \Hy@seminarslidesfalse
7177 }
7178 \ifpackageloaded{slidesec}{%
7179 \newcommand\theHslidesection {\arabic{slidesection}}}%
7180 \newcommand\theHslidesubsection{%
7181 \theHslidesection.\arabic{slidesubsection}}%
7182 }%
7183 \def\slide@heading[#1]#2{%
7184 \H@refstepcounter{slidesection}%
7185 \@addtoreset{slidesubsection}{slidesection}%
7186 \addtocontents{los}{%
7187 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}}%
7188 {\@SCTR}{slideheading.\theslidesection}}%
7189 }%
7190 \def\Hy@tempa{#2}%
7191 \ifx\Hy@tempa\@empty
7192 \else
7193 {%
7194 \edef\@currentlabel{%
7195 \csname p@slidesection\endcsname\theslidesection
7196 }%
7197 \makeslideheading{#2}%
7198 }%
7199 \fi
7200 \gdef\theslideheading{#1}%
7201 \gdef\theslidesubheading{}}%
7202 \ifHy@bookmarksnumbered
7203 \def\Hy@slidetitle{\theslidesection\space #1}%
7204 \else
7205 \def\Hy@slidetitle{#1}%
7206 \fi
7207 \ifHy@hypertextnames
7208 \ifHy@naturalnames
7209 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
7210 \Hy@writebookmark
7211 {\theslidesection}%
7212 {\Hy@slidetitle}%
7213 {slideheading.\theslidesection}%
7214 {1}%
7215 {toc}%
7216 \else
7217 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7218 \Hy@writebookmark
7219 {\theslidesection}%
7220 {\Hy@slidetitle}%
7221 {slideheading.\theHslidesection}%
7222 {1}%
7223 {toc}%
7224 \fi
7225 \else
7226 \Hy@GlobalStepCount\Hy@linkcounter
7227 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7228 \Hy@writebookmark
7229 {\theslidesection}%
7230 {\Hy@slidetitle}%

```

```

7231 {slideheading.\the\Hy@linkcounter}%
7232 {1}%
7233 {toc}%
7234 \fi
7235 }%
7236 \def\slide@subheading[#1]#2{%
7237 \H@refstepcounter{slidesubsection}%
7238 \addtocontents{los}{%
7239 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7240 {\@SCTR}{slideheading.\theslidesubsection}%
7241 }%
7242 \def\Hy@tempa{#2}%
7243 \ifx\Hy@tempa\@empty
7244 \else
7245 {%
7246 \edef\@currentlabel{%
7247 \csname p@slidesubsection\endcsname\theslidesubsection
7248 }%
7249 \makeslidesubheading{#2}%
7250 }%
7251 \fi
7252 \gdef\theslidesubheading{#1}%
7253 \ifHy@bookmarksnumbered
7254 \def\Hy@slidetitle{\theslidesubsection\space #1}%
7255 \else
7256 \def\Hy@slidetitle{#1}%
7257 \fi
7258 \ifHy@hypertexnames
7259 \ifHy@naturalnames
7260 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7261 \Hy@writebookmark
7262 {\theslidesubsection}%
7263 {\Hy@slidetitle}%
7264 {slideheading.\theslidesubsection}%
7265 {2}%
7266 {toc}%
7267 \else
7268 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7269 \Hy@writebookmark
7270 {\theslidesubsection}%
7271 {\Hy@slidetitle}%
7272 {slideheading.\theHslidesubsection}%
7273 {2}%
7274 {toc}%
7275 \fi
7276 \else
7277 \Hy@GlobalStepCount\Hy@linkcounter
7278 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7279 \Hy@writebookmark
7280 {\theslidesubsection}%
7281 {\Hy@slidetitle}%
7282 {slideheading.\the\Hy@linkcounter}%
7283 {1}%
7284 {toc}%
7285 \fi
7286 }%
7287 \providecommand*{\listslidenam}{List of Slides}%

```



```

7288 \def\listofslides{%
7289 \section*{%
7290 \listslidename
7291 \@mkboth{%
7292 \expandafter\MakeUppercase\listslidename
7293 }{%
7294 \expandafter\MakeUppercase\listslidename
7295 }%
7296 }%
7297 \def\l@slide##1##2##3##4{%
7298 \slide@undottedcline{%
7299 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7300 }{%
7301 }%
7302 \let\l@subslide\l@slide
7303 \@startlos
7304 }%
7305 \def\slide@contents{%
7306 \def\l@slide##1##2##3##4{%
7307 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7308 }%
7309 \let\l@subslide\@gobblefour
7310 \@startlos
7311 }%
7312 \def\Slide@contents{%
7313 \def\l@slide##1##2##3##4{%
7314 \ifcase\lslide@flag
7315 \message{##1 ** \the\c@slidesection}%
7316 \ifnum##1>\c@slidesection
7317 \def\lslide@flag{1}%
7318 {%
7319 \large
7320 \slide@ccline{%
7321 \slidenumberline{$\Rightarrow\bullet$}%
7322 {\hyperlink{##4}{##2}}}%
7323 }{##3}%
7324 }%
7325 \else
7326 {%
7327 \large
7328 \slide@ccline{%
7329 \slidenumberline{$\surd\;\bullet$}%
7330 {\hyperlink{##4}{##2}}}%
7331 }{##3}%
7332 }%
7333 \fi
7334 \or
7335 \def\lslide@flag{2}%
7336 {%
7337 \large
7338 \slide@ccline{%
7339 \slidenumberline{\bullet}%
7340 {\hyperlink{##4}{##2}}}%
7341 }{##3}%
7342 }%
7343 \or
7344 {%

```

```

7345 \large
7346 \slide@cline{%
7347 \slidenumberline{\bullet}%
7348 {\hyperlink{##4}{##2}}}%
7349 }{##3}%
7350 }%
7351 \fi
7352 }%
7353 \def\l@subslide##1##2##3##4{%
7354 \ifnum\lslide@flag=1 %
7355 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
7356 \fi
7357 }%
7358 \def\lslide@flag{0}%
7359 \@startlos
7360 }%
7361 }{}

```

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.)

```

7362 \ifHy@texht
7363 \expandafter\endinput
7364 \fi
7365 \let\real@setref\@setref
7366 \def\@setref#1#2#3{% csname, extract group, refname
7367 \ifx#1\relax
7368 \protect\G@refundefinedtrue
7369 \nfss@text{\reset@font\bfseries ??}%
7370 \@latex@warning{%
7371 Reference ‘#3’ on page \thepage \space undefined%
7372 }%
7373 \else
7374 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7375 \fi
7376 }

```

\Hy@setref@link extracts the reference information entries, because \hyper@@link does not expand arguments for the automatic link type detection.

```

7377 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7378 \begingroup
7379 \toks0={\hyper@@link{#5}{#4}}%
7380 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7381 \edef\x{\endgroup
7382 \the\toks0 \the\toks1 }%
7383 }%
7384 \x
7385 }
7386 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7387 \ifx#1\relax
7388 \protect\G@refundefinedtrue
7389 \nfss@text{\reset@font\bfseries ??}%
7390 \@latex@warning{%
7391 Reference ‘#3’ on page \thepage \space undefined%
7392 }%
7393 \else
7394 \protect\hyper@@link
7395 {\expandafter\@fifthoffive#1}%

```

```

7396 {page.\expandafter\@secondoffive#1}%
7397 {\expandafter\@secondoffive#1}%
7398 \fi
7399 }

7400 </package>
7401 <*check>
7402 \checklatex
7403 \checkcommand\def\@setref#1#2#3{%
7404 \ifx#1\relax
7405 \protect\G@refundefinedtrue
7406 \nfss@text{\reset@font\bfseries ??}%
7407 \@latex@warning{%
7408 Reference ‘#3’ on page \thepage\space undefined%
7409 }%
7410 \else
7411 \expandafter#2#1\null
7412 \fi
7413 }
7414 </check>
7415 <*package>

```

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

```

7416 \def\HyRef@StarSetRef#1{%
7417 \begingroup
7418 \Hy@safe@activetrue
7419 \edef\x{#1}%
7420 \@onelevel@sanitize\x
7421 \edef\x{\endgroup
7422 \noexpand\HyRef@@StarSetRef
7423 \expandafter\noexpand\csname r@\x\endcsname{\x}%
7424 }%
7425 \x
7426 }

7427 \def\HyRef@@StarSetRef#1#2#3{%
7428 \ifx#1\@undefined
7429 \let#1\relax
7430 \fi
7431 \real@setref#1#3{#2}%
7432 }

7433 \def\@refstar#1{%
7434 \HyRef@StarSetRef{#1}\@firstoffive
7435 }

7436 \def\@pagerefstar#1{%
7437 \HyRef@StarSetRef{#1}\@secondoffive
7438 }

7439 \AtBeginDocument{%
7440 \@ifpackageloaded{varioref}{%
7441 \def\@Refstar#1{%
7442 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7443 }%
7444 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7445 \MakeUppercase#1%
7446 }%
7447 \DeclareRobustCommand*\ref{\Ref}%
7448 \@ifstar\@Refstar\HyRef@Ref
7449 }%

```

```

7450 \def\HyRef@Ref#1{%
7451 \hyperref[{#1}]{\Ref*{#1}}%
7452 }%
7453 \def\Vr@f#1{%
7454 \leavevmode\unskip\vref@space
7455 \hyperref[{#1}]{%
7456 \Ref*{#1}%
7457 \let\vref@space\nobreakspace
7458 \@vpageref{\unskip}{#1}%
7459 }%
7460 }%
7461 \def\vr@f#1{%
7462 \leavevmode\unskip\vref@space
7463 \begingroup
7464 \let\T@pageref\@pagerefstar
7465 \hyperref[{#1}]{%
7466 \ref*{#1}%
7467 \vpageref{\unskip}{#1}%
7468 }%
7469 \endgroup
7470 }%
7471 }{}%
7472 }
7473 \DeclareRobustCommand*{\autopageref}{%
7474 \@ifstar{%
7475 \HyRef@autopagerefname\pageref*%
7476 }\HyRef@autopageref
7477 }
7478 \def\HyRef@autopageref#1{%
7479 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7480 }
7481 \def\HyRef@autopagerefname{%
7482 \@ifundefined{pageautorefname}{%
7483 \@ifundefined{pagename}{%
7484 \Hy@Warning{No autoref name for 'page'}%
7485 }{%
7486 \pagename\nobreakspace
7487 }%
7488 }{}%
7489 \pageautorefname\nobreakspace
7490 }%
7491 }
7492 \DeclareRobustCommand*{\autoref}{%
7493 \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
7494 }
7495 \def\HyRef@autoref#1#2{%
7496 \begingroup
7497 \Hy@safe@activetrue
7498 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7499 \endgroup
7500 }
7501 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7502 \HyRef@ShowKeysRef{#2}%
7503 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7504 \edef\HyRef@thisref{%
7505 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7506 }%

```

```

7507 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7508 \Hy@safe@activesfalse
7509 #3{%
7510 \expandafter\@fifthoffive#1\@empty\@empty\@empty
7511 }{%
7512 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7513 }{%
7514 \HyRef@currentHtag
7515 \expandafter\@firstoffive#1\@empty\@empty\@empty
7516 \null
7517 }%
7518 \else
7519 \protect\G@refundefinedtrue
7520 \nfss@text{\reset@font\bfseries ??}%
7521 \@latex@warning{%
7522 Reference '#2' on page \thepage\space undefined%
7523 }%
7524 \fi
7525 }
7526 \def\HyRef@testreftype#1.#2\{%
7527 \@ifundefined{#1autorefname}{%
7528 \@ifundefined{#1name}{%
7529 \HyRef@StripStar#1*\@nil{#1}%
7530 \@ifundefined{\HyRef@name autorefname}{%
7531 \@ifundefined{\HyRef@name name}{%
7532 \def\HyRef@currentHtag{%
7533 \Hy@Warning{No autoref name for '#1'}%
7534 }{%
7535 \edef\HyRef@currentHtag{%
7536 \expandafter\noexpand\csname\HyRef@name name\endcsname
7537 \noexpand~%
7538 }%
7539 }%
7540 }{%
7541 \edef\HyRef@currentHtag{%
7542 \expandafter\noexpand
7543 \csname\HyRef@name autorefname\endcsname
7544 \noexpand~%
7545 }%
7546 }%
7547 }{%
7548 \edef\HyRef@currentHtag{%
7549 \expandafter\noexpand\csname#1name\endcsname
7550 \noexpand~%
7551 }%
7552 }%
7553 }{%
7554 \edef\HyRef@currentHtag{%
7555 \expandafter\noexpand\csname#1autorefname\endcsname
7556 \noexpand~%
7557 }%
7558 }%
7559 }
7560 \def\HyRef@StripStar#1*\@nil#3{%
7561 \def\HyRef@name{#2}%
7562 \ifx\HyRef@name\HyRef@CaseStar
7563 \def\HyRef@name{#1}%

```

```

7564 \else
7565 \def\HyRef@name{#3}%
7566 \fi
7567 }
7568 \def\HyRef@CaseStar{*\\}
7569 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7570 \let\HyRef@ShowKeysRef\@gobble
7571 \def\HyRef@ShowKeysInit{%
7572 \begingroup\expandafter\expandafter\expandafter\endgroup
7573 \expandafter\ifx\csname SK@@label\endcsname\relax
7574 \else
7575 \ifx\SK@ref\@empty
7576 \else
7577 \def\HyRef@ShowKeysRef{%
7578 \SK@\SK@@ref
7579 }%
7580 \fi
7581 \fi
7582 }
7583 \ifpackageloaded{showkeys}{%
7584 \HyRef@ShowKeysInit
7585 }{%
7586 \AtBeginDocument{%
7587 \ifpackageloaded{showkeys}{%
7588 \HyRef@ShowKeysInit
7589 }{}%
7590 }%
7591 }

```

Defaults for the names that \autoref uses.

```

7592 \providecommand*\AMSautorefname{\equationautorefname}
7593 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7594 \providecommand*\Itemautorefname{\itemautorefname}
7595 \providecommand*\itemautorefname{item}
7596 \providecommand*\equationautorefname{Equation}
7597 \providecommand*\footnoteautorefname{footnote}
7598 \providecommand*\itemautorefname{item}
7599 \providecommand*\figureautorefname{Figure}
7600 \providecommand*\tableautorefname{Table}
7601 \providecommand*\partautorefname{Part}
7602 \providecommand*\appendixautorefname{Appendix}
7603 \providecommand*\chapterautorefname{chapter}
7604 \providecommand*\sectionautorefname{section}
7605 \providecommand*\subsectionautorefname{subsection}
7606 \providecommand*\subsubsectionautorefname{subsubsection}
7607 \providecommand*\paragraphautorefname{paragraph}
7608 \providecommand*\subparagraphautorefname{subparagraph}
7609 \providecommand*\FancyVerbLineautorefname{line}
7610 \providecommand*\theoremautorefname{Theorem}
7611 \providecommand*\pageautorefname{page}
7612 </package>

```

## 46 Configuration files

### 46.1 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<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```
7613 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7614 \RequirePackage{pdfTEXcmds}[2009/04/10]
7615 \begingroup\expandafter\expandafter\expandafter\endgroup
7616 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7617 \begingroup
7618 \catcode'\| =0 %
7619 \@makeother\| %
7620 |@firstofone{ |endgroup
7621 |def|Hy@pstringdef#1#2{%
7622 |begingroup
7623 |edef~{|string~}%
7624 |xdef|Hy@gtemp{#2}%
7625 |endgroup
7626 |let#1|Hy@gtemp
7627 |@onelevel@sanitize#1%
7628 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7629 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7630 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7631 }%
7632 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7633 #1%
7634 |ifx|\#2\| %
7635 |else
7636 \| %
7637 |Hy@ReturnAfterFi{%
7638 |Hy@ExchangeBackslash#2|@nil
7639 }%
7640 |fi
7641 }%
7642 }%
7643 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7644 #1%
7645 \ifx\#2\| %
7646 \else
7647 \@backslashchar(%
7648 \Hy@ReturnAfterFi{%
7649 \Hy@ExchangeLeftParenthesis#2\@nil
7650 }%
7651 \fi
7652 }%
7653 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7654 #1%
7655 \ifx\#2\| %
7656 \else
7657 \@backslashchar)%
7658 \Hy@ReturnAfterFi{%
```

```

7659 \Hy@ExchangeRightParenthesis#2\@nil
7660 }%
7661 \fi
7662 }%
7663 \else
7664 \def\Hy@pstringdef#1#2{%
7665 \begingroup
7666 \edef~{\string~}%
7667 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7668 \endgroup
7669 \let#1\Hy@gtemp
7670 }%
7671 \fi
7672 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7673 <*pdfTeX>
7674 \providecommand*{\XR@ext}{pdf}
7675 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T<sub>E</sub>X 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<sub>E</sub>X 1.10a, 2003-01-16: \pdfoptionpdfminorversion
- pdfT<sub>E</sub>X 1.30, 2005-08-081: \pdfminorversion

```

7676 \let\Hy@pdfminorversion\relax
7677 \begingroup\expandafter\expandafter\expandafter\endgroup
7678 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7679 \begingroup\expandafter\expandafter\expandafter\endgroup
7680 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7681 \else
7682 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7683 \fi
7684 \else
7685 \def\Hy@pdfminorversion{\pdfminorversion}%
7686 \fi
7687 \ifundefined{Hy@pdfminorversion}{%
7688 \PackageInfo{hyperref}{%
7689 PDF version is not set, because pdfTeX is too old (<1.10a)%
7690 }%
7691 }{%
7692 \ifHy@ocgcolorlinks
7693 \ifnum\Hy@pdfminorversion<5 %
7694 \setkeys{Hyp}{pdfversion=1.5}%
7695 \fi
7696 \fi
7697 \ifHy@setpdfversion
7698 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7699 \else
7700 \Hy@pdfminorversion=\Hy@pdfversion\relax
7701 \fi
7702 \PackageInfo{hyperref}{%
7703 \expandafter\string\Hy@pdfminorversion
7704 :=\number\Hy@pdfversion\space

```



```

7705 }%
7706 \fi
7707 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7708 }
7709 \Hy@DisableOption{pdfversion}%
7710 \ifHy@ocgcolorlinks
7711 \immediate\pdfobj{%
7712 <<%
7713 /Type/OCG%
7714 /Name(View)%
7715 /Usage<<%
7716 /Print<<%
7717 /PrintState/OFF%
7718 >>%
7719 /View<<%
7720 /ViewState/ON%
7721 >>%
7722 >>%
7723 >>%
7724 }%
7725 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7726 \immediate\pdfobj{%
7727 <<%
7728 /Type/OCG%
7729 /Name(Print)%
7730 /Usage<<%
7731 /Print<<%
7732 /PrintState/ON%
7733 >>%
7734 /View<<%
7735 /ViewState/OFF%
7736 >>%
7737 >>%
7738 >>%
7739 }%
7740 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7741 \immediate\pdfobj{%
7742 [%
7743 \OBJ@OCG@view\space\OBJ@OCG@print
7744]%
7745 }%
7746 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7747 \pdfcatalog{%
7748 /OCProperties<<%
7749 /OCGs \OBJ@OCGs
7750 /D<<%
7751 /OFF[\OBJ@OCG@print]%
7752 /AS[%
7753 <<%
7754 /Event/View%
7755 /OCGs \OBJ@OCGs
7756 /Category[/View]%
7757 >>%
7758 <<%
7759 /Event/Print%
7760 /OCGs \OBJ@OCGs
7761 /Category[/Print]%

```

```

7762 >>%
7763 <<%
7764 /Event/Export%
7765 /OCGs \OBJ@OCGs
7766 /Category[/Print]%
7767 >>%
7768]%
7769 >>%
7770 >>%
7771 }%
7772 \begingroup
7773 \edef\x{\endgroup
7774 \pdfpageresources{%
7775 /Properties<<%
7776 /OCView \OBJ@OCG@view
7777 /OCPrint \OBJ@OCG@print
7778 >>%
7779 }%
7780 }%
7781 \x
7782 \AtBeginDocument{%
7783 \def\Hy@colorlink#1{%
7784 \begingroup
7785 \ifHy@ocgcolorlinks
7786 \def\Hy@ocgcolor{#1}%
7787 \setbox0=\color@hbox
7788 \else
7789 \HyColor@UseColor#1%
7790 \fi
7791 }%
7792 \def\Hy@endcolorlink{%
7793 \ifHy@ocgcolorlinks
7794 \color@endbox
7795 \mbox{%
7796 \pdfliteral page{/OC/OCPrint BDC}%
7797 \rlap{\copy0}%
7798 \pdfliteral page{EMC/OC/OCView BDC}%
7799 \begingroup
7800 \expandafter\HyColor@UseColor\Hy@ocgcolor
7801 \box0 %
7802 \endgroup
7803 \pdfliteral page{EMC}%
7804 }%
7805 \fi
7806 \endgroup
7807 }%
7808 }%
7809 \else
7810 \Hy@DisableOption{ocgcolorlinks}%
7811 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

7812 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7813 \ifx\pdfstartlink\@undefined% less than version 14
7814 \let\pdfstartlink\pdfannotlink
7815 \let\pdfinkmargin\@tempdima
7816 \let\pdfxform\pdfform
7817 \let\pdflastxform\pdflastform

```

```

7818 \let\pdfrefxform\pdfrefform
7819 \else
7820 \pdflinkmargin1pt %
7821 \fi

```

First set up the default linking

```
7822 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7823 \def\new@pdfink#1{%
7824 \Hy@SaveLastskip
7825 \Hy@VerboseAnchor{#1}%
7826 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7827 \Hy@DestName\Hy@pstringDest\@pdfview
7828 \Hy@RestoreLastskip
7829 }
7830 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```

7831 \def\Hy@DestName#1#2{%
7832 \pdfdest name{#1}#2\relax
7833 }

```

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.

```

7834 \providecommand*\@pdfborder{0 0 1}
7835 \providecommand*\@pdfborderstyle{}
7836 \def\Hy@undefinedname{UNDEFINED}
7837 \def\find@pdfink#1#2{%
7838 \leavevmode
7839 \protected@edef\Hy@testname{#2}%
7840 \ifx\Hy@testname\@empty
7841 \Hy@Warning{%
7842 Empty destination name,\MessageBreak
7843 using '\Hy@undefinedname'%
7844 }%
7845 \let\Hy@testname\Hy@undefinedname
7846 \else
7847 \Hy@pstringdef\Hy@testname{%
7848 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7849 }%
7850 \fi
7851 \Hy@StartlinkName{%
7852 \ifHy@pdfa /F 4\fi
7853 \Hy@setpdfborder
7854 \ifx\@pdfhighlight\@empty
7855 \else
7856 /H\@pdfhighlight
7857 \fi
7858 \ifx\CurrentBorderColor\relax
7859 \else
7860 /C[\CurrentBorderColor]%
7861 \fi
7862 }\Hy@testname
7863 \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

7864 }
7865 \def\Hy@StartlinkName#1#2{%
7866 \pdfstartlink attr{#1}goto name{#2}\relax
7867 }
7868 \def\close@pdfink{%
7869 \Hy@endcolorlink
7870 \pdfendlink
7871 }
7872 \def\hyper@anchor#1{%
7873 \new@pdfink{#1}\anchor@spot\pdf@endanchor
7874 }
7875 \def\hyper@anchorstart#1{%
7876 \new@pdfink{#1}%
7877 \Hy@activeanchortrue
7878 }
7879 \def\hyper@anchorend{%
7880 \pdf@endanchor
7881 \Hy@activeanchorfalse
7882 }
7883 \def\hyper@linkstart#1#2{%
7884 \Hy@VerboseLinkStart{#1}{#2}%
7885 \@ifundefined{@#1bordercolor}{%
7886 \let\CurrentBorderColor\relax
7887 }{%
7888 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7889 }%
7890 \find@pdfink{#1}{#2}%
7891 }
7892 \def\hyper@linkend{\close@pdfink}
7893 \def\hyper@link#1#2#3{%
7894 \Hy@VerboseLinkStart{#1}{#2}%
7895 \@ifundefined{@#1bordercolor}{%
7896 \let\CurrentBorderColor\relax
7897 }{%
7898 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7899 }%
7900 \find@pdfink{#1}{#2}#3%
7901 \close@pdfink
7902 }
7903 \let\CurrentBorderColor\@linkbordercolor
7904 \def\hyper@linkurl#1#2{%
7905 \begingroup
7906 \Hy@pstringdef\Hy@pstringURI{#2}%
7907 \hyper@chars
7908 \leavevmode
7909 \pdfstartlink
7910 attr{%
7911 \Hy@setpdfborder
7912 \ifx\@pdfhighlight\@empty
7913 \else
7914 /H\@pdfhighlight
7915 \fi
7916 \ifx\@urlbordercolor\relax
7917 \else
7918 /C[\@urlbordercolor]%
7919 \fi
7920 }%

```

```

7921 user{%
7922 /Subtype/Link%
7923 \ifHy@pdfa /F 4\fi
7924 /A<<%
7925 /Type/Action%
7926 /S/URI%
7927 /URI(\Hy@pstringURI)%
7928 >>%
7929 }%
7930 \relax
7931 \Hy@colorlink\@urlcolor#1%
7932 \close@pdfink
7933 \endgroup
7934 }
7935 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7936 \begingroup
7937 \Hy@pstringdef\Hy@pstringF{#2}%
7938 \Hy@pstringdef\Hy@pstringD{#3}%
7939 \leavevmode
7940 \pdfstartlink
7941 attr{%
7942 \Hy@setpdfborder
7943 \ifx\@pdfhighlight\@empty
7944 \else
7945 /H\@pdfhighlight
7946 \fi
7947 \ifx\@filebordercolor\relax
7948 \else
7949 /C[\@filebordercolor]%
7950 \fi
7951 }%
7952 user {%
7953 /Subtype/Link%
7954 \ifHy@pdfa /F 4\fi
7955 /A<<%
7956 /F(\Hy@pstringF)%
7957 /S/GoToR%
7958 \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}

```

```

7959 \ifx\#3\%
7960 /D[0 \@pdfstartview]%
7961 \else
7962 /D(\Hy@pstringD)%
7963 \fi
7964 >>%
7965 }%
7966 \relax

```

```

7967 \Hy@colorlink\@filecolor#1%
7968 \close@pdflink
7969 \endgroup
7970 }
7971 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
7972 \begingroup
7973 \Hy@pstringdef\Hy@pstringF{#1}%
7974 \Hy@pstringdef\Hy@pstringP{#3}%
7975 \leavevmode
7976 \pdfstartlink
7977 attr{%
7978 \Hy@setpdfborder
7979 \ifx\@pdfhighlight\@empty
7980 \else
7981 /H\@pdfhighlight
7982 \fi
7983 \ifx\@runbordercolor\relax
7984 \else
7985 /C[\@runbordercolor]%
7986 \fi
7987 }%
7988 user {%
7989 /Subtype/Link%
7990 \ifHy@pdfa /F 4\fi
7991 /A<<%
7992 /F(\Hy@pstringF)%
7993 /S/Launch%
7994 \Hy@SetNewWindow
7995 \ifx\|#3\|%
7996 \else
7997 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7998 \fi
7999 >>%
8000 }%
8001 \relax
8002 \Hy@colorlink\@runcolor#2%
8003 \close@pdflink
8004 \endgroup
8005 }

```

\@pdfproducer

```

8006 \ifx\@pdfproducer\relax
8007 \begingroup\expandafter\expandafter\expandafter\endgroup
8008 \expandafter\ifx\csname luatexversion\endcsname\relax
8009 \def\@pdfproducer{pdfTeX}%
8010 \ifx\eTeXversion\@undefined
8011 \else
8012 \ifx\eTeXversion\relax
8013 \else
8014 \ifnum\eTeXversion>0 %
8015 \def\@pdfproducer{pdfTeX}%
8016 \fi
8017 \fi
8018 \fi
8019 \ifx\pdfTeXversion\@undefined
8020 \else
8021 \ifnum\pdfTeXversion<100 %

```

```

8022 \edef\@pdfproducer{%
8023 \@pdfproducer
8024 \the\pdfTeXversion.\pdfTeXrevision
8025 }%
8026 \else
8027 \ifnum\pdfTeXversion<130 %
8028 \edef\@pdfproducer{%
8029 \@pdfproducer-%
8030 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8031 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8032 \pdfTeXrevision
8033 }%
8034 \else
8035 \ifnum\pdfTeXversion<140 %
8036 \else
8037 \def\@pdfproducer{pdfTeX}%
8038 \fi
8039 \edef\@pdfproducer{%
8040 \@pdfproducer-%
8041 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8042 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8043 \pdfTeXrevision
8044 }%
8045 \fi
8046 \fi
8047 \fi
8048 \else
8049 \begingroup
8050 \count@=\luaTeXversion
8051 \divide\count@ by 100 %
8052 \edef\x{\the\count@}%
8053 \count@=-\x\relax
8054 \multiply\count@ by 100 %
8055 \advance\count@ by \luaTeXversion
8056 \edef\x{\endgroup
8057 \def\noexpand\@pdfproducer{%
8058 LuaTeX-\x.\the\count@.\luaTeXrevision
8059 }%
8060 }%
8061 \x
8062 \fi
8063 \fi

```

\PDF@SetupDox

```

8064 \def\PDF@SetupDoc{%
8065 \ifx\@pdfpagescrop\@empty
8066 \else
8067 \edef\process@me{%
8068 \pdfpagesattr={%
8069 /CropBox[\@pdfpagescrop]%
8070 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8071 \else
8072 ^^J\the\pdfpagesattr
8073 \fi
8074 }%
8075 }%
8076 \process@me

```

```

8077 \fi
8078 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8079 \pdfcatalog{%
8080 /PageMode/\@pdfpagemode
8081 \ifx\@baseurl\@empty
8082 \else
8083 /URI<</Base(\Hy@pstringB)>>%
8084 \fi
8085 }%
8086 \ifx\@pdfstartpage\@empty
8087 \else
8088 \ifx\@pdfstartview\@empty
8089 \else
8090 openaction goto page\@pdfstartpage{\@pdfstartview}%
8091 \fi
8092 \fi
8093 \edef\Hy@temp{%
8094 \ifHy@toolbar\else /HideToolbar true\fi
8095 \ifHy@menubar\else /HideMenubar true\fi
8096 \ifHy>windowui\else /HideWindowUI true\fi
8097 \ifHy@fitwindow /FitWindow true\fi
8098 \ifHy@centerwindow /CenterWindow true\fi
8099 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8100 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8101 \Hy@UseNameKey{Direction}\@pdfdirection
8102 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8103 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8104 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8105 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8106 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8107 \Hy@UseNameKey{Duplex}\@pdfduplex
8108 \ifx\@pdfpicktraybypdfsize\@empty
8109 \else
8110 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8111 \fi
8112 \ifx\@pdfprintpagerange\@empty
8113 \else
8114 /PrintPageRange[\@pdfprintpagerange]%
8115 \fi
8116 \ifx\@pdfnumcopies\@empty
8117 \else
8118 /NumCopies \@pdfnumcopies
8119 \fi
8120 }%
8121 \pdfcatalog{%
8122 \ifx\Hy@temp\@empty
8123 \else
8124 /ViewerPreferences<<\Hy@temp>>%
8125 \fi
8126 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8127 \ifx\@pdflang\@empty
8128 \else
8129 /Lang(\@pdflang)%
8130 \fi
8131 }%
8132 }

```



\PDF@FinishDoc

```
8133 \def\PDF@FinishDoc{%
8134 \Hy@UseMaketitleInfos
8135 \HyInfo@GenerateAddons
8136 \pdfinfo{%
8137 /Author(\@pdfauthor)%
8138 /Title(\@pdftitle)%
8139 /Subject(\@pdfsubject)%
8140 /Creator(\@pdfcreator)%
8141 \ifx\@pdfcreationdate\@empty
8142 \else
8143 /CreationDate(\@pdfcreationdate)%
8144 \fi
8145 \ifx\@pdfmoddate\@empty
8146 \else
8147 /ModDate(\@pdfmoddate)%
8148 \fi
8149 \ifx\@pdfproducer\relax
8150 \else
8151 /Producer(\@pdfproducer)%
8152 \fi
8153 /Keywords(\@pdfkeywords)%
8154 \ifx\@pdftrapped\@empty
8155 \else
8156 /Trapped/\@pdftrapped
8157 \fi
8158 \HyInfo@Addons
8159 }%
8160 \Hy@DisableOption{pdfauthor}%
8161 \Hy@DisableOption{pdftitle}%
8162 \Hy@DisableOption{pdfsubject}%
8163 \Hy@DisableOption{pdfcreator}%
8164 \Hy@DisableOption{pdfcreationdate}%
8165 \Hy@DisableOption{pdfmoddate}%
8166 \Hy@DisableOption{pdfproducer}%
8167 \Hy@DisableOption{pdfkeywords}%
8168 \Hy@DisableOption{pdftrapped}%
8169 \Hy@DisableOption{pdfinfo}%
8170 }
```

\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.

```
8171 \def\hyper@pagetransition{%
8172 \ifx\@pdfpagetransition\relax
8173 \else
8174 \expandafter\Hy@RemoveTransPageAttr
8175 \the\pdfpageattr^^J/Trans{}}>>\END
8176 \ifx\@pdfpagetransition\@empty
8177 \else
8178 \edef\@processme{%
8179 \global\pdfpageattr{%
8180 \the\pdfpageattr
8181 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8182 }%
8183 }%
8184 \@processme
```

```

8185 \fi
8186 \fi
8187 }

```

`\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.

```

8188 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8189 \ifx\#2\%
8190 \global\pdfpageattr{#1}%
8191 \else
8192 \Hy@RemoveTransPageAttr#1#4\END
8193 \fi
8194 }

```

`\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`.

```

8195 \def\hyper@pageduration{%
8196 \ifx\@pdfpageduration\relax
8197 \else
8198 \expandafter
8199 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
8200 \ifx\@pdfpageduration\@empty
8201 \else
8202 \edef\@processme{%
8203 \global\pdfpageattr{%
8204 \the\pdfpageattr
8205 ^^J/Dur \@pdfpageduration\space
8206 }%
8207 }%
8208 \@processme
8209 \fi
8210 \fi
8211 }

```

`\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.

```

8212 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8213 \ifx\#2\%
8214 \global\pdfpageattr{#1}%
8215 \else
8216 \Hy@RemoveDurPageAttr#1#4\END
8217 \fi
8218 }

```

`\hyper@pagehidden` The boolean value of the key `/Hid` is stored in switch `\ifHy@pdfpagehidden`. First previous `/Hid` entries are removed, then the new one is appended, if the value is true (the PDF default is false).

```

8219 \def\hyper@pagehidden{%
8220 \ifHy@useHidKey
8221 \expandafter
8222 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END

```

```

8223 \ifHy@pdfpagehidden
8224 \edef\@processme{%
8225 \global\pdfpageattr{%
8226 \the\pdfpageattr
8227 ^^J/Hid true % SPACE
8228 }%
8229 }%
8230 \@processme
8231 \fi
8232 \fi
8233 }

```

`\Hy@RemoveHidPageAttr` Macro `\Hy@RemoveHidPageAttr` removes a `/Hid` entry from `\pdfpageattr`. It is called with the end marker `^^J/Hid{} \END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Hid` object or the end marker.

```

8234 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8235 \ifx\#2\%
8236 \global\pdfpageattr{#1}%
8237 \else
8238 \Hy@RemoveHidPageAttr#1#4\END
8239 \fi
8240 }

8241 \g@addto@macro\Hy@EveryPageHook{%
8242 \hyper@pagetransition
8243 \hyper@pageduration
8244 \hyper@pagehidden
8245 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

8246 </pdfTeX>
8247 <*pdfTeX | xetex>
8248 \AtBeginDocument{%
8249 \ifHy@setpagesize
8250 \expandafter\@firstofone
8251 \else
8252 \expandafter\@gobble
8253 \fi
8254 {%
8255 \@ifclassloaded{seminar}{%
8256 <*pdfTeX>
8257 \setlength{\pdfhorigin}{1truein}%
8258 \setlength{\pdfvorigin}{1truein}%
8259 </pdfTeX>
8260 \ifportrait
8261 \ifdim\paperwidth=\z@
8262 \else
8263 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8264 \fi
8265 \ifdim\paperheight=\z@
8266 \else
8267 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8268 \fi
8269 \else
8270 \ifdim\paperheight=\z@
8271 \else

```

```

8272 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8273 \fi
8274 \ifdim\paperwidth=\z@
8275 \else
8276 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8277 \fi
8278 \fi
8279 }{%
8280 \@ifundefined{stockwidth}{%
8281 \ifdim\paperwidth>\z@
8282 \setlength{\pdfpagewidth}{\paperwidth}%
8283 \fi
8284 \ifdim\paperheight>\z@
8285 \setlength{\pdfpageheight}{\paperheight}%
8286 \fi
8287 }{%
8288 \ifdim\stockwidth>\z@
8289 \setlength{\pdfpagewidth}{\stockwidth}%
8290 \fi
8291 \ifdim\stockheight>\z@
8292 \setlength{\pdfpageheight}{\stockheight}%
8293 \fi
8294 }%
8295 }%
8296 }%
8297 \Hy@DisableOption{setpagesize}%
8298 }
8299 </pdfTeX | xetex>
8300 <*pdfTeX>
8301 \def\Acrobatmenu#1#2{%
8302 \Hy@Acrobatmenu{#1}{#2}{%
8303 \pdfstartlink
8304 attr{%
8305 \Hy@setpdfborder
8306 \ifx\@pdfhighlight\@empty
8307 \else
8308 /H\@pdfhighlight
8309 \fi
8310 \ifx\@menubordercolor\relax
8311 \else
8312 /C[\@menubordercolor]%
8313 \fi
8314 }%
8315 user{%
8316 /Subtype/Link%
8317 \ifHy@pdfa /F 4\fi
8318 /A<<%
8319 /S/Named/N/#1%
8320 >>%
8321 }%
8322 \relax
8323 \Hy@colorlink\@menucolor#2%
8324 \close@pdfink
8325 }%
8326 }

```

### 46.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf<sub>T</sub>E<sub>X</sub>'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 pdf<sub>T</sub>E<sub>X</sub>—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`.

```
8327 \def\Hy@FixNotFirstPage{%
8328 \gdef\Hy@FixNotFirstPage{%
8329 \setbox\AtBeginShipoutBox=\hbox{%
8330 \copy\AtBeginShipoutBox
8331 }%
8332 }%
8333 }
8334 \AtBeginShipout{\Hy@FixNotFirstPage}
8335 \</pdfTeX>
```

## 46.3 hypertex

The Hyper<sub>T</sub>E<sub>X</sub> 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:<a href = "href\_string">

**name:** html:<a name = "name\_string">

**end:** html:</a>

**image:** html:<img src = "href\_string">

**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 be 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 <sub>T</sub>E<sub>X</sub> file — the <sub>T</sub>E<sub>X</sub> 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.

```
8336 (*hypertex)
8337 \providecommand*{\XR@ext}{dvi}
8338 \def\PDF@FinishDoc{}
8339 \def\PDF@SetupDoc{%
```

```

8340 \ifx\@baseurl\@empty
8341 \else
8342 \special{html:<base href="\@baseurl">}%
8343 \fi
8344 }
8345 \def\hyper@anchor#1{%
8346 \Hy@SaveLastskip
8347 \Hy@VerboseAnchor{#1}%
8348 \begingroup
8349 \let\protect=\string
8350 \hyper@chars
8351 \special{html:<a name=%
8352 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8353 \endgroup
8354 \Hy@activeanchortrue
8355 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8356 \special{html:}%
8357 \Hy@activeanchorfalse
8358 \Hy@RestoreLastskip
8359 }
8360 \def\hyper@anchorstart#1{%
8361 \Hy@SaveLastskip
8362 \Hy@VerboseAnchor{#1}%
8363 \begingroup
8364 \hyper@chars
8365 \special{html:<a name=%
8366 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8367 \endgroup
8368 \Hy@activeanchortrue
8369 }
8370 \def\hyper@anchorend{%
8371 \special{html:}%
8372 \Hy@activeanchorfalse
8373 \Hy@RestoreLastskip
8374 }
8375 \def\@urltype{url}
8376 \def\hyper@linkstart#1#2{%
8377 \Hy@VerboseLinkStart{#1}{#2}%
8378 \expandafter\Hy@colorlink\csname @#1color\endcsname
8379 \def\Hy@tempa{#1}%
8380 \ifx\Hy@tempa\@urltype
8381 \special{html:}%
8382 \else
8383 \begingroup
8384 \hyper@chars
8385 \special{html:<a href=%
8386 \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
8387 \endgroup
8388 \fi
8389 }
8390 \def\hyper@linkend{%
8391 \special{html:}%
8392 \Hy@endcolorlink
8393 }
8394 \def\hyper@linkfile#1#2#3{%
8395 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8396 }

```

```
8397 \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.

```
8398 \leavevmode
8399 \ifHy@raiselinks
8400 \setbox\@tempboxa=\color@hbox #1\color@endbox
8401 \@linkdim\dp\@tempboxa
8402 \lower\@linkdim\hbox{%
8403 \hyper@chars
8404 \special{html:}%
8405 }%
8406 \Hy@colorlink\@urlcolor#1%
8407 \@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 `dvi`s (Jan 1997).

```
8408 \advance\@linkdim by -6.5\p@
8409 \raise\@linkdim\hbox{\special{html:}}%
8410 \Hy@endcolorlink
8411 \else
8412 \begingroup
8413 \hyper@chars
8414 \special{html:}%
8415 \Hy@colorlink\@urlcolor#1%
8416 \special{html:}%
8417 \Hy@endcolorlink
8418 \endgroup
8419 \fi
8420 }
```

Very poor implementation of `\hyper@link` without considering `#1`.

```
8421 \def\hyper@link#1#2#3{%
8422 \Hy@VerboseLinkStart{#1}{#2}%
8423 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
8424 }

8425 \def\hyper@image#1#2{%
8426 \begingroup
8427 \hyper@chars
8428 \special{html:}%
8429 \endgroup
8430 }
8431 </hypertex>
8432 <*dviwindo>
```

## 46.4 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.

```

8433 \providecommand*{\XR@ext}{dvi}
8434 \providecommand*{\wwwbrowser{c:\string\netscape\string\netscape}
8435 \def\hyper@anchor#1{%
8436 \Hy@SaveLastskip
8437 \Hy@VerboseAnchor{#1}%
8438 \begingroup
8439 \let\protect=\string
8440 \special{mark: #1}%
8441 \endgroup
8442 \Hy@activeanchortrue
8443 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8444 \Hy@activeanchorfalse
8445 \Hy@RestoreLastskip
8446 }
8447 \def\hyper@anchorstart#1{%
8448 \Hy@SaveLastskip
8449 \Hy@VerboseAnchor{#1}%
8450 \special{mark: #1}%
8451 \Hy@activeanchortrue
8452 }
8453 \def\hyper@anchorend{%
8454 \Hy@activeanchorfalse
8455 \Hy@RestoreLastskip
8456 }
8457 \def\hyper@linkstart#1#2{%
8458 \Hy@VerboseLinkStart{#1}{#2}%
8459 \expandafter\Hy@colorlink\csname @#1color\endcsname
8460 \special{button: %
8461 10000000 %
8462 \number\baselineskip\space
8463 #2%
8464 }%
8465 }
8466 \def\hyper@linkend{%
8467 \Hy@endcolorlink
8468 }
8469 \def\hyper@link#1#2#3{%
8470 \Hy@VerboseLinkStart{#1}{#2}%
8471 \setbox\@tempboxa=\color@hbox #3\color@endbox
8472 \leavevmode
8473 \ifHy@raiselinks
8474 \@linkdim\dp\@tempboxa
8475 \lower\@linkdim\hbox{%
8476 \special{button: %
8477 \number\wd\@tempboxa\space
8478 \number\ht\@tempboxa\space
8479 #2%
8480 }%
8481 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8482 \Hy@endcolorlink
8483 }%
8484 \@linkdim\ht\@tempboxa
8485 \advance\@linkdim by -6.5\p@
8486 \raise\@linkdim\hbox{}%
8487 \else

```



```

8488 \special{button: %
8489 \number\wd\@tempboxa\space
8490 \number\ht\@tempboxa\space
8491 #2%
8492 }%
8493 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8494 \Hy@endcolorlink
8495 \fi
8496 }
8497 \def\hyper@linkurl#1#2{%
8498 \begingroup
8499 \hyper@chars
8500 \leavevmode
8501 \setbox\@tempboxa=\color@hbox #1\color@endbox
8502 \ifHy@raiselinks
8503 \@linkdim\dp\@tempboxa
8504 \lower\@linkdim\hbox{%
8505 \special{button: %
8506 \number\wd\@tempboxa\space
8507 \number\ht\@tempboxa\space
8508 launch: \wwwbrowser\space
8509 #2%
8510 }%
8511 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8512 }%
8513 \@linkdim\ht\@tempboxa
8514 \advance\@linkdim by -6.5\p@
8515 \raise\@linkdim\hbox{}}%
8516 \else
8517 \special{button: %
8518 \number\wd\@tempboxa\space
8519 \number\ht\@tempboxa\space
8520 launch: \wwwbrowser\space
8521 #2%
8522 }%
8523 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8524 \fi
8525 \endgroup
8526 }
8527 \def\hyper@linkfile#1#2#3{%
8528 \begingroup
8529 \hyper@chars
8530 \leavevmode
8531 \setbox\@tempboxa=\color@hbox #1\color@endbox
8532 \ifHy@raiselinks
8533 \@linkdim\dp\@tempboxa
8534 \lower\@linkdim\hbox{%
8535 \special{button: %
8536 \number\wd\@tempboxa\space
8537 \number\ht\@tempboxa\space
8538 #3,%
8539 file: #2%
8540 }%
8541 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8542 }%
8543 \@linkdim\ht\@tempboxa
8544 \advance\@linkdim by -6.5\p@

```

```

8545 \raise\@linkdim\hbox{}%
8546 \else
8547 \special{button: %
8548 \number\wd\@tempboxa\space
8549 \number\ht\@tempboxa\space
8550 #3,%
8551 file: #2%
8552 }%
8553 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8554 \fi
8555 \endgroup
8556 }
8557 \ifx\@pdfproducer\relax
8558 \def\@pdfproducer{dviwindo + Distiller}%
8559 \fi
8560 \HyInfo@AddonUnsupportedtrue
8561 \def\PDF@FinishDoc{%
8562 \Hy@UseMaketitleInfos
8563 \HyInfo@TrappedUnsupported
8564 \special{PDF: Keywords \@pdfkeywords}%
8565 \special{PDF: Title \@pdftitle}%
8566 \special{PDF: Creator \@pdfcreator}%
8567 \ifx\@pdfcreationdate\@empty
8568 \else
8569 \special{PDF: CreationDate \@pdfcreationdate}%
8570 \fi
8571 \ifx\@pdfmoddate\@empty
8572 \else
8573 \special{PDF: ModDate \@pdfmoddate}%
8574 \fi
8575 \special{PDF: Author \@pdfauthor}%
8576 \ifx\@pdfproducer\relax
8577 \else
8578 \special{PDF: Producer \@pdfproducer}%
8579 \fi
8580 \special{PDF: Subject \@pdfsubject}%
8581 \Hy@DisableOption{pdfauthor}%
8582 \Hy@DisableOption{pdftitle}%
8583 \Hy@DisableOption{pdfsubject}%
8584 \Hy@DisableOption{pdfcreator}%
8585 \Hy@DisableOption{pdfcreationdate}%
8586 \Hy@DisableOption{pdfmoddate}%
8587 \Hy@DisableOption{pdfproducer}%
8588 \Hy@DisableOption{pdfkeywords}%
8589 \Hy@DisableOption{pdftrapped}%
8590 \Hy@DisableOption{pdfinfo}%
8591 }
8592 \def\PDF@SetupDoc{%
8593 \ifx\@baseurl\@empty
8594 \else
8595 \special{PDF: Base \@baseurl}%
8596 \fi
8597 \ifx\@pdfpagescrop\@empty\else
8598 \special{PDF: BBox \@pdfpagescrop}%
8599 \fi
8600 \def\Hy@temp{}%
8601 \ifx\@pdfstartpage\@empty

```

```

8602 \else
8603 \ifx\@pdfstartview\@empty
8604 \else
8605 \edef\Hy@temp{%
8606 ,Page=\@pdfstartpage
8607 ,View=\@pdfstartview
8608 }%
8609 \fi
8610 \fi
8611 \edef\Hy@temp{%
8612 \noexpand\pdfmark{%
8613 pdfmark=/DOCVIEW,%
8614 PageMode=/\@pdfpagemode
8615 \Hy@temp
8616 }%
8617 }%
8618 \Hy@temp
8619 \ifx\@pdfpagescrop\@empty
8620 \else
8621 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8622 \fi
8623 \edef\Hy@temp{%
8624 \ifHy@toolbar\else /HideToolbar true\fi
8625 \ifHy@menubar\else /HideMenubar true\fi
8626 \ifHy>windowui\else /HideWindowUI true\fi
8627 \ifHy@fitwindow /FitWindow true\fi
8628 \ifHy@centerwindow /CenterWindow true\fi
8629 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8630 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
8631 \Hy@UseNameKey{Direction}\@pdfdirection
8632 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8633 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8634 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8635 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8636 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8637 \Hy@UseNameKey{Duplex}\@pdfduplex
8638 \ifx\@pdfpicktraybypdfsize\@empty
8639 \else
8640 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8641 \fi
8642 \ifx\@pdfprintpagerange\@empty
8643 \else
8644 /PrintPageRange[\@pdfprintpagerange]%
8645 \fi
8646 \ifx\@pdfnumcopies\@empty
8647 \else
8648 /NumCopies \@pdfnumcopies
8649 \fi
8650 }%
8651 \pdfmark{pdfmark=/PUT,%
8652 Raw={%
8653 \string{Catalog\string}<<%
8654 \ifx\Hy@temp\@empty
8655 \else
8656 /ViewerPreferences<<\Hy@temp>>%
8657 \fi
8658 \Hy@UseNameKey{PageLayout}\@pdfpagelayout

```

```

8659 \ifx\@pdflang\@empty
8660 \else
8661 /Lang(\@pdflang)%
8662 \fi
8663 >>%
8664 }%
8665 }%
8666 }
8667 </dviwindo>
8668 <*dvi pdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8669 \providecommand*{\XR@ext}{pdf}
8670 \Hy@setbreaklinks{true}
8671 \newsavebox{\pdfm@box}
8672 \def\@pdfm@mark#1{\special{pdf:#1}}
8673 \def\@pdfm@dest#1{%
8674 \Hy@SaveLastskip
8675 \Hy@VerboseAnchor{#1}%
8676 \begingroup
8677 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8678 \def\x{XYZ}%
8679 \ifx\x\@pdfview
8680 \def\x{XYZ @xpos @ypos null}%
8681 \else
8682 \def\x{FitH}%
8683 \ifx\x\@pdfview
8684 \def\x{FitH @ypos}%
8685 \else
8686 \def\x{FitBH}%
8687 \ifx\x\@pdfview
8688 \def\x{FitBH @ypos}%
8689 \else
8690 \def\x{FitV}%
8691 \ifx\x\@pdfview
8692 \def\x{FitV @xpos}%
8693 \else
8694 \def\x{FitBV}%
8695 \ifx\x\@pdfview
8696 \def\x{FitBV @xpos}%
8697 \else
8698 \def\x{Fit}%
8699 \ifx\x\@pdfview
8700 \let\x\@pdfview
8701 \else
8702 \def\x{FitB}%
8703 \ifx\x\@pdfview
8704 \let\x\@pdfview
8705 \else
8706 \def\x{FitR}%
8707 \ifx\x\@pdfview
8708 \Hy@Warning{'pdfview=FitR' is not supported}%
8709 \def\x{XYZ @xpos @ypos null}%
8710 \else
8711 \@onelevel@sanitize\@pdfview

```

```

8712 \Hy@Warning{%
8713 Unknown value '\@pdfview' for pdfview%
8714 }%
8715 \def\x{XYZ @xpos @ypos null}%
8716 \fi
8717 \fi
8718 \fi
8719 \fi
8720 \fi
8721 \fi
8722 \fi
8723 \fi
8724 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8725 \endgroup
8726 \Hy@RestoreLastskip
8727 }
8728 \providecommand*\@pdfview{XYZ}
8729 \providecommand*\@pdfborder{0 0 1}
8730 \providecommand*\@pdfborderstyle{}
8731 \def\hyper@anchor#1{%
8732 \@pdfm@dest{#1}%
8733 }
8734 \def\hyper@anchorstart#1{%
8735 \Hy@activeanchortrue
8736 \@pdfm@dest{#1}%
8737 }
8738 \def\hyper@anchorend{%
8739 \Hy@activeanchorfalse
8740 }
8741 \newcounter{Hy@AnnotLevel}
8742 \ifHy@ocgcolorlinks
8743 \def\OBJ@OCG@view{@OCG@view}%
8744 \@pdfm@mark{%
8745 obj \OBJ@OCG@view <<%
8746 /Type/OCG%
8747 /Name(View)%
8748 /Usage<<%
8749 /Print<<%
8750 /PrintState/OFF%
8751 >>%
8752 /View<<%
8753 /ViewState/ON%
8754 >>%
8755 >>%
8756 }%
8757 }%
8758 \@pdfm@mark{close \OBJ@OCG@view}%
8759 \def\OBJ@OCG@print{@OCG@print}%
8760 \@pdfm@mark{%
8761 obj \OBJ@OCG@print <<%
8762 /Type/OCG%
8763 /Name(Print)%
8764 /Usage<<%
8765 /Print<<%
8766 /PrintState/ON%
8767 >>%
8768 /View<<%

```

```

8769 /ViewState/OFF%
8770 >>%
8771 >>%
8772 >>%
8773 }%
8774 \@pdfm@mark{close \OBJ@OCG@print}%
8775 \def\OBJ@OCGs{@OCGs}%
8776 \@pdfm@mark{%
8777 obj \OBJ@OCGs [%
8778 \OBJ@OCG@view\space\OBJ@OCG@print
8779]%
8780 }%
8781 \@pdfm@mark{close \OBJ@OCGs}%
8782 \@pdfm@mark{%
8783 put @catalog <<%
8784 /OCProperties<<%
8785 /OCGs \OBJ@OCGs
8786 /D<<%
8787 /OFF[\OBJ@OCG@print]%
8788 /AS[%
8789 <<%
8790 /Event/View%
8791 /OCGs \OBJ@OCGs
8792 /Category[/View]%
8793 >>%
8794 <<%
8795 /Event/Print%
8796 /OCGs \OBJ@OCGs
8797 /Category[/Print]%
8798 >>%
8799 <<%
8800 /Event/Export%
8801 /OCGs \OBJ@OCGs
8802 /Category[/Print]%
8803 >>%
8804]%
8805 >>%
8806 >>%
8807 >>%
8808 }%
8809 \AtBeginShipout{%
8810 \setbox\AtBeginShipoutBox=\hbox{%
8811 \copy\AtBeginShipoutBox
8812 \@pdfm@mark{%
8813 put @resources <<%
8814 /Properties<<%
8815 /OCView \OBJ@OCG@view
8816 /OCPrint \OBJ@OCG@print
8817 >>%
8818 >>%
8819]%
8820 }%
8821 }%
8822 \AtBeginDocument{%
8823 \def\Hy@colorlink#1{%
8824 \begingroup
8825 \ifHy@ocgcolorlinks

```

```

8826 \def\Hy@ocgcolor{#1}%
8827 \setbox0=\color@hbox
8828 \else
8829 \HyColor@UseColor#1%
8830 \fi
8831 }%
8832 \def\Hy@endcolorlink{%
8833 \ifHy@ocgcolorlinks
8834 \color@endbox
8835 \mbox{%
8836 \@pdfm@mark{content /OC/OCPrint BDC}%
8837 \rlap{\copy0}%
8838 \@pdfm@mark{content EMC/OC/OCView BDC}%
8839 \begingroup
8840 \expandafter\HyColor@UseColor\Hy@ocgcolor
8841 \box0 %
8842 \endgroup
8843 \@pdfm@mark{content EMC}%
8844 }%
8845 \fi
8846 \endgroup
8847 }%
8848 }%
8849 \else
8850 \Hy@DisableOption{ocgcolorlinks}%
8851 \fi

8852 \def\Hy@BeginAnnot#1{%
8853 \stepcounter{Hy@AnnotLevel}%
8854 \ifnum\value{Hy@AnnotLevel}=\@ne
8855 #1%
8856 \fi
8857 }
8858 \def\Hy@endAnnot{%
8859 \ifnum\value{Hy@AnnotLevel}=\@ne
8860 \Hy@endcolorlink
8861 \@pdfm@mark{eann}%
8862 \fi
8863 \addtocounter{Hy@AnnotLevel}\m@ne
8864 }

8865 \def\Hy@undefinedname{UNDEFINED}
8866 \def\hyper@linkstart#1#2{%
8867 \Hy@VerboseLinkStart{#1}{#2}%
8868 \Hy@BeginAnnot{%
8869 \protected@edef\Hy@testname{#2}%
8870 \ifx\Hy@testname\@empty
8871 \Hy@Warning{%
8872 Empty destination name,\MessageBreak
8873 using '\Hy@undefinedname'%
8874 }%
8875 \let\Hy@testname\Hy@undefinedname
8876 \else
8877 \Hy@pstringdef\Hy@testname{%
8878 \expandafter\HyperDestNameFilter\expandafter{%
8879 \Hy@testname
8880 }%
8881 }%
8882 \fi

```

```

8883 \pdfmark{
8884 bann<<
8885 /Type/Annot
8886 /Subtype/Link
8887 \ifHy@pdfa /F 4\fi
8888 \Hy@setpdfborder
8889 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8890 \else
8891 /C[\csname @#1bordercolor\endcsname]
8892 \fi
8893 /A<<
8894 /S/GoTo
8895 /D(\Hy@testname)
8896 >>
8897 >>
8898 }
8899 \expandafter\Hy@colorlink\csname @#1color\endcsname
8900 }
8901 }
8902 \def\hyper@linkend{\Hy@endAnnot}%
8903 \def\hyper@link#1#2#3{
8904 \hyper@linkstart{#1}{#2}#3\hyper@linkend
8905 }
8906 \def\hyper@linkfile#1#2#3{
8907 \leavevmode
8908 \Hy@BeginAnnot{
8909 \Hy@pstringdef\Hy@pstringF{#2}%
8910 \Hy@pstringdef\Hy@pstringD{#3}%
8911 \pdfmark{
8912 bann<<
8913 /Type/Annot
8914 /Subtype/Link
8915 \ifHy@pdfa /F 4\fi
8916 \Hy@setpdfborder
8917 \ifx\@filebordercolor\relax
8918 \else
8919 /C[\@filebordercolor]
8920 \fi
8921 /A<<
8922 /S/GoToR
8923 /F(\Hy@pstringF)
8924 /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)\fi
8925 \Hy@SetNewWindow
8926 >>
8927 >>
8928 }
8929 \Hy@colorlink\@filecolor
8930 }
8931 #1
8932 \Hy@endAnnot
8933 }
8934 \def\hyper@linkurl#1#2{
8935 \leavevmode
8936 \Hy@BeginAnnot{
8937 \Hy@pstringdef\Hy@pstringURI{#2}%
8938 \pdfmark{
8939 bann<<

```



```

8940 /Type/Annot%
8941 /Subtype/Link%
8942 \ifHy@pdfa /F 4\fi
8943 \Hy@setpdfborder
8944 \ifx\@urlbordercolor\relax
8945 \else
8946 /C[\@urlbordercolor]%
8947 \fi
8948 /A<<%
8949 /S/URI%
8950 /URI(\Hy@pstringURI)%
8951 >>%
8952 >>%
8953 }%
8954 \Hy@colorlink\@urlcolor
8955 }%
8956 #1%
8957 \Hy@endAnnot
8958 }
8959 \def\Acrobatmenu#1#2{%
8960 \Hy@Acrobatmenu{#1}{#2}{%
8961 \Hy@BeginAnnot{%
8962 \@pdfm@mark{%
8963 bann<<%
8964 /Type/Annot%
8965 /Subtype/Link%
8966 \ifHy@pdfa /F 4\fi
8967 /A<<%
8968 /S/Named%
8969 /N/#1%
8970 >>%
8971 \Hy@setpdfborder
8972 \ifx\@menubordercolor\relax
8973 \relax
8974 /C[\@menubordercolor]%
8975 \fi
8976 >>%
8977 }%
8978 \Hy@colorlink\@menucolor
8979 }%
8980 #2%
8981 \Hy@endAnnot
8982 }%
8983 }
8984 \ifx\@pdfproducer\relax
8985 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>T</sub>TeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8986 \begingroup\expandafter\expandafter\expandafter\endgroup
8987 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8988 \else
8989 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8990 \fi
8991 \fi
8992 \def\PDF@FinishDoc{%
8993 \Hy@UseMaketitleInfos
8994 \HyInfo@GenerateAddons
8995 \@pdfm@mark{%

```

```

8996 docinfo<<%
8997 /Title(\@pdftitle)%
8998 /Subject(\@pdfsubject)%
8999 /Creator(\@pdfcreator)%
9000 \ifx\@pdfcreationdate\@empty
9001 \else
9002 /CreationDate(\@pdfcreationdate)%
9003 \fi
9004 \ifx\@pdfmoddate\@empty
9005 \else
9006 /ModDate(\@pdfmoddate)%
9007 \fi
9008 /Author(\@pdfauthor)%
9009 \ifx\@pdfproducer\relax
9010 \else
9011 /Producer(\@pdfproducer)%
9012 \fi
9013 /Keywords(\@pdfkeywords)%
9014 \ifx\@pdftrapped\@empty
9015 \else
9016 /Trapped/\@pdftrapped
9017 \fi
9018 \HyInfo@Addons
9019 >>%
9020 }%
9021 \Hy@DisableOption{pdfauthor}%
9022 \Hy@DisableOption{pdftitle}%
9023 \Hy@DisableOption{pdfsubject}%
9024 \Hy@DisableOption{pdfcreator}%
9025 \Hy@DisableOption{pdfcreationdate}%
9026 \Hy@DisableOption{pdfmoddate}%
9027 \Hy@DisableOption{pdfproducer}%
9028 \Hy@DisableOption{pdfkeywords}%
9029 \Hy@DisableOption{pdftrapped}%
9030 \Hy@DisableOption{pdfinfo}%
9031 }
9032 \def\PDF@SetupDoc{%
9033 \edef\Hy@temp{%
9034 \ifHy@toolbar\else /HideToolbar true\fi
9035 \ifHy@menubar\else /HideMenubar true\fi
9036 \ifHy>windowui\else /HideWindowUI true\fi
9037 \ifHy@fitwindow /FitWindow true\fi
9038 \ifHy@centerwindow /CenterWindow true\fi
9039 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9040 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9041 \Hy@UseNameKey{Direction}\@pdfdirection
9042 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9043 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9044 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9045 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9046 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9047 \Hy@UseNameKey{Duplex}\@pdfduplex
9048 \ifx\@pdfpicktraybypdfsize\@empty
9049 \else
9050 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9051 \fi
9052 \ifx\@pdfprintpagerange\@empty

```

```

9053 \else
9054 /PrintPageRange[\@pdfprintpagerange]%
9055 \fi
9056 \ifx\@pdfnumcopies\@empty
9057 \else
9058 /NumCopies \@pdfnumcopies
9059 \fi
9060 }%
9061 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9062 \@pdfm@mark{%
9063 docview<<%
9064 \ifx\@pdfstartpage\@empty
9065 \else
9066 \ifx\@pdfstartview\@empty
9067 \else
9068 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9069 \fi
9070 \fi
9071 \ifx\@baseurl\@empty
9072 \else
9073 /URI<</Base(\Hy@pstringB)>>%
9074 \fi
9075 /PageMode/\@pdfpagemode
9076 \ifx\Hy@temp\@empty
9077 \else
9078 /ViewerPreferences<<\Hy@temp>>%
9079 \fi
9080 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9081 \ifx\@pdflang\@empty
9082 \else
9083 /Lang(\@pdflang)%
9084 \fi
9085 >>%
9086 }%
9087 \ifx\@pdfpagescrop\@empty
9088 \else
9089 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9090 \fi
9091 }
9092 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

9093 <*dvipdfm>
9094 \AtBeginShipoutFirst{%
9095 \ifHy@setpagesize
9096 \begingroup
9097 \ifundefined{stockwidth}{%
9098 \ifdim\paperwidth>\z@
9099 \ifdim\paperheight>\z@
9100 \special{papersize=\the\paperwidth,\the\paperheight}%
9101 \fi
9102 \fi
9103 }{%
9104 \ifdim\stockwidth>\z@
9105 \ifdim\stockheight>\z@
9106 \special{papersize=\the\stockwidth,\the\stockheight}%
9107 \fi

```

```

9108 \fi
9109 }%
9110 \endgroup
9111 \fi
9112 \Hy@DisableOption{setpagesize}%
9113 }
9114 </dvipdfm>

```

## 46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

9115 <*vtexhtml>
9116 \providecommand*{\XR@ext}{htm}
9117 \RequirePackage{vtexhtml}
9118 \newif\if@Localurl
9119 \def\PDF@FinishDoc{}
9120 \def\PDF@SetupDoc{%
9121 \ifx\@baseurl\@empty
9122 \else
9123 \special{!direct <base href="\@baseurl">}%
9124 \fi
9125 }
9126 \def\@urltype{url}
9127 \def\hyper@link#1#2#3{%
9128 \Hy@VerboseLinkStart{#1}{#2}%
9129 \leavevmode
9130 \special{!direct <a href=%
9131 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9132 #3%
9133 \special{!direct }%
9134 }
9135 \def\hyper@linkurl#1#2{%
9136 \begingroup
9137 \hyper@chars
9138 \leavevmode
9139 \MathBSuppress=1\relax
9140 \special{!direct <a href=%
9141 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9142 #1%
9143 \MathBSuppress=0\relax
9144 \special{!direct }%
9145 \endgroup
9146 }
9147 \def\hyper@linkfile#1#2#3{%
9148 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\##3\fi}%
9149 }
9150 \def\hyper@linkstart#1#2{%
9151 \Hy@VerboseLinkStart{#1}{#2}%
9152 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
9153 \@Localurltrue
9154 \special{!direct }%
9155 \else
9156 \@Localurlfalse
9157 \begingroup
9158 \hyper@chars
9159 \special{!aref \HyperDestNameFilter{#2}}%

```

```

9160 \endgroup
9161 \fi
9162 }
9163 \def\hyper@linkend{%
9164 \if@Localurl
9165 \special{!endaref}%
9166 \else
9167 \special{!direct }%
9168 \fi
9169 }
9170 \def\hyper@anchorstart#1{%
9171 \Hy@SaveLastskip
9172 \Hy@VerboseAnchor{#1}%
9173 \begingroup
9174 \hyper@chars
9175 \special{!aname #1}%
9176 \special{!direct <a name=%
9177 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9178 \endgroup
9179 \Hy@Activeanchortrue
9180 }
9181 \def\hyper@anchorend{%
9182 \special{!direct }%
9183 \Hy@Activeanchorfalse
9184 \Hy@RestoreLastskip
9185 }
9186 \def\hyper@anchor#1{%
9187 \Hy@SaveLastskip
9188 \Hy@VerboseAnchor{#1}%
9189 \begingroup
9190 \let\protect=\string
9191 \hyper@chars
9192 \leavevmode
9193 \special{!aname #1}%
9194 \special{!direct <a name=%
9195 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9196 \endgroup
9197 \Hy@Activeanchortrue
9198 \bgroup\anchor@spot\egroup
9199 \special{!direct }%
9200 \Hy@Activeanchorfalse
9201 \Hy@RestoreLastskip
9202 }
9203 \def\@Form[#1]{%
9204 \typeout{Sorry, TeXpider does not yet support FORMs}%
9205 }
9206 \def\@endForm{}
9207 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9208 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9209 }
9210 \def\@TextField[#1]#2{% parameters, label
9211 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9212 }
9213 \def\@CheckBox[#1]#2{% parameters, label
9214 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9215 }
9216 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices

```

```

9217 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9218 }
9219 \def\@PushButton[#1]#2{% parameters, label
9220 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9221 }
9222 \def\@Reset[#1]#2{%
9223 \typeout{Sorry, TeXpider does not yet support FORMs}%
9224 }
9225 \def\@Submit[#1]#2{%
9226 \typeout{Sorry, TeXpider does not yet support FORMs}%
9227 }
9228 </vtexhtml>
9229 <*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.

```

9230 \ifx\mediaheight\@undefined
9231 \else
9232 \ifx\mediaheight\relax
9233 \else
9234 \ifHy@setpagesize
9235 \providecommand*\VTeXInitMediaSize{%
9236 \ifundefined{stockwidth}{%
9237 \ifdim\paperheight>0pt %
9238 \setlength\mediaheight\paperheight
9239 \fi
9240 \ifdim\paperheight>0pt %
9241 \setlength\mediawidth\paperwidth
9242 \fi
9243 }{%
9244 \ifdim\stockheight>0pt %
9245 \setlength\mediaheight\stockheight
9246 \fi
9247 \ifdim\stockwidth>0pt %
9248 \setlength\mediawidth\stockwidth
9249 \fi
9250 }%
9251 }%
9252 \AtBeginDocument{\VTeXInitMediaSize}%
9253 \fi
9254 \Hy@DisableOption{setpagesize}%
9255 \fi
9256 \fi

```

Older versions of VTeX require xyz in lower case.

```

9257 \providecommand*\@pdfview{xyz}
9258 \providecommand*\@pdfborder{0 0 1}
9259 \providecommand*\@pdfborderstyle{}
9260 \let\CurrentBorderColor\@linkbordercolor
9261 \def\hyper@anchor#1{%
9262 \Hy@SaveLastskip
9263 \Hy@VerboseAnchor{#1}%
9264 \begingroup
9265 \let\protect=\string
9266 \hyper@chars
9267 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9268 \endgroup

```

```

9269 \Hy@activeanchortrue
9270 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9271 \Hy@activeanchorfalse
9272 \Hy@RestoreLastskip
9273 }
9274 \def\hyper@anchorstart#1{%
9275 \Hy@SaveLastskip
9276 \Hy@VerboseAnchor{#1}%
9277 \begingroup
9278 \hyper@chars
9279 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9280 \endgroup
9281 \Hy@activeanchortrue
9282 }
9283 \def\hyper@anchorend{%
9284 \Hy@activeanchorfalse
9285 \Hy@RestoreLastskip
9286 }
9287 \def\@urltype{url}
9288 \def\Hy@undefinedname{UNDEFINED}
9289 \def\hyper@linkstart#1#2{%
9290 \Hy@VerboseLinkStart{#1}{#2}%
9291 \Hy@pstringdef\Hy@pstringURI{#2}%
9292 \expandafter\Hy@colorlink\csname @#1color\endcsname
9293 \@ifundefined{@#1bordercolor}{%
9294 \let\CurrentBorderColor\relax
9295 }{%
9296 \edef\CurrentBorderColor{%
9297 \csname @#1bordercolor\endcsname
9298 }%
9299 }%
9300 \def\Hy@tempa{#1}%
9301 \ifx\Hy@tempa\@urltype
9302 \special{!%
9303 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9304 a=<%
9305 \ifHy@pdfa /F 4\fi
9306 \Hy@setpdfborder
9307 \ifx\CurrentBorderColor\relax
9308 \else
9309 /C [\CurrentBorderColor]%
9310 \fi
9311 >%
9312 }%
9313 \else
9314 \protected@edef\Hy@testname{#2}%
9315 \ifx\Hy@testname\@empty
9316 \Hy@Warning{%
9317 Empty destination name,\MessageBreak
9318 using '\Hy@undefinedname'%
9319 }%
9320 \let\Hy@testname\Hy@undefinedname
9321 \fi
9322 \special{!%
9323 aref \expandafter\HyperDestNameFilter
9324 \expandafter{\Hy@testname};%
9325 a=<%

```

```

9326 \ifHy@pdfa /F 4\fi
9327 \Hy@setpdfborder
9328 \ifx\CurrentBorderColor\relax
9329 \else
9330 /C [\CurrentBorderColor]%
9331 \fi
9332 >%
9333 }%
9334 \fi
9335 }
9336 \def\hyper@linkend{%
9337 \special{!endaref}%
9338 \Hy@endcolorlink
9339 }
9340 \def\hyper@linkfile#1#2#3{%
9341 \leavevmode
9342 \special{!%
9343 aref <%
9344 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
9345 f=#2>#3;%
9346 a=<%
9347 \ifHy@pdfa /F 4\fi
9348 \Hy@setpdfborder
9349 \ifx\@filebordercolor\relax
9350 \else
9351 /C [\@filebordercolor]%
9352 \fi
9353 >%
9354 }%
9355 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9356 \special{!endaref}%
9357 }
9358 \def\hyper@linkurl#1#2{%
9359 \begingroup
9360 \Hy@pstringdef\Hy@pstringURI{#2}%
9361 \hyper@chars
9362 \leavevmode
9363 \special{!%
9364 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9365 a=<%
9366 \ifHy@pdfa /F 4\fi
9367 \Hy@setpdfborder
9368 \ifx\@urlbordercolor\relax
9369 \else
9370 /C [\@urlbordercolor]%
9371 \fi
9372 >%
9373 }%
9374 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9375 \special{!endaref}%
9376 \endgroup
9377 }
9378 \def\hyper@link#1#2#3{%
9379 \Hy@VerboseLinkStart{#1}{#2}%
9380 \@ifundefined{@#1bordercolor}{%
9381 \let\CurrentBorderColor\relax
9382 }{%

```



```

9383 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9384 }%
9385 \leavevmode
9386 \protected@edef\Hy@testname{#2}%
9387 \ifx\Hy@testname\@empty
9388 \Hy@Warning{%
9389 Empty destination name,\MessageBreak
9390 using '\Hy@undefinedname'%
9391 }%
9392 \let\Hy@testname\Hy@undefinedname
9393 \fi
9394 \special{!%
9395 aref \expandafter\HyperDestNameFilter
9396 \expandafter{\Hy@testname};%
9397 a=<%
9398 \ifHy@pdfa /F 4\fi
9399 \Hy@setpdfborder
9400 \ifx\CurrentBorderColor\relax
9401 \else
9402 /C [\CurrentBorderColor]%
9403 \fi
9404 >%
9405 }%
9406 \expandafter
9407 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9408 \special{!endaref}%
9409 }
9410 \def\hyper@image#1#2{%
9411 \hyper@linkurl{#2}{#1}%
9412 }
9413 \def\@hyper@launch run:#1\#2#3{%
9414 \Hy@pstringdef\Hy@pstringF{#1}%
9415 \Hy@pstringdef\Hy@pstringP{#3}%
9416 \leavevmode
9417 \special{!aref %
9418 <u=%
9419 /Type/Action%
9420 /S/Launch%
9421 /F(\Hy@pstringF)%
9422 \Hy@SetNewWindow
9423 \ifx\#3\%
9424 \else
9425 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9426 \fi%
9427 >%
9428 a=<%
9429 \ifHy@pdfa /F 4\fi
9430 \Hy@setpdfborder
9431 \ifx\@runbordercolor\relax
9432 \else
9433 /C[\@runbordercolor]%
9434 \fi
9435 >%
9436 }%
9437 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9438 \special{!endaref}%
9439 }

```

```

9440 \def\Acrobatmenu#1#2{%
9441 \Hy@Acrobatmenu{#1}{#2}{%
9442 \special{!%
9443 aref <u=/S /Named /N /#1>;%
9444 a=<%
9445 \ifHy@pdfa /F 4\fi
9446 \Hy@setpdfborder
9447 \ifx\@menubordercolor\relax
9448 \else
9449 /C[\@menubordercolor]%
9450 \fi
9451 >%
9452 }%
9453 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9454 \special{!endaref}%
9455 }%
9456 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for VT<sub>E</sub>X 7.02 or later.

Please never use \@ifundefined{VTeXversion}{..}{..} *globally*.

```

9457 \ifnum\Hy@VTeXversion<702 %
9458 \else
9459 \def\hyper@pagetransition{%
9460 \ifx\@pdfpagetransition\relax
9461 \else
9462 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

9463 \else
9464 \hvtex@parse@trans\@pdfpagetransition
9465 \fi
9466 \fi
9467 }%

```

I have to write an “honest” parser to convert raw PDF code into VT<sub>E</sub>X \special.  
(AVK)

Syntax of VT<sub>E</sub>X \special{!trans <transition\_effect>}:</p>
</div>
<div>
</div>
<div>
<p>Transition codes:</p>
</div>
<div>
</div>
<div>
<p>210</p>
</div>

```

9470 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}}%
9471 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}}%
9472 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}}%
9473 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}}%
9474 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}}%

```

Optional parameters:

```

9475 \def\hvtex@par@dimension{/Dm}%
9476 \def\hvtex@par@direction{/Di}%
9477 \def\hvtex@par@duration{/D}%
9478 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

9479 \def\hvtex@gettoken{%
9480 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9481 }%

```

Notice that tokens in the input buffer must be space delimited.

```

9482 \def\hvtex@gettoken@#1 #2\@nil{%
9483 \edef\hvtex@token{#1}%
9484 \edef\hvtex@buffer{#2}%
9485 }%
9486 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9487 \let\hvtex@trans@code\@empty
9488 \let\hvtex@param@dimension\@empty
9489 \let\hvtex@param@direction\@empty
9490 \let\hvtex@param@duration\@empty
9491 \let\hvtex@param@motion\@empty
9492 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9493 \hvtex@gettoken
9494 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9495 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9496 \else
9497 \hvtex@gettoken
9498 \fi
9499 \fi
9500 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9501 \hvtex@trans@params
9502 }%

```

Reentrant macro to parse optional parameters.

```

9503 \def\hvtex@trans@params{%
9504 \ifx\hvtex@buffer\@empty
9505 \else
9506 \hvtex@gettoken
9507 \let\hvtex@trans@par\hvtex@token
9508 \ifx\hvtex@buffer\@empty
9509 \else
9510 \hvtex@gettoken
9511 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. VTeX special takes it in milliseconds.

```
9512 \let\hvtex@param@duration\hvtex@token
9513 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
9514 \expandafter\edef\expandafter\hvtex@param@motion
9515 \expandafter{\expandafter\@gobble\hvtex@token}%
9516 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
9517 \expandafter\edef\expandafter\hvtex@param@dimension
9518 \expandafter{\expandafter\@gobble\hvtex@token}%
9519 \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).

```
9520 \let\hvtex@param@direction\hvtex@token
9521 \fi\fi\fi
9522 \fi
9523 \fi
9524 \ifx\hvtex@buffer\@empty
9525 \let\next\hvtex@produce@trans
9526 \else
9527 \let\next\hvtex@trans@params
9528 \fi
9529 \next
9530 }%
```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
9531 \def\hvtex@produce@trans{%
9532 \let\vtex@trans@special\@empty
9533 \if S\hvtex@trans@code
9534 \edef\vtex@trans@special{\hvtex@trans@code
9535 \hvtex@param@dimension\hvtex@param@motion}%
9536 \else\if B\hvtex@trans@code
9537 \edef\vtex@trans@special{%
9538 \hvtex@trans@code\hvtex@param@dimension
9539 }%
9540 \else\if X\hvtex@trans@code
9541 \edef\vtex@trans@special{%
9542 \hvtex@trans@code\hvtex@param@motion
9543 }%
9544 \else\if W\hvtex@trans@code
9545 \edef\vtex@trans@special{%
9546 \hvtex@trans@code\hvtex@param@direction
9547 }%
9548 \else\if D\hvtex@trans@code
9549 \let\vtex@trans@special\hvtex@trans@code
9550 \else\if R\hvtex@trans@code
9551 \let\vtex@trans@special\hvtex@trans@code
9552 \else\if G\hvtex@trans@code
9553 \edef\vtex@trans@special{%
9554 \hvtex@trans@code\hvtex@param@direction
9555 }%
9556 \fi\fi\fi\fi\fi
9557 \ifx\vtex@trans@special\@empty
9558 \else
9559 \ifx\hvtex@param@duration\@empty
```

```

9560 \else
9561 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9562 \multiply\dimen@\@m
9563 \edef\vtex@trans@special{%
9564 \vtex@trans@special,\strip@pt\dimen@
9565 }%
9566 \fi

```

And all the mess is just for this.

```

9567 \special{!trans \vtex@trans@special}%
9568 \fi
9569 }%

9570 \def\hyper@pageduration{%
9571 \ifx\@pdfpageduration\relax
9572 \else
9573 \ifx\@pdfpageduration\@empty
9574 \special{!duration-}%
9575 \else
9576 \special{!duration \@pdfpageduration}%
9577 \fi
9578 \fi
9579 }%
9580 \def\hyper@pagehidden{%
9581 \ifHy@useHidKey
9582 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9583 \fi
9584 }%
9585 \g@addto@macro\Hy@EveryPageBoxHook{%
9586 \hyper@pagetransition
9587 \hyper@pageduration
9588 \hyper@pagehidden
9589 }%
9590 \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

```

9591 \ifx\@pdfproducer\relax
9592 \def\@pdfproducer{VTeX}%
9593 \ifnum\Hy@VTeXversion>\z@
9594 \count@\VTeXversion
9595 \divide\count@ 100 %
9596 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9597 \multiply\count@ -100 %
9598 \advance\count@\VTeXversion
9599 \edef\@pdfproducer{%
9600 \@pdfproducer
9601 .\ifnum\count@<10 0\fi\the\count@
9602 \ifx\VTeXOS\@undefined\else

```

```

9603 \ifnum\VTeXOS>0 %
9604 \ifnum\VTeXOS<6 %
9605 \space(
9606 \ifcase\VTeXOS
9607 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9608 \fi
9609)%
9610 \fi
9611 \fi
9612 \fi
9613 ,\space
9614 \ifnum\OpMode=\@one PDF\else PS\fi
9615 \space backend%
9616 \ifx\gexmode\@undefined\else
9617 \ifnum\gexmode>z@\space with GeX\fi
9618 \fi
9619 }%
9620 \fi
9621 \fi

```

Current !pdfinfo key syntax:

| Key | Field           | Type   |
|-----|-----------------|--------|
| a   | Author          | String |
| b   | CropBox         | String |
| c   | Creator         | String |
| k   | Keywords        | String |
| l   | PageLayout      | PS     |
| p   | PageMode        | PS     |
| r   | Producer        | String |
| s   | Subject         | String |
| t   | Title           | String |
| u   | URI             | PS     |
| v   | ViewPreferences | PS     |

Note: PS objects that are dicts are in <<<...>>> (yuck; no choice).

```

9622 \def\PDF@SetupDoc{%
9623 \ifx\@pdfpagescrop\@empty
9624 \else
9625 \special{!pdfinfo b=<\@pdfpagescrop>}%
9626 \fi
9627 \ifx\@pdfstartpage\@empty
9628 \else
9629 \ifx\@pdfstartview\@empty
9630 \else
9631 \special{!onopen Page\@pdfstartpage}%
9632 \fi
9633 \fi
9634 \special{!pdfinfo p=</\@pdfpagemode>}%
9635 \ifx\@baseurl\@empty
9636 \else
9637 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9638 \fi
9639 \special{!pdfinfo v=<<<%
9640 \ifHy@toolbar\else /HideToolbar true\fi
9641 \ifHy@menubar\else /HideMenubar true\fi
9642 \ifHy>windowui\else /HideWindowUI true\fi
9643 \ifHy@fitwindow /FitWindow true\fi
9644 \ifHy@centerwindow /CenterWindow true\fi

```

```

9645 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9646 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9647 \Hy@UseNameKey{Direction}\@pdfdirection
9648 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9649 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9650 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9651 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9652 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9653 \Hy@UseNameKey{Duplex}\@pdfduplex
9654 \ifx\@pdfpicktraybypdfsize\@empty
9655 \else
9656 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9657 \fi
9658 \ifx\@pdfprintpagerange\@empty
9659 \else
9660 /PrintPageRange[\@pdfprintpagerange]%
9661 \fi
9662 \ifx\@pdfnumcopies\@empty
9663 \else
9664 /NumCopies \@pdfnumcopies
9665 \fi
9666 >>>}%
9667 \ifx\@pdfpagelayout\@empty
9668 \else
9669 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9670 \fi
9671 }%
9672 \HyInfo@AddonUnsupportedtrue
9673 \def\PDF@FinishDoc{%
9674 \Hy@UseMaketitleInfos
9675 \HyInfo@TrappedUnsupported
9676 \special{!pdfinfo a=<\@pdfauthor>}%
9677 \special{!pdfinfo t=<\@pdftitle>}%
9678 \special{!pdfinfo s=<\@pdfsubject>}%
9679 \special{!pdfinfo c=<\@pdfcreator>}%
9680 \ifx\@pdfproducer\relax
9681 \else
9682 \special{!pdfinfo r=<\@pdfproducer>}%
9683 \fi
9684 \special{!pdfinfo k=<\@pdfkeywords>}%
9685 \Hy@DisableOption{pdfauthor}%
9686 \Hy@DisableOption{pdftitle}%
9687 \Hy@DisableOption{pdfsubject}%
9688 \Hy@DisableOption{pdfcreator}%
9689 \Hy@DisableOption{pdfcreationdate}%
9690 \Hy@DisableOption{pdfmoddate}%
9691 \Hy@DisableOption{pdfproducer}%
9692 \Hy@DisableOption{pdfkeywords}%
9693 \Hy@DisableOption{pdftrapped}%
9694 \Hy@DisableOption{pdfinfo}%
9695 }
9696 </vtex>

```

## 46.7 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.

```
9697 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9698 <package>\providecommand*{\Hy@DistillerDestFix}{%
9699 <*pdfmark | dviwindo>
9700 \def\Hy@DistillerDestFix{%
9701 \begingroup
9702 \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
9703 \ifnum \@ifundefined{OpMode}{0}{%
9704 \@ifundefined{gexmode}{0}{%
9705 \ifnum\gexmode>0 \OpMode\else 0\fi
9706 }>1 %
9707 \def\x##1{%
9708 \immediate\special{!=##1}%
9709 }%
9710 \fi
9711 \x{%
9712 /product where{%
9713 pop %
9714 product(Distiller)search{%
9715 pop pop pop %
9716 version(.)search{%
9717 exch pop exch pop%
9718 (3011)eq{%
9719 gsave %
9720 newpath 0 0 moveto closepath clip%
9721 /Courier findfont 10 scalefont setfont %
9722 72 72 moveto(.)show %
9723 grestore%
9724 }if%
9725 }{pop}ifelse%
9726 }{pop}ifelse%
9727 }if%
9728 }%
9729 \endgroup
9730 }
9731 </pdfmark | dviwindo>
```

## 46.8 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                              |

```

9732 (*pdfmark)
9733 \Hy@breaklinks@unsupported
9734 \def\hyper@anchor#1{%
9735 \Hy@SaveLastskip
9736 \Hy@VerboseAnchor{#1}%
9737 \begingroup
9738 \pdfmark[\anchor@spot]{%
9739 pdfmark=/DEST,%
9740 linktype=anchor,%
9741 View=/\@pdfview \@pdfviewparams,%
9742 DestAnchor={#1}%
9743 }%
9744 \endgroup
9745 \Hy@RestoreLastskip
9746 }
9747 \@ifundefined{hyper@anchorstart}{\endinput}{}
9748 \def\hyper@anchorstart#1{%
9749 \Hy@SaveLastskip
9750 \Hy@VerboseAnchor{#1}%
9751 \literalps@out{H.S}%
9752 \Hy@AllowHyphens
9753 \xdef\hyper@currentanchor{#1}%
9754 \Hy@activeanchortrue
9755 }
9756 \def\hyper@anchorend{%
9757 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9758 \pdfmark{%
9759 pdfmark=/DEST,%
9760 linktype=anchor,%
9761 View=/\@pdfview \@pdfviewparams,%
9762 DestAnchor=\hyper@currentanchor,%
9763 }%
9764 \Hy@activeanchorfalse
9765 \Hy@RestoreLastskip
9766 }
9767 \def\hyper@linkstart#1#2{%
9768 \Hy@VerboseLinkStart{#1}{#2}%
9769 \ifHy@breaklinks
9770 \else
9771 \leavevmode\hbox\bgroup
9772 \fi
9773 \expandafter\Hy@colorlink\csname @#1color\endcsname
9774 \literalps@out{H.S}%
9775 \Hy@AllowHyphens
9776 \xdef\hyper@currentanchor{#2}%
9777 \gdef\hyper@currentlinktype{#1}%
9778 }
9779 \def\hyper@linkend{%
9780 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9781 \@ifundefined{@\hyper@currentlinktype bordercolor}{%

```

```

9782 \let\Hy@tempcolor\relax
9783 }{%
9784 \edef\Hy@tempcolor{%
9785 \csname @\hyper@currentlinktype bordercolor\endcsname
9786 }%
9787 }%
9788 \pdfmark{%
9789 pdfmark=/ANN,%
9790 linktype=link,%
9791 Subtype=/Link,%
9792 PDFAFlags=4,%
9793 Dest=\hyper@currentanchor,%
9794 AcroHighlight=\@pdfhighlight,%
9795 Border=\@pdfborder,%
9796 BorderStyle=\@pdfborderstyle,%
9797 Color=\Hy@tempcolor,%
9798 Raw=H.B%
9799 }%
9800 \Hy@endcolorlink
9801 \ifHy@breaklinks
9802 \else
9803 \egroup
9804 \fi
9805 }

```

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.

```

9806 \begingroup
9807 \catcode'P=12 %
9808 \catcode'T=12 %
9809 \lowercase{\endgroup
9810 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9811 }
9812 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

9813 \def\hyper@pagetransition{%
9814 \ifx\@pdfpagetransition\relax
9815 \else
9816 \ifx\@pdfpagetransition\@empty
9817 % 1. Does an old entry have to be deleted?
9818 % 2. If 1=yes, how to delete?
9819 \else
9820 \pdfmark{%
9821 pdfmark=/PUT,%
9822 Raw={%
9823 \string{ThisPage\string}%
9824 <</Trans << /S /\@pdfpagetransition\space >> >>%
9825 }%
9826 }%
9827 \fi
9828 \fi
9829 }

```

`\hyper@pageduration`

```

9830 \def\hyper@pageduration{%

```

```

9831 \ifx\@pdfpageduration\relax
9832 \else
9833 \ifx\@pdfpageduration\@empty
9834 % 1. Does an old entry have to be deleted?
9835 % 2. If 1=yes, how to delete?
9836 \else
9837 \pdfmark{%
9838 pdfmark=/PUT,%
9839 Raw={%
9840 \string{ThisPage\string}%
9841 <</Dur \@pdfpageduration>>%
9842 }%
9843 }%
9844 \fi
9845 \fi
9846 }

```

\hyper@pagehidden

```

9847 \def\hyper@pagehidden{%
9848 \ifHy@useHidKey
9849 \pdfmark{%
9850 pdfmark=/PUT,%
9851 Raw={%
9852 \string{ThisPage\string}%
9853 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9854 }%
9855 }%
9856 \fi
9857 }

9858 \g@addto@macro\Hy@EveryPageBoxHook{%
9859 \hyper@pagetransition
9860 \hyper@pageduration
9861 \hyper@pagehidden
9862 }

9863 \def\hyper@image#1#2{%
9864 \hyper@linkurl{#2}{#1}%
9865 }
9866 \def\Hy@undefinedname{UNDEFINED}
9867 \def\hyper@link#1#2#3{%
9868 \Hy@VerboseLinkStart{#1}{#2}%
9869 \@ifundefined{@#1bordercolor}{%
9870 \let\Hy@tempcolor\relax
9871 }{%
9872 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9873 }%
9874 \begingroup
9875 \protected@edef\Hy@testname{#2}%
9876 \ifx\Hy@testname\@empty
9877 \Hy@Warning{%
9878 Empty destination name,\MessageBreak
9879 using '\Hy@undefinedname'%
9880 }%
9881 \let\Hy@testname\Hy@undefinedname
9882 \fi
9883 \pdfmark[{#3}]{%
9884 Color=\Hy@tempcolor,%

```

```

9885 linktype={#1},%
9886 AcroHighlight=\@pdfhighlight,%
9887 Border=\@pdfborder,%
9888 BorderStyle=\@pdfborderstyle,%
9889 pdfmark=/ANN,%
9890 Subtype=/Link,%
9891 PDFAFlags=4,%
9892 Dest=\Hy@testname
9893 }%
9894 \endgroup
9895 }
9896 \newtoks\pdf@docset
9897 \def\PDF@FinishDoc{%
9898 \Hy@UseMaketitleInfos
9899 \HyInfo@GenerateAddons
9900 \let\Hy@temp\@empty
9901 \ifx\@pdfcreationdate\@empty
9902 \else
9903 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9904 \fi
9905 \ifx\@pdfmoddate\@empty
9906 \else
9907 \expandafter\def\expandafter\Hy@temp\expandafter{%
9908 \Hy@temp
9909 ModDate=\@pdfmoddate,%
9910 }%
9911 \fi
9912 \ifx\@pdfproducer\relax
9913 \else
9914 \expandafter\def\expandafter\Hy@temp\expandafter{%
9915 \Hy@temp
9916 Producer=\@pdfproducer,%
9917 }%
9918 \fi
9919 \expandafter
9920 \pdfmark\expandafter{%
9921 \Hy@temp
9922 pdfmark=/DOCINFO,%
9923 Title=\@pdftitle,%
9924 Subject=\@pdfsubject,%
9925 Creator=\@pdfcreator,%
9926 Author=\@pdfauthor,%
9927 Keywords=\@pdfkeywords,%
9928 Trapped=\@pdftrapped
9929 }%
9930 \ifx\HyInfo@Addons\@empty
9931 \else
9932 \pdfmark{%
9933 pdfmark=/DOCINFO,%
9934 Raw={\HyInfo@Addons}%
9935 }%
9936 \fi
9937 \Hy@DisableOption{pdfauthor}%
9938 \Hy@DisableOption{pdftitle}%
9939 \Hy@DisableOption{pdfsubject}%
9940 \Hy@DisableOption{pdfcreator}%
9941 \Hy@DisableOption{pdfcreationdate}%

```

```

9942 \Hy@DisableOption{pdfmoddate}%
9943 \Hy@DisableOption{pdfproducer}%
9944 \Hy@DisableOption{pdfkeywords}%
9945 \Hy@DisableOption{pdftrapped}%
9946 \Hy@DisableOption{pdfinfo}%
9947 }
9948 \def\PDF@SetupDoc{%
9949 \def\Hy@temp{%
9950 \ifx\@pdfstartpage\@empty
9951 \else
9952 \ifx\@pdfstartview\@empty
9953 \else
9954 \edef\Hy@temp{%
9955 ,Page=\@pdfstartpage
9956 ,View=\@pdfstartview
9957 }%
9958 \fi
9959 \fi
9960 \edef\Hy@temp{%
9961 \noexpand\pdfmark{%
9962 pdfmark=/DOCVIEW,%
9963 PageMode=/\@pdfpagemode
9964 \Hy@temp
9965 }%
9966 }%
9967 \Hy@temp
9968 \ifx\@pdfpagescrop\@empty
9969 \else
9970 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9971 \fi
9972 \edef\Hy@temp{%
9973 \ifHy@toolbar\else /HideToolbar true\fi
9974 \ifHy@menubar\else /HideMenubar true\fi
9975 \ifHy>windowui\else /HideWindowUI true\fi
9976 \ifHy@fitwindow /FitWindow true\fi
9977 \ifHy@centerwindow /CenterWindow true\fi
9978 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9979 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9980 \Hy@UseNameKey{Direction}\@pdfdirection
9981 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9982 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9983 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9984 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9985 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9986 \Hy@UseNameKey{Duplex}\@pdfduplex
9987 \ifx\@pdfpicktraybypdfsize\@empty
9988 \else
9989 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9990 \fi
9991 \ifx\@pdfprintpagerange\@empty
9992 \else
9993 /PrintPageRange\@pdfprintpagerange}%
9994 \fi
9995 \ifx\@pdfnumcopies\@empty
9996 \else
9997 /NumCopies \@pdfnumcopies
9998 \fi

```

```

9999 }%
10000 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10001 \pdfmark{%
10002 pdfmark=/PUT,%
10003 Raw={%
10004 \string{Catalog\string}<<%
10005 \ifx\Hy@temp\@empty
10006 \else
10007 /ViewerPreferences<<\Hy@temp>>%
10008 \fi
10009 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10010 \ifx\@pdflang\@empty
10011 \else
10012 /Lang(\@pdflang)%
10013 \fi
10014 \ifx\@baseurl\@empty
10015 \else
10016 /URI<</Base(\Hy@pstringB)>>%
10017 \fi
10018 >>%
10019 }%
10020 }%
10021 }
10022 </pdfmark>
10023 <*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.

```

10024 \newif\ifHy@pdfmarkerror
10025 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
10026 \def\pdfmark@[#1]#2{%
10027 \Hy@pdfmarkerrorfalse
10028 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10029 \@processme
10030 \let\pdf@type\relax
10031 \setkeys{PDF}{#2}%
10032 \ifHy@pdfmarkerror
10033 \else
10034 \ifx\pdf@type\relax
10035 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10036 \ifx\#1\%
10037 \else
10038 \pdf@rect{#1}%
10039 \fi
10040 \else
10041 \ifx\#1\%
10042 \literalps@out{%
10043 [\the\pdf@toks\space\pdf@type\space pdfmark%
10044]%
10045 \else
10046 \@ifundefined{@\pdf@linktype color}{%
10047 \Hy@colorlink\@linkcolor
10048 }{%
10049 \expandafter\Hy@colorlink

```

```

10050 \csname @\pdf@linktype color\endcsname
10051 }%
10052 \pdf@rect{#1}%
10053 \literalps@out{%
10054 [\the\pdf@toks\space\pdf@type\space pdfmark%
10055 }%
10056 \Hy@endcolorlink
10057 \fi
10058 \fi
10059 \fi
10060 }

```

The complicated bit is working out the right enclosing rectangle of some piece of  $\text{\TeX}$  text, needed by the `/Rect` key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

10061 \newsavebox{\pdf@box}
10062 \providecommand*{\Hy@setouterhbox}{\sbox}
10063 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10064 \def\Hy@DEST{/DEST}
10065 \def\pdf@rect#1{%
10066 \leavevmode
10067 \ifHy@breaklinks
10068 \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
10069 \else
10070 \sbox\pdf@box{#1}%
10071 \fi
10072 \dimen@{\ht\pdf@box}
10073 \ifdim\dp\pdf@box=\z@
10074 \literalps@out{H.S}%
10075 \else
10076 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10077 \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...).

```

10078 \ifHy@breaklinks
10079 \expandafter\Hy@breaklinksunhbox
10080 \else
10081 \expandafter\box
10082 \fi
10083 \pdf@box

```

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

```

```

10084 \ifdim\dimen@=\z@
10085 \literalps@out{H.R}%
10086 \else

```

```

10087 \raise\dimen@\hbox{\literalps@out{H.R}}}%
10088 \fi
10089 \ifx\pdf@type\Hy@DEST
10090 \else
10091 \pdf@addtoksx{H.B}%
10092 \fi
10093 }

```

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.

```

10094 \newtoks\pdf@toks
10095 \newtoks\pdf@defaulttoks
10096 \pdf@defaulttoks={}%
10097 \def\pdf@addtoks#1#2{%
10098 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10099 \@processme
10100 }
10101 \def\pdf@addtoksx#1{%
10102 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10103 \@processme
10104 }
10105 \def\PDFdefaults#1{%
10106 \pdf@defaulttoks={#1}%
10107 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

10108 % what is the type of pdfmark?
10109 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10110 % what is the link type?
10111 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10112 \def\pdf@linktype{link}
10113 % parameter is a stream of PDF
10114 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10115 % parameter is a name
10116 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10117 % parameter is a array
10118 \define@key{PDF}{Border}{%
10119 \edef\Hy@temp{#1}%
10120 \ifx\Hy@temp\@empty
10121 \else
10122 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10123 \fi
10124 }
10125 \let\Hy@BorderArrayPatch\@empty
10126 % parameter is a dictionary
10127 \define@key{PDF}{BorderStyle}{%
10128 \edef\Hy@temp{#1}%
10129 \ifx\Hy@temp\@empty
10130 \else
10131 \pdf@addtoks{<<#1>>}{BS}%
10132 \fi
10133 }
10134 % parameter is a array
10135 \define@key{PDF}{Color}{%
10136 \ifx\relax#1\relax
10137 \else
10138 \pdf@addtoks{[#1]}{Color}% hash-ok
10139 \fi

```



```

10140 }
10141 % parameter is a string
10142 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10143 % parameter is a integer
10144 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10145 % parameter is a array
10146 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10147 % parameter is a string
10148 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10149 % parameter is a string or file
10150 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10151 % parameter is a destination
10152 \define@key{PDF}{Dest}{%
10153 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10154 \ifx\Hy@pstringDest\@empty
10155 \Hy@pdfmarkerrortrue
10156 \Hy@Warning{Destination with empty name ignored}%
10157 \else
10158 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10159 \fi
10160 }
10161 \define@key{PDF}{DestAnchor}{%
10162 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10163 \ifx\Hy@pstringDest\@empty
10164 \Hy@pdfmarkerrortrue
10165 \Hy@Warning{Destination with empty name ignored}%
10166 \else
10167 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10168 \fi
10169 }
10170 % parameter is a string
10171 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10172 % parameter is a string
10173 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10174 % parameter is a int
10175 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10176 \define@key{PDF}{PDFAFlags}{%
10177 \ifHy@pdfa
10178 \pdf@addtoks{#1}{F}%
10179 \fi
10180 }
10181 % parameter is a name
10182 \define@key{PDF}{AcroHighlight}{%
10183 \begingroup
10184 \edef\x{#1}%
10185 \expandafter\endgroup\ifx\x\@empty
10186 \else
10187 \pdf@addtoks{#1}{H}%
10188 \fi
10189 }
10190 % parameter is a string
10191 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10192 % parameter is a string
10193 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10194 % parameter is a string
10195 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10196 % parameter is a string

```

```

10197 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10198 % parameter is a Boolean
10199 \define@key{PDF}{Open}{\pdf@addtoks{(#1)}{Open}}
10200 % parameter is a integer or name
10201 \define@key{PDF}{Page}{\pdf@addtoks{(#1)}{Page}}
10202 % parameter is a name
10203 \define@key{PDF}{PageMode}{\pdf@addtoks{(#1)}{PageMode}}
10204 % parameter is a string
10205 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10206 % parameter is a array
10207 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10208 % parameter is a integer
10209 \define@key{PDF}{SrcPg}{\pdf@addtoks{(#1)}{SrcPg}}
10210 % parameter is a name
10211 \define@key{PDF}{Subtype}{\pdf@addtoks{(#1)}{Subtype}}
10212 % parameter is a string
10213 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10214 % parameter is a string
10215 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10216 % parameter is a string
10217 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10218 % parameter is an array
10219 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
10220 % parameter is a string
10221 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10222 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10223 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10224 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10225 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10226 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10227 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10228 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10229 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10230 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10231 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
10232 \define@key{PDF}{Trapped}{%
10233 \edef\Hy@temp{#1}%
10234 \ifx\Hy@temp\@empty
10235 \else
10236 \pdf@addtoks{/#1}{Trapped}%
10237 \fi
10238 }
10239
10240 </pdfmarkbase>
10241 <*pdfmark>
10242 \def\Acrobatmenu#1#2{%
10243 \Hy@Acrobatmenu{#1}{#2}{%
10244 \pdfmark{[#2]}{%
10245 linktype=menu,%
10246 pdfmark=/ANN,%
10247 AcroHighlight=\pdfhighlight,%
10248 Border=\pdfborder,%
10249 BorderStyle=\pdfborderstyle,%
10250 Action={<< /Subtype /Named /N /#1 >>},%
10251 Subtype=/Link,%
10252 PDFANFlags=4%

```

```

10253 }%
10254 }%
10255 }

```

And now for some useful examples:

```

10256 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10257 \def\PDFNextPage@[#1]#2{%
10258 \pdfmark[{#2}]{%
10259 #1,%
10260 Border=\@pdfborder,%
10261 BorderStyle=\@pdfborderstyle,%
10262 Color=.2 .1 .5,%
10263 pdfmark=/ANN,%
10264 Subtype=/Link,%
10265 PDFAFlags=4,%
10266 Page=/Next%
10267 }%
10268 }
10269 \def\PDFPreviousPage{%
10270 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10271 }
10272 \def\PDFPreviousPage@[#1]#2{%
10273 \pdfmark[{#2}]{%
10274 #1,%
10275 Border=\@pdfborder,%
10276 BorderStyle=\@pdfborderstyle,%
10277 Color=.4 .4 .1,%
10278 pdfmark=/ANN,%
10279 Subtype=/Link,%
10280 PDFAFlags=4,%
10281 Page=/Prev%
10282 }%
10283 }
10284 \def\PDFOpen#1{%
10285 \pdfmark{#1,pdfmark=/DOCVIEW}%
10286 }

```

This will only work if you use Distiller 2.1 or higher.

```

10287 \def\hyper@linkurl#1#2{%
10288 \begingroup
10289 \Hy@pstringdef\Hy@pstringURI{#2}%
10290 \hyper@chars
10291 \leavevmode
10292 \pdfmark[{#1}]{%
10293 pdfmark=/ANN,%
10294 linktype=url,%
10295 AcroHighlight=\@pdfhighlight,%
10296 Border=\@pdfborder,%
10297 BorderStyle=\@pdfborderstyle,%
10298 Color=\@urlbordercolor,%
10299 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10300 Subtype=/Link,%
10301 PDFAFlags=4%
10302 }%
10303 \endgroup
10304 }
10305 \def\hyper@linkfile#1#2#3{%
10306 \begingroup

```

```

10307 \Hy@pstringdef\Hy@pstringF{#2}%
10308 \Hy@pstringdef\Hy@pstringD{#3}%
10309 \leavevmode
10310 \pdfmark[{#1}]{%
10311 pdfmark=/ANN,%
10312 Subtype=/Link,%
10313 PDFAFlags=4,%
10314 AcroHighlight=\@pdfhighlight,%
10315 Border=\@pdfborder,%
10316 BorderStyle=\@pdfborderstyle,%
10317 linktype=file,%
10318 Color=\@filebordercolor,%
10319 Action={%
10320 <<%
10321 /S/GoToR%
10322 \Hy@SetNewWindow
10323 /F(\Hy@pstringF)%
10324 /D\ifx\#3\@0 \@pdfstartview\else(\Hy@pstringD)cvn\fi
10325 >>%
10326 }%
10327 }%
10328 \endgroup
10329 }
10330 \def\@hyper@launch run:#1\#2#3{%
10331 \begingroup
10332 \Hy@pstringdef\Hy@pstringF{#1}%
10333 \Hy@pstringdef\Hy@pstringP{#3}%
10334 \leavevmode
10335 \pdfmark[{#2}]{%
10336 pdfmark=/ANN,%
10337 Subtype=/Link,%
10338 PDFAFlags=4,%
10339 AcroHighlight=\@pdfhighlight,%
10340 Border=\@pdfborder,%
10341 BorderStyle=\@pdfborderstyle,%
10342 linktype=run,%
10343 Color=\@runbordercolor,%
10344 Action={%
10345 <<%
10346 /S/Launch%
10347 \Hy@SetNewWindow
10348 /F(\Hy@pstringF)%
10349 \ifx\#3\@%
10350 \else
10351 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10352 \fi
10353 >>%
10354 }%
10355 }%
10356 \endgroup
10357 }
10358 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 46.9 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.

```
10359 <*dvips>
10360 \providecommand*\XR@ext}{pdf}
10361 \def\Hy@raisedlink{}
10362 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10363 \def\headerps@out#1{\special{! #1}}%
10364 \input{pdfmark.def}%
10365 \ifx\@pdfproducer\relax
10366 \def\@pdfproducer{dvips + Distiller}%
10367 \fi
10368 \providecommand*\@pdfborder{0 0 1}
10369 \providecommand*\@pdfborderstyle{}
10370 \providecommand*\@pdfview{XYZ}
10371 \providecommand*\@pdfviewparams{ H.V}
10372 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10373 \g@addto@macro\Hy@FirstPageHook{%
10374 \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.

```
10375 /DvipsToPDF{72.27 mul Resolution div} def%
10376 /PDFToDvips{72.27 div Resolution mul} def%
10377 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
10378 /BorderArrayPatch{%
10379 [exch{%
10380 dup dup type/integertype eq exch type/realtype eq or%
10381 {BPToDvips}if%
10382 }forall]%
10383 }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.

```
10384 /HyperBorder {1 PDFToDvips} def%
10385 /H.V {pdf@hoff pdf@voff null} def%
10386 /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

```
10387 /H.S {%
```

```

10388 currentpoint %
10389 HyperBorder add /pdf@lly exch def %
10390 dup DvipsToPDF 72 add /pdf@hoff exch def %
10391 HyperBorder sub /pdf@llx exch def%
10392 } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current  $\backslash\text{baselineskip}$  to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current  $\text{baselineskip}$  is, and convert it to the dvips coordinate system.

Argument:  $\text{baselineskip}$  in pt. The  $x$  and  $y$  coordinates of the current point, minus the  $\text{baselineskip}$

```

10393 /H.L {%
10394 2 sub dup%
10395 /HyperBasePt exch def %
10396 PDFToDvips /HyperBaseDvips exch def %
10397 currentpoint %
10398 HyperBaseDvips sub /pdf@ury exch def%
10399 /pdf@urx exch def%
10400 } def%
10401 /H.A {%
10402 H.L %
10403 % | /pdf@voff| = the distance from the top of the page to a point
10404 % | \baselineskip| above the current point in PDF coordinates
10405 currentpoint exch pop %
10406 vsize 72 sub exch DvipsToPDF %
10407 HyperBasePt sub % baseline skip
10408 sub /pdf@voff exch def%
10409 } def%
10410 /H.R {%
10411 currentpoint %
10412 HyperBorder sub /pdf@ury exch def %
10413 HyperBorder add /pdf@urx exch def %
10414 % | /pdf@voff| = the distance from the top of the page to the current point, in
10415 % PDF coordinates
10416 currentpoint exch pop vsize 72 sub %
10417 exch DvipsToPDF sub /pdf@voff exch def%
10418 } def%
10419 }%
10420 }
10421 \AtBeginShipoutFirst{%
10422 \ifHy@setpagesize
10423 \begingroup
10424 \@ifundefined{stockwidth}{%
10425 \ifdim\paperwidth>\z@
10426 \ifdim\paperheight>\z@
10427 \special{papersize=\the\paperwidth,\the\paperheight}%
10428 \fi
10429 \fi
10430 }{%
10431 \ifdim\stockwidth>\z@
10432 \ifdim\stockheight>\z@
10433 \special{papersize=\the\stockwidth,\the\stockheight}%
10434 \fi
10435 \fi
10436 }%

```

```

10437 \endgroup
10438 \fi
10439 \Hy@DisableOption{setpagesize}%
10440 }
10441 </dvips>

```

## 46.10 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.

```

10442 <*vtexpdfmark>
10443 \providecommand*\XR@ext{-pdf}
10444 \def\Hy@raisedlink{}
10445 \def\literalps@out#1{\special{pS:#1}}%
10446 \def\headerps@out#1{\immediate\special{pS:#1}}%
10447 \input{pdfmark.def}%
10448 \ifx\@pdfproducer\relax
10449 \ifnum\OpMode=\@ne
10450 \def\@pdfproducer{VTeX}%
10451 \else
10452 \def\@pdfproducer{VTeX + Distiller}%
10453 \fi
10454 \fi
10455 \providecommand*\@pdfborder{0 0 1}
10456 \providecommand*\@pdfborderstyle{}
10457 \providecommand*\@pdfview{XYZ}
10458 \providecommand*\@pdfviewparams{ H.V}
10459 \g@addto@macro\Hy@FirstPageHook{%
10460 \headerps@out{%
10461 /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.

```

10462 /HyperBorder {1} def%
10463 /H.V {pdf@hoff pdf@voff null} def%
10464 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10465 /H.S {%
10466 currentpoint %
10467 HyperBorder sub%
10468 /pdf@lly exch def %
10469 dup 72 add /pdf@hoff exch def %
10470 HyperBorder sub%
10471 /pdf@llx exch def%
10472 } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

10473 /H.L {%
10474 2 sub%
10475 /HyperBasePt exch def %
10476 currentpoint %

```

```

10477 HyperBasePt add HyperBorder add%
10478 /pdf@ury exch def %
10479 HyperBorder add%
10480 /pdf@urx exch def%
10481 } def%
10482 /H.A {%
10483 H.L %
10484 currentpoint exch pop %
10485 vsize 72 sub exch %
10486 HyperBasePt add add%
10487 /pdf@voff exch def%
10488 } def%
pdf@ury = Y_c + HyperBorder, pdf@urx = X_c + HyperBorder
10489 /H.R {%
10490 currentpoint %
10491 HyperBorder add%
10492 /pdf@ury exch def %
10493 HyperBorder add%
10494 /pdf@urx exch def %
10495 currentpoint exch pop vsize 72 sub add%
10496 /pdf@voff exch def%
10497 } def%
10498 }%
10499 }
10500 </vtxpdfmark>

```

## 46.11 Textures

```

10501 <*textures>
10502 \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.

```

10503 \begingroup
10504 \obeylines %
10505 \gdef\Hy@ps@CR{\noexpand
10506 }%
10507 \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`.

```

10508 \def\literalps@out#1{%

```



```

10509 \special{postscript 0 0 transform}%
10510 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10511 }%
10512 %

```

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.

```

10513 \def\headerps@out#1{%
10514 \special{%
10515 prepostscript TeXdict begin\Hy@ps@CR
10516 #1\Hy@ps@CR
10517 end%
10518 }%
10519 }%
10520 %

```

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.

```

10521 \g@addto@macro\Hy@FirstPageHook{%
10522 \headerps@out{%
10523 /betterpdfmark {%
10524 systemdict begin %
10525 dup /BP eq%
10526 {cleartomark gsave nulldevice []}%
10527 {dup /EP eq%
10528 {cleartomark cleartomark grestore}%
10529 {cleartomark}%
10530 }ifelse%
10531 }ifelse %
10532 end%
10533 }def\Hy@ps@CR
10534 ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
10535 }% end of \headerps@out
10536 }% end of \AtBeginShipoutFirst
10537 %
10538 \input{pdfmark.def}%
10539 %
10540 \ifx\@pdfproducer\relax
10541 \def\@pdfproducer{Textures + Distiller}%
10542 \fi
10543 \providecommand*\@pdfborder{0 0 1}
10544 \providecommand*\@pdfborderstyle{}
10545 \providecommand*\@pdfview{XYZ}
10546 \providecommand*\@pdfviewparams{ H.V}
10547 %

```

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 T<sub>E</sub>X.

```

10548 \AfterBeginDocument{%
10549 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

10550 /vsize {\Hy@pageheight} def%

```

```

10551 /DvipsToPDF {} def%
10552 /PDFToDvips {} def%
10553 /BPToDvips {} def%
10554 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10555 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10556 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10557 /H.S {%
10558 currentpoint %
10559 HyperBorder add /pdf@lly exch def %
10560 dup DvipsToPDF 72 add /pdf@hoff exch def %
10561 HyperBorder sub /pdf@llx exch def%
10562 } def\Hy@ps@CR
10563 /H.L {%
10564 2 sub %
10565 PDFToDvips /HyperBase exch def %
10566 currentpoint %
10567 HyperBase sub /pdf@ury exch def%
10568 /pdf@urx exch def%
10569 } def\Hy@ps@CR
10570 /H.A {%
10571 H.L %
10572 currentpoint exch pop %
10573 vsize 72 sub exch DvipsToPDF %
10574 HyperBase sub % baseline skip
10575 sub /pdf@voff exch def%
10576 } def\Hy@ps@CR
10577 /H.R {%
10578 currentpoint %
10579 HyperBorder sub /pdf@ury exch def %
10580 HyperBorder add /pdf@urx exch def %
10581 currentpoint exch pop vsize 72 sub %
10582 exch DvipsToPDF sub /pdf@voff exch def%
10583 } def\Hy@ps@CR
10584 }%
10585 }

10586 \AfterBeginDocument{%
10587 \ifHy@colorlinks
10588 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10589 \fi
10590 }

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.

10591 \expandafter\let\expandafter\keepPDF@SetupDoc
10592 \csname PDF@SetupDoc\endcsname
10593 \def\PDF@SetupDoc{%
10594 \ifx\@baseurl\@empty
10595 \else
10596 \special{html:<base href="\@baseurl">}%
10597 \fi
10598 \keepPDF@SetupDoc
10599 }

10600 \def\hyper@anchor#1{%
10601 \Hy@SaveLastskip
10602 \Hy@VerboseAnchor{#1}%
10603 \begingroup
10604 \let\protect=\string

```

```

10605 \special{html:<a name=%
10606 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10607 \endgroup
10608 \Hy@activeanchortrue
10609 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10610 \special{html:}%
10611 \Hy@activeanchorfalse
10612 \Hy@RestoreLastskip
10613 }
10614 \def\hyper@anchorstart#1{%
10615 \Hy@SaveLastskip
10616 \Hy@VerboseAnchor{#1}%
10617 \begingroup
10618 \hyper@chars
10619 \special{html:<a name=%
10620 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10621 \endgroup
10622 \Hy@activeanchortrue
10623 }
10624 \def\hyper@anchorend{%
10625 \special{html:}%
10626 \Hy@activeanchorfalse
10627 \Hy@RestoreLastskip
10628 }
10629 \def\@urlltype{url}
10630 \def\hyper@linkstart#1#2{%
10631 \Hy@VerboseLinkStart{#1}{#2}%
10632 \expandafter\Hy@colorlink\csname @#1color\endcsname
10633 \def\Hy@tempa{#1}%
10634 \ifx\Hy@tempa\@urlltype
10635 \special{html:}%
10636 \else
10637 \begingroup
10638 \hyper@chars
10639 \special{%
10640 html:<a href=%
10641 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>
10642 }%
10643 \endgroup
10644 \fi
10645 }
10646 \def\hyper@linkend{%
10647 \special{html:}%
10648 \Hy@endcolorlink
10649 }
10650 \def\hyper@linkfile#1#2#3{%
10651 \hyper@linkurl{#1}{%
10652 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10653 }%
10654 }
10655 \def\hyper@linkurl#1#2{%
10656 \leavevmode
10657 \ifHy@raiselinks
10658 \setbox\@tempboxa=\color@hbox #1\color@endbox
10659 \@linkdim\dp\@tempboxa
10660 \lower\@linkdim\hbox{%
10661 \hyper@chars

```

```

10662 \special{html:}%
10663 }%
10664 \Hy@colorlink\@urlcolor#1%
10665 \@linkdim\ht\@tempboxa
10666 \advance\@linkdim by -6.5\p@
10667 \raise\@linkdim\hbox{\special{html:}}%
10668 \Hy@endcolorlink
10669 \else
10670 \begingroup
10671 \hyper@chars
10672 \special{html:}%
10673 \Hy@colorlink\@urlcolor#1%
10674 \special{html:}%
10675 \Hy@endcolorlink
10676 \endgroup
10677 \fi
10678 }

```

Very poor implementation of \hyper@link without considering #1.

```

10679 \def\hyper@link#1#2#3{%
10680 \Hy@VerboseLinkStart{#1}{#2}%
10681 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10682 }
10683 \def\hyper@image#1#2{%
10684 \begingroup
10685 \hyper@chars
10686 \special{html:}%
10687 \endgroup
10688 }
10689 </textures>

```

## 46.12 dvipsone

```

10690 % \subsection{dvipsone driver}
10691 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10692 % |\special| commands.
10693 <*dvipsone>
10694 \providecommand*\XR@ext}{pdf}
10695 \def\Hy@raisedlink{}
10696 \providecommand*\@pdfborder{0 0 1}
10697 \providecommand*\@pdfborderstyle{}
10698 \def\literalps@out#1{\special{ps:#1}}%
10699 \def\headerps@out#1{\special{headertext=#1}}%
10700 \input{pdfmark.def}%
10701 \ifx\@pdfproducer\relax
10702 \def\@pdfproducer{dvipsone + Distiller}%
10703 \fi
10704 \HyInfo@AddonUnsupportedtrue
10705 \def\PDF@FinishDoc{%
10706 \Hy@UseMaketitleInfos
10707 \HyInfo@TrappedUnsupported
10708 \special{PDF: Keywords \@pdfkeywords}%
10709 \special{PDF: Title \@pdftitle}%
10710 \special{PDF: Creator \@pdfcreator}%
10711 \ifx\@pdfcreationdate\empty
10712 \else
10713 \special{PDF: CreationDate \@pdfcreationdate}%
10714 \fi

```

```

10715 \ifx\@pdfmoddate\@empty
10716 \else
10717 \special{PDF: ModDate \@pdfmoddate}%
10718 \fi
10719 \special{PDF: Author \@pdfauthor}%
10720 \ifx\@pdfproducer\relax
10721 \else
10722 \special{PDF: Producer \@pdfproducer}%
10723 \fi
10724 \special{PDF: Subject \@pdfsubject}%
10725 \Hy@DisableOption{pdfauthor}%
10726 \Hy@DisableOption{pdftitle}%
10727 \Hy@DisableOption{pdfsubject}%
10728 \Hy@DisableOption{pdfcreator}%
10729 \Hy@DisableOption{pdfcreationdate}%
10730 \Hy@DisableOption{pdfmoddate}%
10731 \Hy@DisableOption{pdfproducer}%
10732 \Hy@DisableOption{pdfkeywords}%
10733 \Hy@DisableOption{pdftrapped}%
10734 \Hy@DisableOption{pdfinfo}%
10735 }
10736 \def\PDF@SetupDoc{%
10737 \def\Hy@temp{}%
10738 \ifx\@pdfstartpage\@empty
10739 \else
10740 \ifx\@pdfstartview\@empty
10741 \else
10742 \edef\Hy@temp{%
10743 ,Page=\@pdfstartpage
10744 ,View=\@pdfstartview
10745 }%
10746 \fi
10747 \fi
10748 \edef\Hy@temp{%
10749 \noexpand\pdfmark{%
10750 pdfmark=/DOCVIEW,%
10751 PageMode=/\@pdfpagemode
10752 \Hy@temp
10753 }%
10754 }%
10755 \Hy@temp
10756 \ifx\@pdfpagescrop\@empty
10757 \else
10758 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10759 \fi
10760 \edef\Hy@temp{%
10761 \ifHy@toolbar\else /HideToolbar true\fi
10762 \ifHy@menubar\else /HideMenubar true\fi
10763 \ifHy>windowui\else /HideWindowUI true\fi
10764 \ifHy@fitwindow /FitWindow true\fi
10765 \ifHy@centerwindow /CenterWindow true\fi
10766 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10767 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10768 \Hy@UseNameKey{Direction}\@pdfdirection
10769 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10770 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10771 \Hy@UseNameKey{PrintArea}\@pdfprintarea

```

```

10772 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10773 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10774 \Hy@UseNameKey{Duplex}\@pdfduplex
10775 \ifx\@pdfpicktraybypdfsize\@empty
10776 \else
10777 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10778 \fi
10779 \ifx\@pdfprintpagerange\@empty
10780 \else
10781 /PrintPageRange[\@pdfprintpagerange]%
10782 \fi
10783 \ifx\@pdfnumcopies\@empty
10784 \else
10785 /NumCopies \@pdfnumcopies
10786 \fi
10787 }%
10788 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10789 \pdfmark{%
10790 pdfmark=/PUT,%
10791 Raw={%
10792 \string{Catalog\string}<<%
10793 \ifx\Hy@temp\@empty
10794 \else
10795 /ViewerPreferences<<\Hy@temp>>%
10796 \fi
10797 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10798 \ifx\@pdflang\@empty
10799 \else
10800 /Lang(\@pdflang)%
10801 \fi
10802 \ifx\@baseurl\@empty
10803 \else
10804 /URI<</Base(\Hy@pstringB)>>%
10805 \fi
10806 >>%
10807 }%
10808 }%
10809 }
10810 \providecommand*\@pdfview{XYZ}
10811 \providecommand*\@pdfviewparams{ %
10812 gsave revscl currentpoint grestore %
10813 72 add exch pop null exch null%
10814 }
10815 \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  $T_E X$ .

```

10816 \g@addto@macro\Hy@FirstPageHook{%
10817 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

10818 /DvipsToPDF { 65781 div } def%
10819 /PDFToDvips { 65781 mul } def%
10820 /BPToDvips{65781 mul}def%
10821 /HyperBorder { 1 PDFToDvips } def%

```

```
10822 /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.

```
10823 /BorderArrayPatch{%
10824 [exch{%
10825 dup dup type/integertype eq exch type/realtype eq or%
10826 {BPToDvips}if%
10827 }forall]%
10828 }def%

10829 /H.S {%
10830 currentpoint %
10831 HyperBorder add /pdf@lly exch def %
10832 dup DvipsToPDF 72 add /pdf@hoff exch def %
10833 HyperBorder sub /pdf@llx exch def%
10834 } def%

10835 /H.L {%
10836 2 sub %
10837 PDFToDvips /HyperBase exch def %
10838 currentpoint %
10839 HyperBase sub /pdf@ury exch def%
10840 /pdf@urx exch def%
10841 } def%

10842 /H.A {%
10843 H.L %
10844 currentpoint exch pop %
10845 HyperBase sub % baseline skip
10846 DvipsToPDF /pdf@voff exch def%
10847 } def%

10848 /H.R {%
10849 currentpoint %
10850 HyperBorder sub /pdf@ury exch def %
10851 HyperBorder add /pdf@urx exch def %
10852 currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10853 } def%
10854 }%
10855 }
10856 </dvipsone>
```

## 46.13 TeX4ht

```
10857 <*tex4ht>
10858 \providecommand*{\XR@ext}{html}
10859 \def\Hy@raisedlink{}
10860 \ifpackageloaded{tex4ht}{%
10861 \typeout{hyperref tex4ht: tex4ht already loaded}%
10862 }{%
10863 \RequirePackage[hTeX4ht]{tex4ht}%
10864 }
10865 \hyperlinkfileprefix{}
10866 \def\PDF@FinishDoc{}
10867 \def\PDF@SetupDoc{%
10868 \ifx\@baseurl\@empty
10869 \else
10870 \special{t4ht=<base href="\@baseurl">}%
10871 \fi
10872 }
```

```

10873 \def\hyper@anchor#1{%
10874 \Hy@SaveLastskip
10875 \Hy@VerboseAnchor{#1}%
10876 \begingroup
10877 \let\protect=\string
10878 \special{t4ht=<a name=%
10879 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10880 \endgroup
10881 \Hy@activeanchortrue
10882 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10883 \special{t4ht=}%
10884 \Hy@activeanchorfalse
10885 \Hy@RestoreLastskip
10886 }
10887 \def\hyper@anchorstart#1{%
10888 \Hy@SaveLastskip
10889 \Hy@VerboseAnchor{#1}%
10890 \begingroup
10891 \hyper@chars\special{t4ht=<a name=%
10892 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10893 \endgroup
10894 \Hy@activeanchortrue
10895 }
10896 \def\hyper@anchorend{%
10897 \special{t4ht=}%
10898 \Hy@activeanchorfalse
10899 \Hy@RestoreLastskip
10900 }
10901 \def\@urltype{url}
10902 \def\hyper@linkstart#1#2{%
10903 \Hy@VerboseLinkStart{#1}{#2}%
10904 \expandafter\Hy@colorlink\csname @#1color\endcsname
10905 \def\Hy@tempa{#1}%
10906 \ifx\Hy@tempa\@urltype
10907 \special{t4ht=}%
10908 \else
10909 \begingroup
10910 \hyper@chars
10911 \special{t4ht=<a href=%
10912 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10913 \endgroup
10914 \fi
10915 }
10916 \def\hyper@linkend{%
10917 \special{t4ht=}%
10918 \Hy@endcolorlink
10919 }
10920 \def\hyper@linkfile#1#2#3{%
10921 \hyper@linkurl{#1}\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10922 }
10923 \def\hyper@linkurl#1#2{%
10924 \leavevmode
10925 \ifHy@raiselinks
10926 \setbox\@tempboxa=\color@hbox #1\color@endbox
10927 \@linkdim\dp\@tempboxa
10928 \lower\@linkdim\hbox{%
10929 \begingroup

```



```

10930 \hyper@chars
10931 \special{%
10932 t4ht=%
10933 }%
10934 \endgroup
10935 }%
10936 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10937 \@linkdim\ht\@tempboxa
10938 \advance\@linkdim by -6.5\p@
10939 \raise\@linkdim\hbox{\special{t4ht=}}%
10940 \else
10941 \begingroup
10942 \hyper@chars
10943 \special{t4ht=}%
10944 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10945 \special{t4ht=}%
10946 \endgroup
10947 \fi
10948 }

```

Poor implementation of \hyper@link without considering #1.

```

10949 \def\hyper@link#1#2#3{%
10950 \Hy@VerboseLinkStart{#1}{#2}%
10951 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10952 }
10953 \def\hyper@image#1#2{%
10954 \begingroup
10955 \hyper@chars
10956 \special{t4ht=}%
10957 \endgroup
10958 }
10959 \let\autoref\ref
10960 \ifx \rEfLiNK \UnDef
10961 \def\rEfLiNK #1#2{#2}%
10962 \fi
10963 \def\backref#1{}
10964 </tex4ht>
10965 <*tex4htcfg>
10966 \IfFileExists{\jobname.cfg}{\endinput}{}
10967 \Preamble{html}
10968 \begin{document}%
10969 \EndPreamble
10970 \def\TeX{TeX}
10971 \def\OMEGA{\Omega}
10972 \def\LaTeX{LaTeX}
10973 \def\LaTeXe{\LaTeX2e}
10974 \def\eTeX{e-TeX}
10975 \def\MF{Metafont}
10976 \def\MP{MetaPost}
10977 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10978 <*pdfmark>
10979 \long\def\@Form[#1]{%
10980 \g@addto@macro\Hy@FirstPageHook{%

```

```

10981 \headerps@out{%
10982 [%
10983 /_objdef{pdfDocEncoding}%
10984 /type/dict%
10985 /OBJ pdfmark%
10986 [%
10987 {pdfDocEncoding}%
10988 <<%
10989 /Type/Encoding%
10990 /Differences[%
10991 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10992 /tilde %
10993 39/quotesingle %
10994 96/grave %
10995 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10996 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10997 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10998 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10999 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11000 164/currency %
11001 166/brokenbar %
11002 168/dieresis/copyright/ordfeminine %
11003 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11004 /twosuperior/threesuperior/acute/mu %
11005 183/periodcentered/cedilla/onesuperior/ordmasculine %
11006 188/onequarter/onehalf/threequarters %
11007 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11008 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11009 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11010 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11011 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11012 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11013 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11014 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11015 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11016 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11017]%
11018 >>%
11019 /PUT pdfmark%
11020 [%
11021 /_objdef{ZaDb}%
11022 /type/dict%
11023 /OBJ pdfmark%
11024 [%
11025 {ZaDb}%
11026 <<%
11027 /Type/Font%
11028 /Subtype/Type1%
11029 /Name/ZaDb%
11030 /BaseFont/ZapfDingbats%
11031 >>%
11032 /PUT pdfmark%
11033 [%
11034 /_objdef{Helv}%
11035 /type/dict%
11036 /OBJ pdfmark%
11037 [%

```

```

11038 {Helv}%
11039 <<%
11040 /Type/Font%
11041 /Subtype/Type1%
11042 /Name/Helv%
11043 /BaseFont/Helvetica%
11044 /Encoding{pdfDocEncoding}%
11045 >>%
11046 /PUT pdfmark%
11047 [%
11048 /__objdef{aform}%
11049 /type/dict%
11050 /OBJ pdfmark%
11051 [%
11052 /__objdef{afields}%
11053 /type/array%
11054 /OBJ pdfmark%
11055 {%
11056 [%
11057 /BBox[0 0 100 100]%
11058 /__objdef{Check}%
11059 /BP pdfmark %
11060 1 0 0 setrgbcolor%
11061 /ZapfDingbats 80 selectfont %
11062 20 20 moveto%
11063 (4)show%
11064 [/EP pdfmark%
11065 [%
11066 /BBox[0 0 100 100]%
11067 /__objdef{Cross}%
11068 /BP pdfmark %
11069 1 0 0 setrgbcolor%
11070 /ZapfDingbats 80 selectfont %
11071 20 20 moveto%
11072 (8)show%
11073 [/EP pdfmark%
11074 [%
11075 /BBox[0 0 250 100]%
11076 /__objdef{Submit}%
11077 /BP pdfmark %
11078 0.6 setgray %
11079 0 0 250 100 rectfill %
11080 1 setgray %
11081 2 2 moveto %
11082 2 98 lineto %
11083 248 98 lineto %
11084 246 96 lineto %
11085 4 96 lineto %
11086 4 4 lineto %
11087 fill %
11088 0.34 setgray %
11089 248 98 moveto %
11090 248 2 lineto %
11091 2 2 lineto %
11092 4 4 lineto %
11093 246 4 lineto %
11094 246 96 lineto %

```

```

11095 fill%
11096 /Helvetica 76 selectfont %
11097 0 setgray %
11098 8 22.5 moveto%
11099 (Submit)show%
11100 [/EP pdfmark%
11101 [%
11102 /BBox[0 0 250 100]%
11103 /_objdef{SubmitP}%
11104 /BP pdfmark %
11105 0.6 setgray %
11106 0 0 250 100 rectfill %
11107 0.34 setgray %
11108 2 2 moveto %
11109 2 98 lineto %
11110 248 98 lineto %
11111 246 96 lineto %
11112 4 96 lineto %
11113 4 4 lineto %
11114 fill %
11115 1 setgray %
11116 248 98 moveto %
11117 248 2 lineto %
11118 2 2 lineto %
11119 4 4 lineto %
11120 246 4 lineto %
11121 246 96 lineto %
11122 fill%
11123 /Helvetica 76 selectfont %
11124 0 setgray %
11125 10 20.5 moveto%
11126 (Submit)show%
11127 [/EP pdfmark%
11128 } ?pdfmark%
11129 [%
11130 {aform}%
11131 <<%
11132 /Fields{afields}%
11133 /DR<<%
11134 /Font<<%
11135 /ZaDb{ZaDb}%
11136 /Helv{Helv}%
11137 >>%
11138 >>%
11139 /DA(/Helv 10 Tf 0 g)%
11140 /CO{corder}%
11141 \ifHy@pdfa
11142 \else
11143 /NeedAppearances true%
11144 \fi
11145 >>%
11146 /PUT pdfmark%
11147 [%
11148 {Catalog}%
11149 <<%
11150 /AcroForm{aform}%
11151 >>%

```

```

11152 /PUT pdfmark%
11153 [%
11154 /_objdef{corder}%
11155 /type/array%
11156 /OBJ pdfmark% dps
11157 }}%
11158 \setkeys{Form}{#1}%
11159 }
11160 \def\@endForm{}
11161 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11162 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11163 }
11164 \def\@TextField[#1]#2{% parameters, label
11165 \def\Fld@name{#2}%
11166 \def\Fld@default{}%
11167 \let\Fld@value\@empty
11168 \def\Fld@width{\DefaultWidthofText}%
11169 \def\Fld@height{%
11170 \ifFld@multiline
11171 \DefaultHeightofTextMultiline
11172 \else
11173 \DefaultHeightofText
11174 \fi
11175 }%
11176 \begingroup
11177 \Field@toks={ }%
11178 \expandafter\HyField@SetKeys\expandafter{%
11179 \DefaultOptionsofText,#1%
11180 }%
11181 \HyField@FlagsText
11182 \ifFld@hidden\def\Fld@width{1sp}\fi
11183 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11184 \LayoutTextField{#2}{%
11185 \Hy@escapeform\PDFForm@Text
11186 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11187 pdfmark=/ANN,Raw={\PDFForm@Text}%
11188 }%
11189 }%
11190 \endgroup
11191 }
11192 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11193 \def\Fld@name{#2}%
11194 \let\Fld@default\relax
11195 \let\Fld@value\relax
11196 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11197 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11198 \begingroup
11199 \Fld@menulength=0 %
11200 \@tempdima\z@
11201 \@for\@curropt:=#3\do{%
11202 \expandafter\Fld@checkequals\@curropt==\%
11203 \Hy@StepCount\Fld@menulength
11204 \settowidth{\@tempdimb}{\@currDisplay}%
11205 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11206 }%
11207 \advance\@tempdima by 15\p@
11208 \Field@toks={ }%

```

```

11209 \begingroup
11210 \HyField@SetKeys{#1}%
11211 \edef\x{\endgroup
11212 \noexpand\expandafter
11213 \noexpand\HyField@SetKeys
11214 \noexpand\expandafter{%
11215 \expandafter\noexpand\csname DefaultOptionsof%
11216 \ifFld@radio
11217 Radio%
11218 \else
11219 \ifFld@combo
11220 \ifFld@popdown
11221 PopdownBox%
11222 \else
11223 ComboBox%
11224 \fi
11225 \else
11226 ListBox%
11227 \fi
11228 \fi
11229 \endcsname
11230 }%
11231 }\x
11232 \HyField@SetKeys{#1}%
11233 \ifFld@hidden\def\Fld@width{1sp}\fi
11234 \ifx\Fld@value\relax
11235 \let\Fld@value\Fld@default
11236 \fi
11237 \LayoutChoiceField{#2}{%
11238 \ifFld@radio
11239 \HyField@FlagsRadioButton
11240 \@@Radio{#3}%
11241 \else
11242 \begingroup
11243 \HyField@FlagsChoice
11244 \ifdim\Fld@width<\@tempdima
11245 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11246 \edef\Fld@width{\the\@tempdima}%
11247 \fi
11248 \ifFld@combo
11249 \else
11250 \@tempdima=\the\Fld@menulength\Fld@charsize
11251 \advance\@tempdima by \Fld@borderwidth bp %
11252 \advance\@tempdima by \Fld@borderwidth bp %
11253 \edef\Fld@height{\the\@tempdima}%
11254 \fi
11255 \@@ListBox{#3}%
11256 \endgroup
11257 \fi
11258 }%
11259 \endgroup
11260 }
11261 \def\@@Radio#1{%
11262 \Fld@listcount=0 %
11263 \@for\@curropt:=#1\do{%
11264 \expandafter\Fld@checkequals\@curropt==\\%
11265 \Hy@StepCount\Fld@listcount

```

```

11266 \@currDisplay\space
11267 \Hy@escapeform\PDFForm@Radio
11268 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11269 pdfmark=/ANN,%
11270 Raw={%
11271 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11272 }%
11273 } % deliberate space between radio buttons
11274 }%
11275 }
11276 \newcount\Fld@listcount
11277 \def\@@ListBox#1{%
11278 \HyField@PDFChoices{#1}%
11279 \Hy@escapeform\PDFForm@List
11280 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11281 pdfmark=/ANN,Raw={\PDFForm@List}%
11282 }%
11283 }
11284 \def\@PushButton[#1]#2{% parameters, label
11285 \def\Fld@name{#2}%
11286 \begingroup
11287 \Field@toks={ }%
11288 \expandafter\HyField@SetKeys\expandafter{%
11289 \DefaultOptionsofPushButton,#1%
11290 }%
11291 \ifHy@pdfa
11292 \PackageError{hyperref}{%
11293 PDF/A: Push button with JavaScript is prohibited%
11294 }\@ehc
11295 \LayoutPushButtonField{%
11296 \leavevmode
11297 \MakeButtonField{#2}%
11298 }%
11299 \else
11300 \HyField@FlagsPushButton
11301 \ifFld@hidden\def\Fld@width{1sp}\fi
11302 \LayoutPushButtonField{%
11303 \leavevmode
11304 \Hy@escapeform\PDFForm@Push
11305 \pdfmark[\MakeButtonField{#2}]{%
11306 pdfmark=/ANN,Raw={\PDFForm@Push}%
11307 }%
11308 }%
11309 \fi
11310 \endgroup
11311 }
11312 \def\@Submit[#1]#2{%
11313 \Field@toks={ }%
11314 \def\Fld@width{\DefaultWidthofSubmit}%
11315 \def\Fld@height{\DefaultHeightofSubmit}%
11316 \begingroup
11317 \expandafter\HyField@SetKeys\expandafter{%
11318 \DefaultOptionsofSubmit,#1%
11319 }%
11320 \HyField@FlagsPushButton
11321 \HyField@FlagsSubmit
11322 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

11323 \Hy@escapeform\PDFForm@Submit
11324 \pdfmark[\MakeButtonField{#2}]{%
11325 pdfmark=/ANN,%
11326 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11327 }%
11328 \endgroup
11329 }
11330 \def\@Reset[#1]#2{%
11331 \Field@toks={ }%
11332 \def\Fld@width{\DefaultWidthofReset}%
11333 \def\Fld@height{\DefaultHeightofReset}%
11334 \begingroup
11335 \expandafter\HyField@SetKeys\expandafter{%
11336 \DefaultOptionsofReset,#1%
11337 }%
11338 \leavevmode
11339 \ifHy@pdfa
11340 \PackageError{hyperref}{%
11341 PDF/A: Reset action is prohibited%
11342 }\@ehc
11343 \MakeButtonField{#2}%
11344 \else
11345 \HyField@FlagsPushButton
11346 \ifFld@hidden\def\Fld@width{1sp}\fi
11347 \Hy@escapeform\PDFForm@Reset
11348 \pdfmark[\MakeButtonField{#2}]{%
11349 pdfmark=/ANN,Raw={\PDFForm@Reset}%
11350 }%
11351 \fi
11352 \endgroup
11353 }%
11354 \def\@CheckBox[#1]#2{% parameters, label
11355 \def\Fld@name{#2}%
11356 \def\Fld@default{0}%
11357 \begingroup
11358 \def\Fld@width{\DefaultWidthofCheckBox}%
11359 \def\Fld@height{\DefaultHeightofCheckBox}%
11360 \Field@toks={ }%
11361 \expandafter\HyField@SetKeys\expandafter{%
11362 \DefaultOptionsofCheckBox,#1%
11363 }%
11364 \HyField@FlagsCheckBox
11365 \ifFld@hidden\def\Fld@width{1sp}\fi
11366 \LayoutCheckField{#2}{%
11367 \Hy@escapeform\PDFForm@Check
11368 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11369 pdfmark=/ANN,Raw={\PDFForm@Check}%
11370 }%
11371 }%
11372 \endgroup
11373 }
11374 \pdfmark

```

## 47.2 HyperTeX

```

11375 \hypertex
11376 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11377 \def\@endForm{}

```



```

11378 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11379 \typeout{Sorry, HyperTeX does not support FORM gauges}%
11380 }
11381 \def\@TextField[#1]#2{% parameters, label
11382 \typeout{Sorry, HyperTeX does not support FORM text fields}%
11383 }
11384 \def\@CheckBox[#1]#2{% parameters, label
11385 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
11386 }
11387 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11388 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
11389 }
11390 \def\@PushButton[#1]#2{% parameters, label
11391 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
11392 }
11393 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11394 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11395 \end{hypertex}

```

### 47.3 TeX4ht

```

11396 *tex4ht
11397 \def\@Form[#1]{%
11398 \setkeys{Form}{#1}%
11399 \HCode{<form action="\Form@action" method="\Form@method">}%
11400 }
11401 \def\@endForm{\HCode{</form>}}
11402 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11403 \typeout{Sorry, TeX4ht does not support gauges}%
11404 }
11405 \def\@TextField[#1]#2{% parameters, label
11406 \let\Hy@reserved@a\@empty
11407 \def\Fld@name{#2}%
11408 \def\Fld@default{}%
11409 \bgroup
11410 \Field@toks={ }%
11411 \setkeys{Field}{#1}%
11412 \HCode{<label for="\Fld@name">#2</label>}%
11413 \ifFld@password
11414 \@@PasswordField
11415 \else
11416 \@@TextField
11417 \fi
11418 \egroup
11419 }
11420 \def\@@PasswordField{%
11421 \HCode{%
11422 <input type="password" %
11423 id="\Fld@name" %
11424 name="\Fld@name" %
11425 \ifFld@hidden type="hidden" \fi
11426 value="\Fld@default" %
11427 \the\Field@toks
11428 >%
11429 }%
11430 }
11431 \def\@@TextField{%
11432 \ifFld@multiline

```

```

11433 \HCode{<textarea %
11434 \ifFld@readonly readonly \fi
11435 id="\Fld@name" %
11436 name="\Fld@name" %
11437 \ifFld@hidden type="hidden" \fi
11438 \the\Field@toks>%
11439 }%
11440 \Fld@default
11441 \HCode{</textarea>}%
11442 \else
11443 \HCode{<input type="textbox" %
11444 \ifFld@readonly readonly \fi
11445 id="\Fld@name" %
11446 name="\Fld@name" %
11447 \ifFld@hidden type="hidden" \fi
11448 value="\Fld@default" %
11449 \the\Field@toks>%
11450 }%
11451 \fi
11452 }
11453 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11454 \def\Fld@name{#2}%
11455 \def\Fld@default{}%
11456 \let\Hy@reserved@a\relax
11457 \begingroup
11458 \expandafter\Fld@findlength#3\\%
11459 \Field@toks={ }%
11460 \setkeys{Field}{#1}%
11461 #2%
11462 \ifFld@radio
11463 \expandafter\@@Radio#3\\%
11464 \else
11465 \expandafter\@@Menu#3\\%
11466 \fi
11467 \endgroup
11468 }
11469 \def\Fld@findlength#1\\{%
11470 \Fld@menulength=0 %
11471 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
11472 }
11473 \def\@@Menu#1\\{%
11474 \HCode{<select size="\the\Fld@menulength" %
11475 name="\Fld@name" %
11476 \the\Field@toks>%
11477 }%
11478 \@for\@curropt:=#1\do{%
11479 \expandafter\Fld@checkequals\@curropt==\\%
11480 \HCode{<option %
11481 \ifx\@curropt\Fld@default selected \fi
11482 value="\@currValue">\@currDisplay</option>%
11483 }%
11484 }%
11485 \HCode{</select>}%
11486 }
11487 \def\@@Radio#1\\{%
11488 \@for\@curropt:=#1\do{%
11489 \expandafter\Fld@checkequals\@curropt==\\%

```

```

11490 \HCode{<input type="radio" %
11491 \ifx\@curropt\Fld@default checked \fi
11492 name="\Fld@name" %
11493 value="\@currValue" %
11494 \the\Fld@toks>%
11495 }%
11496 \@currDisplay
11497 }%
11498 }
11499 \def\@PushButton[#1]#2{% parameters, label
11500 \def\Fld@name{#2}%
11501 \bgroup
11502 \Field@toks={ }%
11503 \setkeys{Field}{#1}%
11504 \HCode{<input type="button" %
11505 name="\Fld@name" %
11506 value="#2" %
11507 \the\Fld@toks>%
11508 }%
11509 \HCode{</button>}%
11510 \egroup
11511 }
11512 \def\@Submit[#1]#2{%
11513 \HCode{<button type="submit">#2</button>}%
11514 }
11515 \def\@Reset[#1]#2{%
11516 \HCode{<button type="reset">#2</button>}%
11517 }
11518 \def\@CheckBox[#1]#2{% parameters, label
11519 \let\Hy@reserved@a\@empty
11520 \def\Fld@name{#2}%
11521 \def\Fld@default{0}%
11522 \bgroup
11523 \Field@toks={ }%
11524 \setkeys{Field}{#1}%
11525 \HCode{<input type="checkbox" %
11526 \ifFld@checked checked \fi
11527 \ifFld@disabled disabled \fi
11528 \ifFld@readonly readonly \fi
11529 name="\Fld@name" %
11530 \ifFld@hidden type="hidden" \fi
11531 value="\Fld@default" %
11532 \the\Fld@toks>%
11533 #2%
11534 }%
11535 \egroup
11536 }
11537 </tex4ht>

```

## 47.4 pdfTeX

```

11538 <*pdfTeX>
11539 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11540 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11541 }
11542 \def\MakeFieldObject#1#2{\sbox0{#1}%
11543 \immediate\pdfxform0 %
11544 \expandafter\edef\csname #2Object\endcsname{%

```

```

11545 \the\pdflastxform\space 0 R%
11546 }%
11547 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
11548 }%
11549 \def\HyField@afields{}
11550 \begingroup\expandafter\expandafter\expandafter\endgroup
11551 \expandafter\ifx\csname pdflastlink\endcsname\relax
11552 \let\HyField@AddToFields\relax
11553 \PackageInfo{hyperref}{%
11554 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11555 \MessageBreak
11556 Adobe Reader/Acrobat accepts an empty /Field array,%
11557 \MessageBreak
11558 but other PDF viewers might complain%
11559 }%
11560 \else
11561 \def\HyField@AuxAddToFields#1{%
11562 \def\HyField@AfterAuxOpen{\AtBeginDocument}%
11563 \AtBeginDocument{%
11564 \if@filesw
11565 \immediate\write\@mainaux{%
11566 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11567 }%
11568 \fi
11569 \let\HyField@AfterAuxOpen\@firstofone
11570 \def\HyField@AuxAddToFields#1{%
11571 \xdef\HyField@afields{%
11572 \ifx\HyField@afields\@empty
11573 \else
11574 \HyField@afields
11575 \space
11576 \fi
11577 #1 0 R%
11578 }%
11579 }%
11580 }%
11581 \def\HyField@AddToFields{%
11582 \expandafter\HyField@@AddToFields\expandafter{%
11583 \the\pdflastlink
11584 }%
11585 }%
11586 \def\HyField@@AddToFields#1{%
11587 \HyField@AfterAuxOpen{%
11588 \if@filesw
11589 \write\@mainaux{%
11590 \string\HyField@AuxAddToFields{#1}%
11591 }%
11592 \fi
11593 }%
11594 }%
11595 \fi
11596 \def\@Form[#1]{%
11597 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11598 \setkeys{Form}{#1}%
11599 \Hy@FormObjects
11600 \ifnum\pdfTeXversion>13 %
11601 \pdfrefobj\OBJ@pdfdocencoding

```

```

11602 \pdfrefobj\OBJ@ZaDb
11603 \pdfrefobj\OBJ@Helv
11604 \fi
11605 \AtVeryEndDocument{%
11606 \immediate\pdfobj{%
11607 <<%
11608 /Fields\HyField@afields}%
11609 /DR<<%
11610 /Font<<%
11611 /ZaDb \OBJ@ZaDb\space 0 R%
11612 /Helv \OBJ@Helv\space 0 R%
11613 >>%
11614 >>%
11615 /DA(/Helv 10 Tf 0 g)%
11616 \ifHy@pdfa
11617 \else
11618 /NeedAppearances true%
11619 \fi
11620 >>%
11621 }%
11622 \edef\OBJ@acroform{\the\pdfastobj}%
11623 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11624 }%
11625 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

11626 \begingroup
11627 \fontfamily{pzd}%
11628 \fontencoding{U}%
11629 \fontseries{m}%
11630 \fontshape{n}%
11631 \selectfont
11632 \char123 %
11633 \endgroup
11634 }{Ding}%
11635 \MakeFieldObject{%
11636 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11637 }{Submit}%
11638 \MakeFieldObject{%
11639 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11640 }{SubmitP}%
11641 }
11642 \def\@endForm{}
11643 \def\@TextField[#1]#2{% parameters, label
11644 \def\Fld@name{#2}%
11645 \def\Fld@default{}%
11646 \let\Fld@value\@empty
11647 \def\Fld@width{\DefaultWidthofText}%
11648 \def\Fld@height{%
11649 \ifFld@multiline
11650 \DefaultHeightofTextMultiline
11651 \else
11652 \DefaultHeightofText
11653 \fi
11654 }%
11655 \begingroup
11656 \Field@toks={}%
11657 \expandafter\HyField@SetKeys\expandafter{%

```

```

11658 \DefaultOptionsofText,#1%
11659 }%
11660 \PDFForm@Name
11661 \HyField@FlagsText
11662 \ifFld@hidden\def\Fld@width{1sp}\fi
11663 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
11664 \LayoutTextField{#2}{%
11665 \Hy@escapeform\PDFForm@Text
11666 \pdfstartlink user {\PDFForm@Text}\relax
11667 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11668 \HyField@AddToFields
11669 }%
11670 \endgroup
11671 }
11672 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11673 \def\Fld@name{#2}%
11674 \let\Fld@default\relax
11675 \let\Fld@value\relax
11676 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11677 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11678 \begingroup
11679 \Fld@menulength=0 %
11680 \@tempdima\z@
11681 \@for\@curropt:=#3\do{%
11682 \expandafter\Fld@checkequals\@curropt==\%
11683 \Hy@StepCount\Fld@menulength
11684 \settowidth{\@tempdimb}{\@currDisplay}%
11685 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11686 }%
11687 \advance\@tempdima by 15\p@
11688 \Field@toks={ }%
11689 \begingroup
11690 \HyField@SetKeys{#1}%
11691 \edef\x{\endgroup
11692 \noexpand\expandafter
11693 \noexpand\HyField@SetKeys
11694 \noexpand\expandafter{%
11695 \expandafter\noexpand\csname DefaultOptionsof%
11696 \ifFld@radio
11697 Radio%
11698 \else
11699 \ifFld@combo
11700 \ifFld@popdown
11701 PopdownBox%
11702 \else
11703 ComboBox%
11704 \fi
11705 \else
11706 ListBox%
11707 \fi
11708 \fi
11709 \endcsname
11710 }%
11711 }\x
11712 \HyField@SetKeys{#1}%
11713 \PDFForm@Name
11714 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

11715 \ifx\Fld@value\relax
11716 \let\Fld@value\Fld@default
11717 \fi
11718 \LayoutChoiceField{#2}{%
11719 \ifFld@radio
11720 \HyField@FlagsRadioButton
11721 \@@Radio{#3}%
11722 \else
11723 \beginngroup
11724 \HyField@FlagsChoice
11725 \ifdim\Fld@width<\@tempdima
11726 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11727 \edef\Fld@width{\the\@tempdima}%
11728 \fi
11729 \ifFld@combo
11730 \else
11731 \@tempdima=\the\Fld@menulength\Fld@charsize
11732 \advance\@tempdima by \Fld@borderwidth bp %
11733 \advance\@tempdima by \Fld@borderwidth bp %
11734 \edef\Fld@height{\the\@tempdima}%
11735 \fi
11736 \@@ListBox{#3}%
11737 \endgroup
11738 \fi
11739 }%
11740 \endgroup
11741 }
11742 \def\@@Radio#1{%
11743 \Fld@listcount=0 %
11744 \@for\@curropt:=#1\do{%
11745 \expandafter\Fld@checkequals\@curropt==\%
11746 \Hy@StepCount\Fld@listcount
11747 \@currDisplay\space
11748 \leavevmode
11749 \Hy@escapeform\PDFForm@Radio
11750 \pdfstartlink user {%
11751 \PDFForm@Radio
11752 /AP<<%
11753 /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.

```

11754 /\@currValue\space \DingObject
11755 >>%
11756 >>%
11757 }%
11758 \relax
11759 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11760 \ifnum\Fld@listcount=1 %
11761 \HyField@AddToFields
11762 \fi
11763 \space % deliberate space between radio buttons
11764 }%
11765 }
11766 \newcount\Fld@listcount
11767 \def\@@ListBox#1{%
11768 \HyField@PDFChoices{#1}%

```

```

11769 \leavevmode
11770 \Hy@escapeform\PDFForm@List
11771 \pdfstartlink user {\PDFForm@List}\relax
11772 \MakeChoiceField{\Fld@width}{\Fld@height}%
11773 \pdfendlink
11774 \HyField@AddToFields
11775 }
11776 \def\@PushButton[#1]#2{% parameters, label
11777 \def\Fld@name{#2}%
11778 \begingroup
11779 \Field@toks={ }%
11780 \expandafter\HyField@SetKeys\expandafter{%
11781 \DefaultOptionsofPushButton,#1%
11782 }%
11783 \PDFForm@Name
11784 \ifHy@pdfa
11785 \PackageError{hyperref}{%
11786 PDF/A: Push button with JavaScript is prohibited%
11787 }\@ehc
11788 \LayoutPushButtonField{%
11789 \leavevmode
11790 \MakeButtonField{#2}%
11791 }%
11792 \else
11793 \HyField@FlagsPushButton
11794 \ifFld@hidden\def\Fld@width{1sp}\fi
11795 \LayoutPushButtonField{%
11796 \leavevmode
11797 \Hy@escapeform\PDFForm@Push
11798 \pdfstartlink user {\PDFForm@Push}\relax
11799 \MakeButtonField{#2}%
11800 \pdfendlink
11801 \HyField@AddToFields
11802 }%
11803 \fi
11804 \endgroup
11805 }
11806 \def\@Submit[#1]#2{%
11807 \Field@toks={ }%
11808 \def\Fld@width{\DefaultWidthofSubmit}%
11809 \def\Fld@height{\DefaultHeightofSubmit}%
11810 \begingroup
11811 \expandafter\HyField@SetKeys\expandafter{%
11812 \DefaultOptionsofSubmit,#1%
11813 }%
11814 \HyField@FlagsPushButton
11815 \HyField@FlagsSubmit
11816 \ifFld@hidden\def\Fld@width{1sp}\fi
11817 \leavevmode
11818 \Hy@escapeform\PDFForm@Submit
11819 \pdfstartlink user {%
11820 \PDFForm@Submit
11821 /AP<</N \SubmitObject/D \SubmitPObject>>%
11822 }%
11823 \relax
11824 \MakeButtonField{#2}%
11825 \pdfendlink

```



```

11826 \HyField@AddToFields
11827 \endgroup
11828 }
11829 \def\@Reset[#1]#2{%
11830 \Field@toks={ }%
11831 \def\Fld@width{\DefaultWidthofReset}%
11832 \def\Fld@height{\DefaultHeightofReset}%
11833 \begingroup
11834 \expandafter\HyField@SetKeys\expandafter{%
11835 \DefaultOptionsofReset,#1%
11836 }%
11837 \leavevmode
11838 \ifHy@pdfa
11839 \PackageError{hyperref}{%
11840 PDF/A: Reset action is prohibited%
11841 }\@ehc
11842 \MakeButtonField{#2}%
11843 \else
11844 \HyField@FlagsPushButton
11845 \ifFld@hidden\def\Fld@width{1sp}\fi
11846 \Hy@escapeform\PDFForm@Reset
11847 \pdfstartlink user {\PDFForm@Reset}\relax
11848 \MakeButtonField{#2}%
11849 \pdfendlink
11850 \HyField@AddToFields
11851 \fi
11852 \endgroup
11853 }
11854 \def\@CheckBox[#1]#2{% parameters, label
11855 \def\Fld@name{#2}%
11856 \def\Fld@default{0}%
11857 \begingroup
11858 \def\Fld@width{\DefaultWidthofCheckBox}%
11859 \def\Fld@height{\DefaultHeightofCheckBox}%
11860 \Field@toks={ }%
11861 \expandafter\HyField@SetKeys\expandafter{%
11862 \DefaultOptionsofCheckBox,#1%
11863 }%
11864 \PDFForm@Name
11865 \HyField@FlagsCheckBox
11866 \ifFld@hidden\def\Fld@width{1sp}\fi
11867 \LayoutCheckField{#2}{%
11868 \Hy@escapeform\PDFForm@Check
11869 \pdfstartlink user {\PDFForm@Check}\relax
11870 \MakeCheckField{\Fld@width}{\Fld@height}%
11871 \pdfendlink
11872 \HyField@AddToFields
11873 }%
11874 \endgroup
11875 }
11876 \def\Hy@FormObjects{%
11877 \pdfobj {%
11878 <<%
11879 /Type/Encoding%
11880 /Differences[%
11881 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11882 /ring/tilde %

```

```

11883 39/quotesingle %
11884 96/grave %
11885 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11886 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11887 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11888 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11889 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11890 164/currency %
11891 166/brokenbar %
11892 168/dieresis/copyright/ordfeminine %
11893 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11894 /twosuperior/threesuperior/acute/mu %
11895 183/periodcentered/cedilla/onesuperior/ordmasculine %
11896 188/onequarter/onehalf/threequarters %
11897 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11898 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11899 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11900 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11901 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11902 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11903 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11904 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11905 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11906 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11907]%
11908 >>%
11909 }%
11910 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11911 \pdfobj{%
11912 <<%
11913 /Type/Font%
11914 /Subtype/Type1%
11915 /Name/ZaDb%
11916 /BaseFont/ZapfDingbats%
11917 >>%
11918 }%
11919 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11920 \pdfobj{%
11921 <<%
11922 /Type/Font%
11923 /Subtype/Type1%
11924 /Name/Helv%
11925 /BaseFont/Helvetica%
11926 /Encoding \OBJ@pdfdocencoding\space 0 R%
11927 >>%
11928 }%
11929 \xdef\OBJ@Helv{\the\pdflastobj}%
11930 \global\let\Hy@FormObjects\relax
11931 }
11932 </pdfTeX>

```

## 47.5 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.

```
11933 < *dvipdfm | xetex>
```

\@Gauge

```

11934 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11935 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11936 }

```

\@Form

```

11937 \def\@Form[#1]{%
11938 \ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11939 \setkeys{Form}{#1}%
11940 \Hy@FormObjects
11941 \@pdfm@mark{obj @afields []}%
11942 \@pdfm@mark{obj @corder []}%
11943 \@pdfm@mark{%
11944 obj @aform <<%
11945 /Fields @afields%
11946 /DR<<%
11947 /Font<<%
11948 /ZaDb @OBJZaDb%
11949 /Helv @OBJHelv%
11950 >>%
11951 >>%
11952 /DA(/Helv 10 Tf 0 g)%
11953 /CO @corder%
11954 \ifHy@pdfa
11955 \else
11956 /NeedAppearances true%
11957 \fi
11958 >>%
11959 }%
11960 \@pdfm@mark{put @catalog <</AcroForm @aform>>}}%
11961 }

```

\@endForm

```

11962 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

11963 \def\dvipdfm@setdim{%
11964 height \the\ht\pdfm@box\space
11965 width \the\wd\pdfm@box\space
11966 depth \the\dp\pdfm@box\space
11967 }

```

\HyField@AnnotCount

```

11968 \newcount\HyField@AnnotCount
11969 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

11970 \def\HyField@AdvanceAnnotCount{%
11971 \global\advance\HyField@AnnotCount\@ne
11972 }

```

\HyField@TheAnnotCount

```

11973 \def\HyField@TheAnnotCount{%
11974 \the\HyField@AnnotCount
11975 }

```

## \@TextField

```

11976 \def\@TextField[#1]#2{% parameters, label
11977 \def\Fld@name{#2}%
11978 \def\Fld@default{}%
11979 \let\Fld@value\@empty
11980 \def\Fld@width{\DefaultWidthofText}%
11981 \def\Fld@height{%
11982 \ifFld@multiline
11983 \DefaultHeightofTextMultiline
11984 \else
11985 \DefaultHeightofText
11986 \fi
11987 }%
11988 \begingroup
11989 \Field@toks={ }%
11990 \expandafter\HyField@SetKeys\expandafter{%
11991 \DefaultOptionsofText,#1%
11992 }%
11993 \PDFForm@Name
11994 \HyField@FlagsText
11995 \ifFld@hidden\def\Fld@width{1sp}\fi
11996 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11997 \setbox\pdfm@box=\hbox{%
11998 \MakeTextField{\Fld@width}{\Fld@height}%
11999 }%
12000 \HyField@AdvanceAnnotCount
12001 \LayoutTextField{#2}{%
12002 \Hy@escapeform\PDFForm@Text
12003 \@pdfm@mark{%
12004 ann @text\HyField@TheAnnotCount\space
12005 \dvipdfm@setdim << \PDFForm@Text >>%
12006 }%
12007 }%
12008 \unhbox\pdfm@box
12009 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12010 % record in @afields array
12011 \endgroup
12012 }

```

## \@ChoiceMenu

```

12013 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12014 \def\Fld@name{#2}%
12015 \let\Fld@default\relax
12016 \let\Fld@value\relax
12017 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12018 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12019 \begingroup
12020 \Fld@menulength=0 %
12021 \@tempdima\z@
12022 \@for\@curropt=#3\do{%
12023 \expandafter\Fld@checkequals\@curropt==\%
12024 \Hy@StepCount\Fld@menulength
12025 \settowidth{\@tempdimb}{\@currDisplay}%
12026 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12027 }%
12028 \advance\@tempdima by 15\p@
12029 \Field@toks={ }%

```

```

12030 \beginngroup
12031 \HyField@SetKeys{#1}%
12032 \edef\x{\endgroup
12033 \noexpand\expandafter
12034 \noexpand\HyField@SetKeys
12035 \noexpand\expandafter{%
12036 \expandafter\noexpand\csname DefaultOptionsof%
12037 \ifFld@radio
12038 Radio%
12039 \else
12040 \ifFld@combo
12041 \ifFld@popdown
12042 PopdownBox%
12043 \else
12044 ComboBox%
12045 \fi
12046 \else
12047 ListBox%
12048 \fi
12049 \fi
12050 \endcsname
12051 }%
12052 } \x
12053 \HyField@SetKeys{#1}%
12054 \PDFForm@Name
12055 \ifFld@hidden\def\Fld@width{1sp}\fi
12056 \ifx\Fld@value\relax
12057 \let\Fld@value\Fld@default
12058 \fi
12059 \LayoutChoiceField{#2}{%
12060 \ifFld@radio
12061 \HyField@FlagsRadioButton
12062 \@@Radio{#3}%
12063 \else
12064 \beginngroup
12065 \HyField@FlagsChoice
12066 \ifdim\Fld@width<\@tempdima
12067 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12068 \edef\Fld@width{\the\@tempdima}%
12069 \fi
12070 \ifFld@combo
12071 \else
12072 \@tempdima=\the\Fld@menulength\Fld@charsize
12073 \advance\@tempdima by \Fld@borderwidth bp %
12074 \advance\@tempdima by \Fld@borderwidth bp %
12075 \edef\Fld@height{\the\@tempdima}%
12076 \fi
12077 \@@ListBox{#3}%
12078 \endgroup
12079 \fi
12080 }%
12081 \endgroup
12082 }

```

\@@Radio

```

12083 \def\@@Radio#1{%
12084 \Fld@listcount=0 %

```

```

12085 \setbox\pdfm@box=\hbox{%
12086 \MakeRadioField{\Fld@width}{\Fld@height}%
12087 }%
12088 \@for\@curropt:=#1\do{%
12089 \expandafter\Fld@checkequals\@curropt==\%
12090 \Hy@StepCount\Fld@listcount
12091 \@currDisplay\space
12092 \leavevmode
12093 \Hy@escapeform\PDFForm@Radio
12094 \ifnum\Fld@listcount=1 %
12095 \HyField@AdvanceAnnotCount
12096 \fi
12097 \@pdfm@mark{%
12098 ann %
12099 \ifnum\Fld@listcount=1 %
12100 @radio\HyField@TheAnnotCount%
12101 \space
12102 \fi
12103 \dvipdfm@setdim
12104 <<%
12105 \PDFForm@Radio
12106 /AP<</N<</\@currValue /null>>>>%
12107 >>%
12108 }%
12109 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12110 \ifnum\Fld@listcount=1 %
12111 \@pdfm@mark{%
12112 put @afields @radio\HyField@TheAnnotCount
12113 }%
12114 \fi
12115 }%
12116 }

```

\Fld@listcount

```

12117 \newcount\Fld@listcount

```

\@@ListBox

```

12118 \def\@@ListBox#1{%
12119 \HyField@PDFChoices{#1}%
12120 \setbox\pdfm@box=\hbox{%
12121 \MakeChoiceField{\Fld@width}{\Fld@height}%
12122 }%
12123 \leavevmode
12124 \Hy@escapeform\PDFForm@List
12125 \HyField@AdvanceAnnotCount
12126 \@pdfm@mark{%
12127 ann @list\HyField@TheAnnotCount\space
12128 \dvipdfm@setdim
12129 <<\PDFForm@List>>%
12130 }%
12131 \unhbox\pdfm@box
12132 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12133 }

```

\@PushButton

```

12134 \def\@PushButton[#1]#2{% parameters, label
12135 \def\Fld@name{#2}%

```

```

12136 \begingroup
12137 \Field@toks={ }%
12138 \expandafter\HyField@SetKeys\expandafter{%
12139 \DefaultOptionsofPushButton,#1%
12140 }%
12141 \PDFForm@Name
12142 \ifHy@pdfa
12143 \PackageError{hyperref}{%
12144 PDF/A: Push button with JavaScript is prohibited%
12145 }\@ehc
12146 \LayoutPushButtonField{%
12147 \leavevmode
12148 \MakeButtonField{#2}%
12149 }%
12150 \else
12151 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12152 \HyField@FlagsPushButton
12153 \ifFld@hidden\def\Fld@width{1sp}\fi
12154 \HyField@AdvanceAnnotCount
12155 \LayoutPushButtonField{%
12156 \leavevmode
12157 \Hy@escapeform\PDFForm@Push
12158 \@pdfm@mark{%
12159 ann @push\HyField@TheAnnotCount\space
12160 \dvipdfm@setdim
12161 <<\PDFForm@Push>>%
12162 }%
12163 }%
12164 \unhbox\pdfm@box
12165 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12166 \fi
12167 \endgroup
12168 }

```

\@Submit

```

12169 \def\@Submit[#1]#2{%
12170 \Field@toks={ }%
12171 \def\Fld@width{\DefaultWidthofSubmit}%
12172 \def\Fld@height{\DefaultHeightofSubmit}%
12173 \begingroup
12174 \expandafter\HyField@SetKeys\expandafter{%
12175 \DefaultOptionsofSubmit,#1%
12176 }%
12177 \HyField@FlagsPushButton
12178 \HyField@FlagsSubmit
12179 \ifFld@hidden\def\Fld@width{1sp}\fi
12180 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12181 \leavevmode
12182 \Hy@escapeform\PDFForm@Submit
12183 \HyField@AdvanceAnnotCount
12184 \@pdfm@mark{%
12185 ann @submit\HyField@TheAnnotCount\space
12186 \dvipdfm@setdim
12187 <<\PDFForm@Submit>>%
12188 }%
12189 \unhbox\pdfm@box%
12190 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%

```

```

12191 \endgroup
12192 }

\@Reset
12193 \def\@Reset[#1]#2{%
12194 \Field@toks={ }%
12195 \def\Fld@width{\DefaultWidthofReset}%
12196 \def\Fld@height{\DefaultHeightofReset}%
12197 \begingroup
12198 \expandafter\HyField@SetKeys\expandafter{%
12199 \DefaultOptionsofReset,#1%
12200 }%
12201 \leavevmode
12202 \ifHy@pdfa
12203 \PackageError{hyperref}{%
12204 PDF/A: Reset action is prohibited%
12205 }\@ehc
12206 \MakeButtonField{#2}%
12207 \else
12208 \HyField@FlagsPushButton
12209 \ifFld@hidden\def\Fld@width{1sp}\fi
12210 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12211 \Hy@escapeform\PDFForm@Reset
12212 \HyField@AdvanceAnnotCount
12213 \@pdfm@mark{%
12214 ann @reset\HyField@TheAnnotCount\space
12215 \dvipdfm@setdim
12216 <<\PDFForm@Reset>>%
12217 }%
12218 \unhbox\pdfm@box
12219 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12220 \fi
12221 \endgroup
12222 }

\@CheckBox
12223 \def\@CheckBox[#1]#2{% parameters, label
12224 \def\Fld@name{#2}%
12225 \def\Fld@default{0}%
12226 \begingroup
12227 \def\Fld@width{\DefaultWidthofCheckBox}%
12228 \def\Fld@height{\DefaultHeightofCheckBox}%
12229 \Field@toks={ }%
12230 \expandafter\HyField@SetKeys\expandafter{%
12231 \DefaultOptionsofCheckBox,#1%
12232 }%
12233 \PDFForm@Name
12234 \HyField@FlagsCheckBox
12235 \ifFld@hidden\def\Fld@width{1sp}\fi
12236 \setbox\pdfm@box=\hbox{%
12237 \MakeCheckField{\Fld@width}{\Fld@height}%
12238 }%
12239 \HyField@AdvanceAnnotCount
12240 \LayoutCheckField{#2}{%
12241 \Hy@escapeform\PDFForm@Check
12242 \@pdfm@mark{%
12243 ann @check\HyField@TheAnnotCount\space

```



```

12244 \dvipdfm@setdim
12245 <<\PDFForm@Check>>%
12246 }%
12247 \unhbox\pdfm@box
12248 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12249 }%
12250 \endgroup
12251 }

12252 \def\Hy@FormObjects{%
12253 \@pdfm@mark{obj @OBJpdfdocencoding%
12254 <<%
12255 /Type/Encoding%
12256 /Differences[%
12257 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12258 39/quotesingle %
12259 96/grave %
12260 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12261 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12262 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12263 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
12264 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12265 164/currency %
12266 166/brokenbar %
12267 168/dieresis/copyright/ordfeminine %
12268 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12269 /twosuperior/threesuperior/acute/mu %
12270 183/periodcentered/cedilla/onesuperior/ordmasculine %
12271 188/onequarter/onehalf/threequarters %
12272 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12273 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
12274 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
12275 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
12276 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
12277 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
12278 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
12279 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
12280 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
12281 /thorn/ydieresis%
12282]%
12283 >>%
12284 }%
12285 \@pdfm@mark{obj @OBJZaDb%
12286 <<%
12287 /Type/Font%
12288 /Subtype/Type1%
12289 /Name/ZaDb%
12290 /BaseFont/ZapfDingbats%
12291 >>%
12292 }%
12293 \@pdfm@mark{obj @OBJHelv%
12294 <<%
12295 /Type/Font%
12296 /Subtype/Type1%
12297 /Name/Helv%
12298 /BaseFont/Helvetica%
12299 /Encoding @OBJpdfdocencoding%
12300 >>%

```

```

12301 }%
12302 \global\let\Hy@FormObjects\relax
12303 }
12304 </dvipdfm | xetex>

```

## 47.6 Common forms part

```
12305 <*pdfform>
```

\Hy@escapestring

```

12306 \begingroup\expandafter\expandafter\expandafter\endgroup
12307 \expandafter\ifx\csname pdfescapestring\endcsname\relax
12308 \let\Hy@escapestring\@firstofone
12309 \def\Hy@escapeform#1{%
12310 \ifHy@escapeform
12311 \def\Hy@escapestring##1{%
12312 \noexpand\Hy@escapestring{\noexpand##1}%
12313 }%
12314 \edef\Hy@temp{#1}%
12315 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
12316 \def\Hy@escapestring##1{%
12317 \@ifundefined{Hy@esc@\string##1}{%
12318 ##1%
12319 \ThisShouldNotHappen
12320 }{%
12321 \csname Hy@esc@\string##1\endcsname
12322 }%
12323 }%
12324 \else
12325 \let\Hy@escapestring\@firstofone
12326 \fi
12327 }%
12328 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
12329 \ifx\#3\%
12330 \else
12331 \expandafter
12332 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12333 \Hy@ReturnAfterFi{%
12334 \Hy@escapeform#3\@nil
12335 }%
12336 \fi
12337 }%
12338 \else
12339 \def\Hy@escapeform#1{%
12340 \ifHy@escapeform
12341 \let\Hy@escapestring\pdfescapestring
12342 \else
12343 \let\Hy@escapestring\@firstofone
12344 \fi
12345 }%
12346 \Hy@escapeform{}%
12347 \fi

```

\PDFForm@Name

```

12348 \def\PDFForm@Name{%
12349 \begingroup
12350 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7

```

```

12351 \ifHy@unicode
12352 \Hy@unicodedefalse
12353 \fi
12354 \fi
12355 \HyPsd@XeTeXBigCharstrue
12356 \pdfstringdef\Hy@gtemp\Fld@name
12357 \endgroup
12358 \let\Fld@name\Hy@gtemp
12359 }

```

#### \PDFForm@Check

```

12360 \def\PDFForm@Check{%
12361 /Subtype/Widget%
12362 \Fld@annotflags
12363 /T(\Fld@name)%
12364 /FT/Btn%
12365 \Fld@flags
12366 /Q \Fld@align
12367 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12368 /MK<<%
12369 \ifnum\Fld@rotation=\z@
12370 \else
12371 /R \Fld@rotation
12372 \fi
12373 \ifx\Fld@bordercolor\relax
12374 \else
12375 /BC[\Fld@bordercolor]%
12376 \fi
12377 \ifx\Fld@bcolor\relax
12378 \else
12379 /BG[\Fld@bcolor]%
12380 \fi
12381 /CA(\Hy@escapestring{\Fld@cbsymbol})%
12382 >>%
12383 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12384 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12385 /H/P%
12386 \ifFld@checked /V/Yes\else /V/Off\fi
12387 }

```

#### \PDFForm@Push

```

12388 \ifHy@pdfa
12389 \else
12390 \def\PDFForm@Push{%
12391 /Subtype/Widget%
12392 \Fld@annotflags
12393 /T(\Fld@name)%
12394 /FT/Btn%
12395 \Fld@flags
12396 /H/P%
12397 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12398 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12399 \ifx\Fld@bordercolor\relax\else 1\fi
12400 \space
12401 \else
12402 /MK<<%
12403 \ifnum\Fld@rotation=\z@

```

```

12404 \else
12405 /R \Fld@rotation
12406 \fi
12407 \ifx\Fld@bordercolor\relax
12408 \else
12409 /BC[\Fld@bordercolor]%
12410 \fi
12411 >>%
12412 \fi
12413 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12414 }%
12415 \fi

```

\Fld@additionalactions

```

12416 \def\Fld@@additionalactions{%
K input (keystroke) format
12417 \ifx\Fld@keystroke@code\@empty
12418 \else
12419 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12420 \fi

```

**F display format**

```

12421 \ifx\Fld@format@code\@empty
12422 \else
12423 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12424 \fi

```

**V validation**

```

12425 \ifx\Fld@validate@code\@empty
12426 \else
12427 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12428 \fi

```

**C calculation**

```

12429 \ifx\Fld@calculate@code\@empty
12430 \else
12431 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12432 \fi

```

**Fo receiving the input focus**

```

12433 \ifx\Fld@onfocus@code\@empty
12434 \else
12435 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12436 \fi

```

**Bl loosing the input focus (blurred)**

```

12437 \ifx\Fld@onblur@code\@empty
12438 \else
12439 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12440 \fi

```

**D pressing the mouse button (down)**

```

12441 \ifx\Fld@onmousedown@code\@empty
12442 \else
12443 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12444 \fi

```

**U releasing the mouse button (up)**

```

12445 \ifx\Fld@onmouseup@code\@empty

```

```

12446 \else
12447 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12448 \fi

```

E cursor enters the annotation's active area.

```

12449 \ifx\Fld@onenter@code\@empty
12450 \else
12451 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12452 \fi

```

X cursor exits the annotation's active area.

```

12453 \ifx\Fld@onexit@code\@empty
12454 \else
12455 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12456 \fi
12457 }
12458 \def\Fld@additionalactions{%
12459 \if\Fld@@additionalactions-%
12460 \else
12461 \ifHy@pdfa
12462 \else
12463 /AA<<\Fld@@additionalactions>>%
12464 \fi
12465 \fi
12466 }

```

\PDFForm@List

```

12467 \def\PDFForm@List{%
12468 /Subtype/Widget%
12469 \Fld@annotflags
12470 /T(\Fld@name)%
12471 /FT/Ch%
12472 \Fld@flags
12473 /Q \Fld@align
12474 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12475 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12476 \ifx\Fld@bordercolor\relax\else 1\fi
12477 \ifx\Fld@bcolor\relax \else 1\fi
12478 \space
12479 \else
12480 /MK<<%
12481 \ifnum\Fld@rotation=\z@
12482 \else
12483 /R \Fld@rotation
12484 \fi
12485 \ifx\Fld@bordercolor\relax
12486 \else
12487 /BC[\Fld@bordercolor]%
12488 \fi
12489 \ifx\Fld@bcolor\relax
12490 \else
12491 /BG[\Fld@bcolor]%
12492 \fi
12493 >>%
12494 \fi
12495 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12496 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12497 \Fld@choices

```

```

12498 \Fld@additionalactions
12499 }

```

#### \PDFForm@Radio

```

12500 \def\PDFForm@Radio{%
12501 /Subtype/Widget%
12502 \Fld@annotflags
12503 /T(\Fld@name)%
12504 /FT/Btn%
12505 \Fld@flags
12506 /H/P%
12507 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12508 /MK<<%
12509 \ifnum\Fld@rotation=\z@
12510 \else
12511 /R \Fld@rotation
12512 \fi
12513 \ifx\Fld@bordercolor\relax
12514 \else
12515 /BC[\Fld@bordercolor]%
12516 \fi
12517 \ifx\Fld@bcolor\relax
12518 \else
12519 /BG[\Fld@bcolor]%
12520 \fi
12521 /CA(\Fld@radiosymbol)%
12522 >>%
12523 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12524 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12525 \ifx\@currValue\Fld@default
12526 /V/\Fld@default
12527 \else
12528 /V/Off%
12529 \fi
12530 \Fld@additionalactions
12531 }

```

#### \PDFForm@Text

```

12532 \def\PDFForm@Text{%
12533 /Subtype/Widget%
12534 \Fld@annotflags
12535 /T(\Fld@name)%
12536 /FT/Tx%
12537 \Fld@flags
12538 /Q \Fld@align
12539 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12540 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12541 \ifx\Fld@bordercolor\relax\else 1\fi
12542 \ifx\Fld@bcolor\relax \else 1\fi
12543 \space
12544 \else
12545 /MK<<%
12546 \ifnum\Fld@rotation=\z@
12547 \else
12548 /R \Fld@rotation
12549 \fi
12550 \ifx\Fld@bordercolor\relax

```

```

12551 \else
12552 /BC[\Fld@bordercolor]%
12553 \fi
12554 \ifx\Fld@bcolor\relax
12555 \else
12556 /BG[\Fld@bcolor]%
12557 \fi
12558 >>%
12559 \fi
12560 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12561 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12562 /DV(\Hy@escapestring{\Fld@default})%
12563 /V(\Hy@escapestring{\Fld@value})%
12564 \Fld@additionalactions
12565 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12566 }

```

\PDFForm@Submit

```

12567 \def\PDFForm@Submit{%
12568 /Subtype/Widget%
12569 \Fld@annotflags
12570 /T(\Fld@name)%
12571 /FT/Btn%
12572 \Fld@flags
12573 /H/P%
12574 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12575 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12576 \ifx\Fld@bordercolor\relax\else 1\fi
12577 \space
12578 \else
12579 /MK<<%
12580 \ifnum\Fld@rotation=\z@
12581 \else
12582 /R \Fld@rotation
12583 \fi
12584 \ifx\Fld@bordercolor\relax
12585 \else
12586 /BC[\Fld@bordercolor]%
12587 \fi
12588 >>%
12589 \fi
12590 /A<<%
12591 /S/SubmitForm%
12592 /F<<%
12593 /FS/URL%
12594 /F(\Hy@escapestring{\Form@action})%
12595 >>%
12596 \Fld@submitflags
12597 >>%
12598 }

```

\PDFForm@Reset

```

12599 \ifHy@pdfa
12600 \else
12601 \def\PDFForm@Reset{%
12602 /Subtype/Widget%
12603 \Fld@annotflags

```

```

12604 /T(\Fld@name)%
12605 /FT/Btn%
12606 \Fld@flags
12607 /H/P%
12608 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12609 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12610 \ifx\Fld@bordercolor\relax\else 1\fi
12611 \space
12612 \else
12613 /MK<<%
12614 \ifnum\Fld@rotation=\z@
12615 \else
12616 /R \Fld@rotation
12617 \fi
12618 \ifx\Fld@bordercolor\relax
12619 \else
12620 /BC[\Fld@bordercolor]%
12621 \fi
12622 % /CA (Clear)
12623 % /AC (Done)
12624 >>%
12625 \fi
12626 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12627 /A<</S/ResetForm>>%
12628 }%
12629 \fi

12630 </pdfform>
12631 <*package>

```

## 48 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  $\text{\LaTeX}$  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 `\@sssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

12632 \def\phantomsection{%
12633 \Hy@GlobalStepCount\Hy@linkcounter
12634 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12635 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12636 }
12637 </package>

```

### 48.1 Bookmarks

```
12638 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.



When using the right-to-left typesetting based on  $\varepsilon$ - $\text{\TeX}$ , the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ - $\text{\TeX}$ 's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

12639 \def\Hy@writebookmark#1#2#3#4#5{%
12640 % section number, text, label, level, file
12641 \ifx\WriteBookmarks\relax%
12642 \else
12643 \ifnum#4>\Hy@bookmarksdepth\relax
12644 \else
12645 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12646 \fi
12647 \fi
12648 }
12649 \def\Hy@currentbookmarklevel{0}
12650 \def\Hy@numberline#1{#1 }
12651 \def\@@writetorep#1#2#3#4#5{%
12652 \begingroup
12653 \edef\Hy@tempa{#5}%
12654 \ifx\Hy@tempa\Hy@bookmarkstype
12655 \edef\Hy@level{#4}%
12656 \ifx\Hy@levelcheck Y%
12657 \@tempcnta\Hy@level\relax
12658 \advance\@tempcnta by -1 %
12659 \ifnum\Hy@currentbookmarklevel<\@tempcnta
12660 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12661 \advance\@tempcnta by 1 %
12662 \Hy@Warning{%
12663 Difference (\the\@tempcnta) between bookmark levels is %
12664 greater \MessageBreak than one, level fixed%
12665 }%
12666 \@tempcnta\Hy@currentbookmarklevel
12667 \advance\@tempcnta by 1 %
12668 \edef\Hy@level{\the\@tempcnta}%
12669 \fi
12670 \else
12671 \global\let\Hy@levelcheck Y%
12672 \fi
12673 \global\let\Hy@currentbookmarklevel\Hy@level
12674 \@tempcnta\Hy@level\relax
12675 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12676 \advance\@tempcnta by -1 %
12677 \edef\Hy@tempa{#3}%
12678 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12679 \ifx\Hy@tempa\Hy@tempb
12680 \Hy@Warning{%
12681 The anchor of a bookmark and its parent's must not%
12682 \MessageBreak be the same. Added a new anchor%
12683 }%
12684 \phantomsection
12685 \fi
12686 \ifHy@bookmarksnumbered

```

```

12687 \let\numberline\Hy@numberline
12688 \let\partnumberline\Hy@numberline
12689 \let\chapternumberline\Hy@numberline
12690 \else
12691 \let\numberline\@gobble
12692 \let\partnumberline\@gobble
12693 \let\chapternumberline\@gobble
12694 \fi
12695 \HyPsd@XeTeXBigCharstrue
12696 \pdfstringdef\Hy@tempa{#2}%
12697 \if@filesw
12698 \stepcounter{bookmark@seq@number}%
12699 \@ifundefined{@outlinefile}{%
12700 }{%
12701 \protected@write\@outlinefile{}{%
12702 \protect\BOOKMARK
12703 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12704 {\Hy@tempa}{\Hy@tempb}%
12705 \@percentchar\space\thebookmark@seq@number
12706 }%
12707 }%
12708 \fi
12709 \fi
12710 \endgroup
12711 }
12712 \newcounter{bookmark@seq@number}

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

12713 \newcommand{\currentpdfbookmark}{%
12714 \pdfbookmark[\Hy@currentbookmarklevel]%
12715 }
12716 \newcommand{\subpdfbookmark}{%
12717 \@tempcnta\Hy@currentbookmarklevel
12718 \Hy@StepCount\@tempcnta
12719 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12720 }
12721 \newcommand{\belowpdfbookmark}[2]{%
12722 \@tempcnta\Hy@currentbookmarklevel
12723 \Hy@StepCount\@tempcnta
12724 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12725 \advance\@tempcnta by -1 %
12726 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12727 }

```

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.

```

12728 \renewcommand\pdfbookmark[3][0]{%
12729 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12730 \hyper@anchorstart{#3.#1}\hyper@anchorend
12731 }
12732 \def\BOOKMARK{%
12733 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12734 }
12735 \def\@BOOKMARK[#1]{%
12736 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
12737 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo.pdf macros.

#### 48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```
12738 \RequirePackage{rerunfilecheck}[2009/12/10]
12739 \def\Hy@OutlineRerunCheck{%
12740 \RerunFileCheck{\jobname.out}{}%
12741 \immediate\closeout\@outlinefile
12742 }{%
12743 Rerun to get outlines right\MessageBreak
12744 or use package 'bookmark'%
12745 }%
12746 }
```

#### 48.1.2 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.

```
12747 < *vtx >
12748 \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.

```
12749 \begingroup
12750 \catcode'\'=12 %
12751 \ifnum\Hy@VTeXversion<650 %
12752 \catcode'\ "=12 %
12753 \gdef\hv@pdf@char#1#2#3{%
12754 \char
12755 \ifcase'#1#2#3 %
12756 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12757 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12758 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12759 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12760 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12761 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12762 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12763 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12764 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12765 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12766 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12767 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12768 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12769 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12770 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12771 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12772 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12773 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12774 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12775 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12776 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12777 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
```

```

12778 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12779 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12780 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12781 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12782 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12783 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12784 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12785 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12786 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12787 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12788 \fi
12789 }%
12790 \else
12791 \gdef\hv@pdf@char{\char'}%
12792 \fi
12793 \endgroup

```

#### \@@BOOKMARK

```

12794 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12795 \expandafter\edef\csname @count@#3\endcsname{%
12796 \the\@serial@counter
12797 }%
12798 \edef\@mycount{\the\@serial@counter}%
12799 \Hy@StepCount\@serial@counter
12800 \edef\@parcount{%
12801 \expandafter\ifx\csname @count@#5\endcsname\relax
12802 0%
12803 \else
12804 \csname @count@#5\endcsname
12805 \fi
12806 }%
12807 \immediate\special{%
12808 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12809 s=\ifx#2-c\else o\fi,t=#4%
12810 }%
12811 }%

```

#### \ReadBookmarks

```

12812 \def\ReadBookmarks{%
12813 \begingroup
12814 \def\0{\hv@pdf@char 0}%
12815 \def\1{\hv@pdf@char 1}%
12816 \def\2{\hv@pdf@char 2}%
12817 \def\3{\hv@pdf@char 3}%
12818 \def\{({}%
12819 \def\)}{)%
12820 \def\do##1{%
12821 \ifnum\the\catcode'##1=\active
12822 \@makeother##1%
12823 \fi
12824 }%
12825 \dospecials
12826 \InputIfFileExists{\jobname.out}{\}{}%
12827 \endgroup
12828 \ifx\WriteBookmarks\relax
12829 \else
12830 \if@files

```

```

12831 \newwrite\@outlinefile
12832 \Hy@OutlineRerunCheck
12833 \immediate\openout\@outlinefile=\jobname.out\relax
12834 \ifHy@typexml
12835 \immediate\write\@outlinefile{<relaxxml>\relax}%
12836 \fi
12837 \fi
12838 \fi
12839 }

12840 </vtex>
12841 <!*vtex>
12842 \def\ReadBookmarks{%
12843 \begingroup
12844 \escapechar='\%
12845 \let\escapechar\@gobble %
12846 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12847 \calc@bm@number{##5}%
12848 }%
12849 \InputIfFileExists{\jobname.out}{-}{-}%
12850 \ifx\WriteBookmarks\relax
12851 \global\let\WriteBookmarks\relax
12852 \fi
12853 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12854 \def\Hy@temp{##4}%
12855 <*pdftex>
12856 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12857 \Hy@OutlineName{}\Hy@pstringName{%
12858 ##2\check@bm@number{##3}%
12859 }{%
12860 \expandafter\strip@prefix\meaning\Hy@temp
12861 }%
12862 </pdftex>
12863 <*pdfmark>
12864 \pdfmark{%
12865 pdfmark=/OUT,%
12866 Count={##2\check@bm@number{##3}},%
12867 Dest={##3},%
12868 Title=\expandafter\strip@prefix\meaning\Hy@temp
12869 }%
12870 </pdfmark>
12871 <*dvipdfm|xetex>
12872 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12873 \@pdfm@mark{%
12874 outline \ifHy@DvipdfmxOutlineOpen
12875 [%
12876 \ifnum##21>\z@
12877 \else
12878 -%
12879 \fi
12880] %
12881 \fi
12882 ##1<<%
12883 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12884 /A<<%
12885 /S/GoTo%
12886 /D(\Hy@pstringName)%
12887 >>%

```

```

12888 >>%
12889 }%
12890 \
```

$$\text{dvipdfm} \mid \text{xetex}$$

```

12891 }%
12892 {%
12893 \def\WriteBookmarks{0}%
12894 \InputIfFileExists{\jobname.out}{\relax}%
12895 }%
12896 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}}%
12897 \ifx\WriteBookmarks\relax
12898 \else
12899 \if@filesw
12900 \newwrite\@outlinefile
12901 \Hy@OutlineRerunCheck
12902 \immediate\openout\@outlinefile=\jobname.out\relax
12903 \ifHy@typexml
12904 \immediate\write\@outlinefile{<relaxxml>\relax}%
12905 \fi
12906 \fi
12907 \fi
12908 \endgroup
12909 }
12910 \
```

$$\text{pdfTeX}$$

```

12911 \def\Hy@OutlineName#1#2#3#4{%
12912 \pdfoutline goto name{#2}count#3{#4}%
12913 }
12914 \
```

$$\text{pdfTeX}$$

```

12915 \def\check@bm@number#1{%
12916 \expandafter\ifx\csname B_#1\endcsname\relax
12917 0%
12918 \else
12919 \csname B_#1\endcsname
12920 \fi
12921 }
12922 \def\calc@bm@number#1{%
12923 \@tempcnta=\check@bm@number{#1}\relax
12924 \advance\@tempcnta by 1 %
12925 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12926 }
12927 \
```

$$\text{!vtex}$$

```

12928 \ifHy@implicit
12929 \else
12930 \expandafter\endinput
12931 \fi

12932 \
```

$$\text{outlines}$$

```

12933 \
```

$$\text{*outlines} \mid \text{hypertex}$$

```

12934 \newlength\Hy@SectionHShift
12935 \def\Hy@SectionAnchorHref#1{%
12936 \ifx\protect\@typeset@protect
12937 \Hy@@@SectionAnchor{#1}%
12938 \fi
12939 }
12940 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
12941 \leavevmode
12942 \hbox to 0pt{%
12943 \kern-\Hy@SectionHShift

```

```

12944 \Hy@raisedlink{%
12945 \hyper@anchorstart{#1}\hyper@anchorend
12946 }%
12947 \hss
12948 }%
12949 }
12950 \let\H@old@ssect\@ssect
12951 \def\@ssect#1#2#3#4#5{%
12952 \Hy@GlobalStepCount\Hy@linkcounter
12953 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12954 \setlength{\Hy@SectionHShift}{#1}%
12955 \begingroup
12956 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
12957 \toks\tw@\expandafter{%
12958 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12959 #5%
12960 }%
12961 \edef\x{\endgroup
12962 \the\toks@\the\toks\tw@}%
12963 }\x
12964 }
12965 \let\H@old@schapter\@schapter
12966 \def\@schapter#1{%
12967 \begingroup
12968 \let\@mkboth\@gobbletwo
12969 \Hy@GlobalStepCount\Hy@linkcounter
12970 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12971 \Hy@raisedlink{%
12972 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12973 }%
12974 \endgroup
12975 \H@old@schapter{#1}%
12976 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

12977 \ifundefined{@chapter}{-}{%
12978 \let\Hy@org@chapter\@chapter
12979 \def\@chapter{%
12980 \def\Hy@next{%
12981 \Hy@GlobalStepCount\Hy@linkcounter
12982 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12983 \Hy@raisedlink{%
12984 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12985 }%
12986 }%
12987 \ifnum\c@secnumdepth>\m@ne
12988 \ifundefined{if@mainmatter}%
12989 \iftrue{\csname if@mainmatter\endcsname}%
12990 \let\Hy@next\relax
12991 \fi
12992 \fi
12993 \Hy@next
12994 \Hy@org@chapter
12995 }%
12996 }

```

```

12997 \let\H@old@part\@part
12998 \begingroup\expandafter\expandafter\expandafter\endgroup
12999 \expandafter\ifx\csname chapter\endcsname\relax
13000 \let\Hy@secnum@part\z@
13001 \else
13002 \let\Hy@secnum@part\m@ne
13003 \fi
13004 \def\@part{%
13005 \ifnum\Hy@secnum@part>\c@secnumdepth
13006 \phantomsection
13007 \fi
13008 \H@old@part
13009 }

13010 \let\H@old@spart\@spart
13011 \def\@spart#1{%
13012 \Hy@GlobalStepCount\Hy@linkcounter
13013 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
13014 \Hy@raisedlink{%
13015 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13016 }%
13017 \H@old@spart{#1}%
13018 }

13019 \let\H@old@sect\@sect
13020 \def\@sect#1#2#3#4#5#6[#7]#8{%
13021 \ifnum #2>\c@secnumdepth
13022 \expandafter\@firstoftwo
13023 \else
13024 \expandafter\@secondoftwo
13025 \fi
13026 {%
13027 \Hy@GlobalStepCount\Hy@linkcounter
13028 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
13029 \setlength{\Hy@SectionHShift}{#3}%
13030 \begingroup
13031 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
13032 \toks\tw@\expandafter{%
13033 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13034 #8%
13035 }%
13036 \edef\x{\endgroup
13037 \the\toks@{\the\toks\tw@}}%
13038 }\x
13039 }{%
13040 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
13041 }%
13042 }

13043 </outlines | hypertex>
13044 <*outlines>

13045 \expandafter\def\csname Parent-4\endcsname{}
13046 \expandafter\def\csname Parent-3\endcsname{}
13047 \expandafter\def\csname Parent-2\endcsname{}
13048 \expandafter\def\csname Parent-1\endcsname{}
13049 \expandafter\def\csname Parent0\endcsname{}
13050 \expandafter\def\csname Parent1\endcsname{}
13051 \expandafter\def\csname Parent2\endcsname{}
13052 \expandafter\def\csname Parent3\endcsname{}

```



```

13053 \expandafter\def\csname Parent4\endcsname{}
13054 \</outlines>

```

## 49 Compatibility with koma-script classes

```

13055 *outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13056 \def\Hy@tempa{%
13057 \def\@addchap{##1}##2{%
13058 \typeout{##2}%
13059 \if@twoside
13060 \@mkboth{##1}{}%
13061 \else
13062 \@mkboth{}{##1}%
13063 \fi
13064 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13065 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13066 \Hy@GlobalStepCount\Hy@linkcounter
13067 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
13068 \Hy@raisedlink{%
13069 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13070 }%
13071 \if@twocolumn
13072 \@topnewpage[\@makeschapterhead{##2}]%
13073 \else
13074 \@makeschapterhead{##2}%
13075 \@afterheading
13076 \fi
13077 \addcontentsline{toc}{chapter}{##1}%
13078 }%
13079 }
13080 \ifclassloaded{scrbook}{%
13081 \@ifclasslater{scrbook}{2001/01/01}{%
13082 \let\Hy@tempa\@empty
13083 }{}%
13084 }{%
13085 \@ifclassloaded{scrreprt}{%
13086 \@ifclasslater{scrreprt}{2001/01/01}{%
13087 \let\Hy@tempa\@empty
13088 }{}%
13089 }{%
13090 \let\Hy@tempa\@empty
13091 }%
13092 }%
13093 \Hy@tempa
13094 \</outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

## 50.1 PD1 encoding

13095 `(*pdlenc)`

13096 `\DeclareFontEncoding{PD1}{-}{-}`

### Accents

13097 `\DeclareTextAccent{'}{PD1}{\textasciigrave}`  
13098 `\DeclareTextAccent{'}{PD1}{\textacute}`  
13099 `\DeclareTextAccent{^}{PD1}{\textasciicircum}`  
13100 `\DeclareTextAccent{~}{PD1}{\texttilde}`  
13101 `\DeclareTextAccent{"}{PD1}{\textasciidieresis}`  
13102 `\DeclareTextAccent{r}{PD1}{\textring}`  
13103 `\DeclareTextAccent{v}{PD1}{\textasciicaron}`  
13104 `\DeclareTextAccent{.}{PD1}{\textdotaccent}`  
13105 `\DeclareTextAccent{c}{PD1}{\textcedilla}`  
13106 `\DeclareTextAccent{=}{PD1}{\textasciimacron}`  
13107 `\DeclareTextAccent{b}{PD1}{\textmacronbelow}`  
13108 `\DeclareTextAccent{d}{PD1}{\textdotbelow}`  
13109 `\DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}`  
13110 `\DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}`  
13111 `\DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}`  
13112 `\DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}`  
13113 `\DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}`  
13114 `\DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}`  
13115 `\DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}`  
13116 `\DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}`  
13117 `\DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}`  
13118 `\DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}`  
13119 `\DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}`  
13120 `\DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}`  
13121 `\DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}`  
13122 `\DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}`  
13123 `\DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}`  
13124 `\DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}`  
13125 `\DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}`  
13126 `\DeclareTextCompositeCommand{r}{PD1}{\ }{\textring}`  
13127 `\DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}`  
13128 `\DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}`  
13129 `\DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}`  
13130 `\DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}`  
13131 `\DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}`  
13132 `\DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}`  
13133 `\DeclareTextCommand{k}{PD1}[1]{\TextSymbolUnavailable{k{#1}}#1}`  
13134 `\DeclareTextCommand{t}{PD1}[1]{\TextSymbolUnavailable{t{#1}}#1}`  
13135 `\DeclareTextCommand{\newtie}{PD1}[1]{%`  
13136 `\TextSymbolUnavailable{\newtie{#1}}#1%`  
13137 `}`

Special white space escape characters not for use in bookmarks but for other PDF strings.

13138 `% U+0009 (CHARACTER TABULATION)`  
13139 `\DeclareTextCommand{textHT}{PD1}{\011}% U+0009`  
13140 `% U+000A (LINE FEED)`  
13141 `\DeclareTextCommand{textLF}{PD1}{\012}% U+000A`  
13142 `% U+000D (CARRIAGE RETURN)`  
13143 `\DeclareTextCommand{textCR}{PD1}{\015}% U+000D`

### Accent glyph names

13144 `% U+02D8 BREVE; breve`  
13145 `\DeclareTextCommand{textasciibreve}{PD1}{\030}% U+02D8`  
13146 `% U+02C7 CARON; caron`

13147 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
13148 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
13149 \DeclareTextCommand{\textcirc{}}{PD1}{\032}% U+02C6  
13150 % U+02D9 DOT ABOVE; dotaccent  
13151 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
13152 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
13153 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
13154 % U+02DB OGONEK; ogonek  
13155 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
13156 % U+02DA RING ABOVE; ring  
13157 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
13158 % U+02DC SMALL TILDE; ilde, \*tilde  
13159 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
  
\040: U+0020 SPACE; \*space, spacehackarabic  
\041: U+0021 EXCLAMATION MARK; exclam  
13160 % U+0022 QUOTATION MARK; quotedbl  
13161 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
13162 % U+0023 NUMBER SIGN; numbersign  
13163 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
13164 % U+0024 DOLLAR SIGN; dollar  
13165 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
13166 % U+0025 PERCENT SIGN; percent  
13167 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
13168 % U+0026 AMPERSAND; ampersand  
13169 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
  
\047: U+0027 APOSTROPHE; quotesingle  
  
  
13170 % U+0028 LEFT PARENTHESIS; parenleft  
13171 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
13172 % U+0029 RIGHT PARENTHESIS; parenright  
13173 \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  
13174 % U+002E FULL STOP; period  
13175 \DeclareTextCommand{\textdotbelow}{PD1}{\string\cdot}% \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  
13176 % U+003C LESS-THAN SIGN; less  
13177 \DeclareTextCommand{\textless}{PD1}{\string<}% \074 U+003C  
  
\075: U+003D EQUALS SIGN; equal  
13178 % U+003E GREATER-THAN SIGN; greater  
13179 \DeclareTextCommand{\textgreater}{PD1}{\string>}% \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  
 13180 % U+005C REVERSE SOLIDUS; backslash  
 13181 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13182 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13183 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 13184 % U+005F LOW LINE; underscore  
 13185 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 13186 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 13187 % U+0060 GRAVE ACCENT; grave  
 13188 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 13189 % U+0069 LATIN SMALL LETTER I; i  
 13190 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 13191 % U+007B LEFT CURLY BRACKET; braceleft  
 13192 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 13193 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13194 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 13195 % U+007D RIGHT CURLY BRACKET; braceright  
 13196 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 13197 % U+007E TILDE; asciitilde  
 13198 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 13199 % U+2022 BULLET; bullet  
 13200 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 13201 % U+2020 DAGGER; dagger  
 13202 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 13203 % U+2021 DOUBLE DAGGER; daggerdbl  
 13204 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 13205 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13206 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 13207 % U+2014 EM DASH; emdash  
 13208 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 13209 % U+2013 EN DASH; endash  
 13210 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 13211 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13212 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 13213 % U+2044 FRACTION SLASH; fraction  
 13214 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 13215 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 13216 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 13217 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 13218 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 13219 % U+2212 MINUS SIGN; minus  
 13220 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 13221 % U+2030 PER MILLE SIGN; perthousand  
 13222 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 13223 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase

13224 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
13225 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
13226 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
13227 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
13228 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
13229 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
13230 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
13231 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
13232 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
13233 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
13234 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
13235 % U+2122 TRADE MARK SIGN; trademark  
13236 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
13237 % U+FB01 LATIN SMALL LIGATURE FI; fi  
13238 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
13239 % U+FB02 LATIN SMALL LIGATURE FL; fl  
13240 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
13241 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13242 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
13243 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13244 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
13245 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13246 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
13247 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13248 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178  
13249 \DeclareTextCommand{\IJ}{PD1}{\230}  
13250 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
13251 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
13252 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13253 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
13254 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13255 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
13256 % U+0153 LATIN SMALL LIGATURE OE; oe  
13257 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
13258 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13259 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
13260 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
13261 \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.

13262 % U+20AC EURO SIGN; \*Euro, euro  
13263 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
13264 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
13265 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
13266 % U+00A2 CENT SIGN; cent  
13267 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
13268 % U+00A3 POUND SIGN; sterling  
13269 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
13270 % U+00A4 CURRENCY SIGN; currency  
13271 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
13272 % U+00A5 YEN SIGN; yen  
13273 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
13274 % U+00A6 BROKEN BAR; brokenbar  
13275 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
13276 % U+00A7 SECTION SIGN; section  
13277 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
13278 % U+00A8 DIAERESIS; dieresis

13279 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
13280 % U+00A9 COPYRIGHT SIGN; copyright  
13281 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
13282 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
13283 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
13284 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
13285 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
13286 % U+00AC NOT SIGN; logicalnot  
13287 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
13288 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
13289 % U+00AE REGISTERED SIGN; registered  
13290 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
13291 % U+00AF MACRON; \*macron, overscore  
13292 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
13293 % U+00B0 DEGREE SIGN; degree  
13294 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
13295 % U+00B1 PLUS-MINUS SIGN; plusminus  
13296 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
13297 % U+00B2 SUPERSCRIFT TWO; twosuperior  
13298 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
13299 % U+00B3 SUPERSCRIFT THREE; threesuperior  
13300 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
13301 % U+00B4 ACUTE ACCENT; acute  
13302 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
13303 % U+00B5 MICRO SIGN; mu, mul  
13304 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
13305 % U+00B6 PILCROW SIGN; paragraph  
13306 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
13307 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13308 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
13309 % U+00B8 CEDILLA; cedilla  
13310 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
13311 % U+00B9 SUPERSCRIFT ONE; onesuperior  
13312 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
13313 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13314 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
13315 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13316 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
13317 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13318 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
13319 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13320 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
13321 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13322 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
13323 % U+00BF INVERTED QUESTION MARK; questiondown  
13324 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
13325 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13326 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
13327 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13328 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
13329 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13330 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
13331 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13332 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3

13333 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13334 \DeclareTextCompositeCommand{"}{PD1}{A}{\304}% U+00C4  
13335 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13336 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
13337 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13338 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
13339 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13340 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
13341 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13342 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
13343 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13344 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
13345 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13346 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
13347 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13348 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB  
13349 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13350 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
13351 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13352 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
13353 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13354 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
13355 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13356 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF  
13357 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13358 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
13359 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
13360 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13361 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
13362 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13363 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
13364 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13365 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
13366 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13367 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
13368 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13369 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
13370 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13371 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
13372 % U+00D7 MULTIPLICATION SIGN; multiply  
13373 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
13374 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13375 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
13376 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13377 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
13378 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13379 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
13380 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13381 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
13382 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13383 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
13384 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13385 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
13386 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13387 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
13388 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13389 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF

13390 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
 13391 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
 13392 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
 13393 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
 13394 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
 13395 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
 13396 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
 13397 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
 13398 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
 13399 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
 13400 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
 13401 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
 13402 % U+00E6 LATIN SMALL LETTER AE; ae  
 13403 \DeclareTextCompositeCommand{\ae}{PD1}{\346}% U+00E6  
 13404 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
 13405 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
 13406 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
 13407 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
 13408 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
 13409 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
 13410 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
 13411 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
 13412 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
 13413 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
 13414 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 13415 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
 13416 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
 13417 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 13418 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
 13419 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
 13420 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 13421 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
 13422 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
 13423 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 13424 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
 13425 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
 13426 % U+00F0 LATIN SMALL LETTER ETH; eth  
 13427 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
 13428 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 13429 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
 13430 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 13431 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
 13432 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 13433 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
 13434 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 13435 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
 13436 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 13437 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
 13438 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 13439 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
 13440 % U+00F7 DIVISION SIGN; divide  
 13441 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 13442 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 13443 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 13444 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 13445 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
 13446 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute



```

13447 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
13448 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
13449 \DeclareTextCompositeCommand{\~}{PD1}{u}{\373}% U+00FB
13450 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
13451 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
13452 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
13453 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
13454 % U+00FE LATIN SMALL LETTER THORN; thorn
13455 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
13456 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
13457 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
13458 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

13459 \DeclareTextCommand{\SS}{PD1}{SS}
13460 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

13461 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
13462 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
13463 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
13464 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
13465 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
13466 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
13467 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
13468 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

13469 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
13470 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
13471 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
13472 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
13473 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
13474 \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).

```

13475 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
13476 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
13477 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
13478 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
13479 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
13480 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
13481 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
13482 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
13483 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
13484 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13485 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13486 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13487 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13488 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

13489 </pd1enc>

```

## 50.2 PU encoding

```

13490 <*puenc>
13491 \DeclareFontEncoding{PU}{-}{}

```

### 50.2.1 NFSS2 accents

13492 % U+0300 COMBINING GRAVE ACCENT; gravecmb, \*gravecomb  
 13493 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300  
 13494 % U+0301 COMBINING ACUTE ACCENT; acutecmb, \*acutecomb  
 13495 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301  
 13496 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb  
 13497 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302  
 13498 % U+0303 COMBINING TILDE; tildecmb, \*tildecmb  
 13499 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303  
 13500 % U+0304 COMBINING MACRON; macroncmb  
 13501 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304  
 13502 % U+0306 COMBINING BREVE; brevecmb  
 13503 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
 13504 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
 13505 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
 13506 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
 13507 % U+0308 COMBINING DIAERESIS; dieresiscmb  
 13508 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
 13509 % U+030A COMBINING RING ABOVE; ringcmb  
 13510 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
 13511 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
 13512 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
 13513 % U+030C COMBINING CARON; caroncmb  
 13514 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
 13515 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13516 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
 13517 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
 13518 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13519 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
 13520 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 13521 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
 13522 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13523 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
 13524 % U+0327 COMBINING CEDILLA; cedillacmb  
 13525 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
 13526 % U+0328 COMBINING OGONEK; ogonekcmb  
 13527 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
 13528 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13529 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
 13530 % U+20DD COMBINING ENCLOSING CIRCLE  
 13531 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

13532 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}  
 13533 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}  
 13534 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}  
 13535 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}  
 13536 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}  
 13537 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}  
 13538 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}  
 13539 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}  
 13540 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}  
 13541 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}  
 13542 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}  
 13543 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}  
 13544 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}  
 13545 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}  
 13546 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}

```

13547 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13548 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13549 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13550 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

13551 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
13552 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13553 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
13554 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
13555 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidiereis}
13556 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
13557 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13558 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13559 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13560 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13561 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13562 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13563 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13564 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13565 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13566 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13567 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13568 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13569 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13570 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13571 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13572 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
13573 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13574 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13575 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13576 \DeclareTextCommand{\capitaldiereis}{PU}[1]{\\"{#1}}
13577 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13578 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13579 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13580 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13581 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13582 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13583 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13584 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

13585 % U+0009 (CHARACTER TABULATION)
13586 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13587 % U+000A (LINE FEED)
13588 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13589 % U+000D (CARRIAGE RETURN)
13590 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

13591 % U+0022 QUOTATION MARK; quotedbl
13592 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13593 % U+0023 NUMBER SIGN; numbersign
13594 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13595 % U+0024 DOLLAR SIGN; dollar
13596 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024

```

13597 % U+0025 PERCENT SIGN; percent  
 13598 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
 13599 % U+0026 AMPERSAND; ampersand  
 13600 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 13601 % U+0027 APOSTROPHE; quotesingle  
 13602 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 13603 % U+0028 LEFT PARENTHESIS; parenleft  
 13604 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 13605 % U+0029 RIGHT PARENTHESIS; parenright  
 13606 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 13607 % U+002A ASTERISK; asterisk  
 13608 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)  
 \80\053: U+002B PLUS SIGN; plus  
 \80\054: U+002C COMMA; comma  
 \80\055: U+002D HYPHEN-MINUS; hyphen  
 \80\056: U+002E FULL STOP; period  
 \80\057: U+002F SOLIDUS; slash  
 \80\060: U+0030 DIGIT ZERO; zero  
 ...  
 \80\071: U+0039 DIGIT NINE; nine  
 \80\072: U+003A COLON; colon  
 \80\073: U+003B SEMICOLON; semicolon  
 13609 % U+003C LESS-THAN SIGN; less  
 13610 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 13611 % U+003E GREATER-THAN SIGN; greater  
 13612 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
 \80\077: U+003F QUESTION MARK; question  
 \80\100: U+0040 COMMERCIAL AT; at  
 \80\101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \80\132: U+005A LATIN CAPITAL LETTER Z; Z  
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft  
 13613 % U+005C REVERSE SOLIDUS; backslash  
 13614 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13615 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13616 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13617 % U+005F LOW LINE; underscore  
 13618 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13619 % U+0060 GRAVE ACCENT; grave  
 13620 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060  
 \80\141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \80\150: U+0068 LATIN SMALL LETTER H; h  
 13621 % U+0069 LATIN SMALL LETTER I; i  
 13622 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069  
 13623 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 13624 % U+007B LEFT CURLY BRACKET; braceleft

13625 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 13626 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13627 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 13628 % U+007D RIGHT CURLY BRACKET; braceright  
 13629 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 13630 % U+007E TILDE; asciitilde  
 13631 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
 13632 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13633 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 13634 % U+00A2 CENT SIGN; cent  
 13635 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 13636 % U+00A3 POUND SIGN; sterling  
 13637 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 13638 % U+00A4 CURRENCY SIGN; currency  
 13639 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 13640 % U+00A5 YEN SIGN; yen  
 13641 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 13642 % U+00A6 BROKEN BAR; brokenbar  
 13643 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 13644 % U+00A7 SECTION SIGN; section  
 13645 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 13646 % U+00A8 DIAERESIS; diaeresis  
 13647 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 13648 % U+00A9 COPYRIGHT SIGN; copyright  
 13649 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 13650 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13651 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 13652 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13653 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 13654 % U+00AC NOT SIGN; logicalnot  
 13655 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 13656 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 13657 % U+00AE REGISTERED SIGN; registered  
 13658 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 13659 % U+00AF MACRON; \*macron, overscore  
 13660 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 13661 % U+00B0 DEGREE SIGN; degree  
 13662 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 13663 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13664 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 13665 % U+00B2 SUPERScript TWO; twosuperior  
 13666 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 13667 % U+00B3 SUPERScript THREE; threesuperior  
 13668 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 13669 % U+00B4 ACUTE ACCENT; acute  
 13670 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 13671 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 13672 % U+00B5 MICRO SIGN; mu, mu1  
 13673 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 13674 % U+00B6 PILCROW SIGN; paragraph  
 13675 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6

13676 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13677 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 13678 % U+00B8 CEDILLA; cedilla  
 13679 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 13680 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 13681 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
 13682 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13683 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 13684 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 13685 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 13686 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 13687 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 13688 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 13689 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 13690 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 13691 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
 13692 % U+00BF INVERTED QUESTION MARK; questiondown  
 13693 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
 13694 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 13695 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
 13696 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 13697 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 13698 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 13699 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
 13700 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 13701 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 13702 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 13703 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
 13704 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 13705 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
 13706 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 13707 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
 13708 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 13709 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
 13710 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 13711 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
 13712 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 13713 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 13714 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 13715 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
 13716 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 13717 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
 13718 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 13719 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
 13720 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 13721 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 13722 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 13723 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
 13724 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 13725 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
 13726 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
 13727 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
 13728 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
 13729 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
 13730 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
 13731 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2

13732 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13733 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
13734 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13735 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\324}% U+00D4  
13736 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13737 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5  
13738 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13739 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
13740 % U+00D7 MULTIPLICATION SIGN; multiply  
13741 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13742 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13743 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
13744 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13745 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
13746 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13747 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
13748 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13749 \DeclareTextCompositeCommand{\~}{PU}{U}{\80\333}% U+00DB  
13750 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13751 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
13752 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13753 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
13754 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13755 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
13756 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13757 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13758 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13759 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
13760 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13761 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
13762 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13763 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\342}% U+00E2  
13764 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13765 \DeclareTextCompositeCommand{\-}{PU}{a}{\80\343}% U+00E3  
13766 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13767 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
13768 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13769 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
13770 % U+00E6 LATIN SMALL LETTER AE; ae  
13771 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
13772 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13773 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
13774 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13775 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
13776 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13777 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
13778 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13779 \DeclareTextCompositeCommand{\~}{PU}{e}{\80\352}% U+00EA  
13780 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13781 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
13782 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13783 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
13784 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
13785 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13786 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13787 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13788 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex

13789 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE  
13790 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
13791 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13792 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
13793 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
13794 % U+00F0 LATIN SMALL LETTER ETH; eth  
13795 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
13796 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13797 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
13798 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13799 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
13800 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13801 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\363}% U+00F3  
13802 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13803 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
13804 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13805 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
13806 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13807 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
13808 % U+00F7 DIVISION SIGN; divide  
13809 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
13810 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13811 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
13812 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
13813 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
13814 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
13815 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\372}% U+00FA  
13816 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
13817 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
13818 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
13819 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
13820 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
13821 \DeclareTextCompositeCommand{\`}{PU}{y}{\80\375}% U+00FD  
13822 % U+00FE LATIN SMALL LETTER THORN; thorn  
13823 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
13824 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
13825 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

13826 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
13827 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
13828 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
13829 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
13830 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
13831 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
13832 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
13833 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
13834 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
13835 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
13836 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
13837 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
13838 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
13839 \DeclareTextCompositeCommand{\`}{PU}{C}{\81\006}% U+0106  
13840 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
13841 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107  
13842 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex



13843 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108  
13844 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
13845 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
13846 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
13847 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
13848 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
13849 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
13850 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
13851 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
13852 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
13853 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
13854 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
13855 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
13856 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
13857 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
13858 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
13859 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
13860 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
13861 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
13862 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
13863 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
13864 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
13865 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
13866 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
13867 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
13868 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
13869 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
13870 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
13871 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
13872 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
13873 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
13874 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
13875 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
13876 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
13877 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
13878 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
13879 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
13880 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
13881 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
13882 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
13883 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
13884 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
13885 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
13886 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
13887 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
13888 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
13889 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
13890 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
13891 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
13892 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
13893 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
13894 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
13895 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
13896 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
13897 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
13898 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex

13899 \DeclareTextCompositeCommand{\~}{PU}{H}{\81\044}% U+0124  
13900 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
13901 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
13902 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
13903 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
13904 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
13905 \DeclareTextCommand{\textthslash}{PU}{\81\047}% U+0127  
13906 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
13907 \DeclareTextCompositeCommand{\-}{PU}{I}{\81\050}% U+0128  
13908 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
13909 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13910 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}% U+0129  
13911 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
13912 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
13913 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
13914 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13915 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13916 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
13917 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
13918 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
13919 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13920 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13921 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
13922 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
13923 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
13924 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13925 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13926 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
13927 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
13928 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13929 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
13930 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
13931 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
13932 % U+0133 LATIN SMALL LIGATURE IJ; ij  
13933 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
13934 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
13935 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
13936 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
13937 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
13938 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
13939 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-  
cent  
13940 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
13941 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
13942 \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.  
13943 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
13944 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
13945 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
13946 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
13947 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
13948 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
13949 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-  
cent  
13950 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B

13951 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
13952 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
13953 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
13954 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
13955 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
13956 \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.  
13957 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
13958 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
13959 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
13960 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
13961 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13962 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
13963 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13964 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
13965 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
13966 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
13967 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
13968 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
13969 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
13970 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
13971 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
13972 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
13973 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
13974 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
13975 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
13976 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
13977 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
13978 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
13979 % U+014A LATIN CAPITAL LETTER ENG; Eng  
13980 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
13981 % U+014B LATIN SMALL LETTER ENG; eng  
13982 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
13983 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
13984 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
13985 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
13986 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
13987 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
13988 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
13989 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
13990 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
13991 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
13992 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
13993 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
13994 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
13995 % U+0152 LATIN CAPITAL LETTER LIGATURE OE; OE  
13996 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
13997 % U+0153 LATIN SMALL LETTER LIGATURE OE; oe  
13998 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
13999 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
14000 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
14001 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute

14002 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
14003 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
14004 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
14005 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
14006 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
14007 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
14008 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
14009 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
14010 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
14011 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
14012 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
14013 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
14014 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
14015 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
14016 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
14017 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
14018 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
14019 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
14020 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
14021 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
14022 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
14023 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14024 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
14025 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14026 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
14027 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
14028 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
14029 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
14030 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
14031 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
14032 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
14033 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
14034 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
14035 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
14036 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
14037 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
14038 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
14039 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
14040 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
14041 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
14042 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
14043 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
14044 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
14045 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
14046 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
14047 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
14048 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
14049 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
14050 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
14051 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
14052 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
14053 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
14054 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
14055 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut

14056 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 14057 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-  
     garumlaut  
 14058 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 14059 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 14060 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 14061 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 14062 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 14063 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 14064 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 14065 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 14066 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 14067 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 14068 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 14069 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 14070 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 14071 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 14072 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 14073 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 14074 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 14075 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 14076 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 14077 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 14078 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 14079 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 14080 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 14081 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 14082 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 14083 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 14084 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 14085 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 14086 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

14087 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14088 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 14089 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 14090 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 14091 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 14092 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 14093 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 14094 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 14095 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 14096 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14097 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14098 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 14099 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 14100 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 14101 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 14102 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 14103 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 14104 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 14105 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 14106 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 14107 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 14108 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 14109 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5

14110 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
14111 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
14112 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
14113 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
14114 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
14115 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
14116 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
14117 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
14118 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
14119 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
14120 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
14121 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
14122 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
14123 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14124 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
14125 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
14126 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
14127 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
14128 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
14129 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
14130 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
14131 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
14132 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
14133 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
14134 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC  
14135 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
14136 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD  
14137 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
14138 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE  
14139 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
14140 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF  
14141 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
14142 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
14143 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
14144 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
14145 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
14146 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
14147 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
14148 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
14149 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
14150 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
14151 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
14152 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
14153 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
14154 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
14155 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
14156 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
14157 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
14158 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
14159 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
14160 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
14161 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
14162 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
14163 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
14164 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave

14165 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 14166 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 14167 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 14168 % U+021F LATIN SMALL LETTER H WITH CARON  
 14169 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 14170 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 14171 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 14172 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 14173 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 14174 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 14175 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 14176 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 14177 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 14178 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 14179 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 14180 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 14181 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 14182 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 14183 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 14184 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 14185 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 14186 % U+0237 LATIN SMALL LETTER DOTLESS J  
 14187 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

14188 % U+02C7 CARON; caron  
 14189 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 14190 % U+02D8 BREVE; breve  
 14191 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 14192 % U+02D9 DOT ABOVE; dotaccent  
 14193 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 14194 % U+02DA RING ABOVE; ring  
 14195 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 14196 % U+02DB OGONEK; ogonek  
 14197 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 14198 % U+02DC SMALL TILDE; ilde, \*tilde  
 14199 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 14200 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14201 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 14202 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 14203 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 14204 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 14205 % U+02F7 MODIFIER LETTER LOW TILDE  
 14206 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

14207 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 14208 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 14209 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 14210 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 14211 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 14212 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 14213 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 14214 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 14215 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 14216 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

14217 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 14218 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 14219 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 14220 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 14221 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 14222 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 14223 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 14224 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 14225 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 14226 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 14227 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 14228 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 14229 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 cronos  
 14230 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 14231 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonnos  
 14232 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 14233 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 14234 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 14235 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-  
 tadiesistonos  
 14236 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
 14237 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 14238 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 14239 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 14240 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 14241 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 14242 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 14243 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 14244 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 14245 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 14246 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 14247 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 14248 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 14249 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 14250 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 14251 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 14252 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 14253 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 14254 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 14255 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 14256 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 14257 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
 14258 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
 14259 % U+039C GREEK CAPITAL LETTER MU; Mu  
 14260 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
 14261 % U+039D GREEK CAPITAL LETTER NU; Nu  
 14262 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
 14263 % U+039E GREEK CAPITAL LETTER XI; Xi  
 14264 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
 14265 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
 14266 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
 14267 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
 14268 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
 14269 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
 14270 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1



14271 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
14272 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
14273 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
14274 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
14275 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
14276 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
14277 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
14278 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
14279 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
14280 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
14281 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
14282 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
14283 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
14284 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
14285 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
14286 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
14287 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
14288 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis  
14289 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
14290 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
14291 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
14292 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos  
14293 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
14294 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
14295 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
14296 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotonos  
14297 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
14298 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilonondieresis  
14299 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
14300 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
14301 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
14302 % U+03B2 GREEK SMALL LETTER BETA; beta  
14303 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
14304 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
14305 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
14306 % U+03B4 GREEK SMALL LETTER DELTA; delta  
14307 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
14308 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
14309 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
14310 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
14311 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
14312 % U+03B7 GREEK SMALL LETTER ETA; eta  
14313 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
14314 % U+03B8 GREEK SMALL LETTER THETA; theta  
14315 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
14316 % U+03B9 GREEK SMALL LETTER IOTA; iota  
14317 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
14318 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14319 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14320 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14321 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14322 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14323 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14324 % U+03BD GREEK SMALL LETTER NU; nu  
14325 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD

14326 % U+03BE GREEK SMALL LETTER XI; xi  
 14327 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
 14328 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
 14329 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
 14330 % U+03C0 GREEK SMALL LETTER PI; pi  
 14331 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
 14332 % U+03C1 GREEK SMALL LETTER RHO; rho  
 14333 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
 14334 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
 14335 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
 14336 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
 14337 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
 14338 % U+03C4 GREEK SMALL LETTER TAU; tau  
 14339 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
 14340 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
 14341 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
 14342 % U+03C6 GREEK SMALL LETTER PHI; phi  
 14343 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
 14344 % U+03C7 GREEK SMALL LETTER CHI; chi  
 14345 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
 14346 % U+03C8 GREEK SMALL LETTER PSI; psi  
 14347 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
 14348 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
 14349 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
 14350 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
 14351 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
 14352 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
 silondieresis  
 14353 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
 14354 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 14355 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
 14356 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 14357 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 14358 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
 14359 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 14360 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
 14361 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 14362 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 14363 % U+03DB GREEK SMALL LETTER STIGMA  
 14364 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 14365 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 14366 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 14367 % U+03DD GREEK SMALL LETTER DIGAMMA  
 14368 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 14369 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 14370 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 14371 % U+03DF GREEK SMALL LETTER KOPPA  
 14372 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 14373 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 14374 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14375 % U+03E1 GREEK SMALL LETTER SAMPI  
 14376 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

## 50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

14377 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE

14378 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
14379 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrillic, \*afii10023  
14380 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
14381 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
14382 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
14383 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
14384 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
14385 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
14386 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrillic, \*afii10053  
14387 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
14388 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
14389 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
14390 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrillic, \*afii10055  
14391 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
14392 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrillic, \*afii10056  
14393 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
14394 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
14395 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
14396 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
14397 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
14398 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
14399 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
14400 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
14401 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
14402 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
14403 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
14404 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
14405 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
14406 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
14407 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrillic, \*afii10062  
14408 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
14409 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
14410 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrillic, \*afii10145  
14411 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
14412 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrrillic, \*afii10017  
14413 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
14414 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrrillic, \*afii10018  
14415 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
14416 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrrillic, \*afii10019  
14417 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
14418 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrrillic, \*afii10020  
14419 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
14420 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrrillic, \*afii10021  
14421 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
14422 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrrillic, \*afii10022  
14423 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
14424 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrrillic, \*afii10024  
14425 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
14426 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrrillic, \*afii10025  
14427 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14428 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrrillic, \*afii10026  
14429 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14430 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrrillic, \*afii10027  
14431 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14432 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14433 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrrillic, \*afii10028

14434 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14435 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14436 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14437 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14438 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14439 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14440 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14441 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14442 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14443 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14444 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
14445 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14446 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14447 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14448 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14449 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14450 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14451 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14452 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14453 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
14454 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14455 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14456 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14457 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
14458 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14459 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
14460 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14461 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
14462 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14463 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
14464 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14465 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
14466 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
14467 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
14468 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14469 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
14470 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14471 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
14472 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14473 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
14474 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14475 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
14476 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14477 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
14478 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
14479 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14480 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
14481 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14482 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
14483 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
14484 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
14485 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
14486 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
14487 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
14488 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
14489 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
14490 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436

14491 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
14492 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
14493 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
14494 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
14495 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
14496 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
14497 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
14498 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
14499 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
14500 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
14501 \DeclareTextCommand{\cyr l}{PU}{\84\073}% U+043B  
14502 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
14503 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
14504 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
14505 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
14506 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
14507 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
14508 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
14509 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
14510 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
14511 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
14512 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
14513 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441  
14514 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
14515 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
14516 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
14517 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
14518 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
14519 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
14520 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
14521 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
14522 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
14523 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
14524 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
14525 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
14526 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
14527 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
14528 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
14529 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
14530 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
14531 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
14532 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
14533 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
14534 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
14535 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C  
14536 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
14537 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
14538 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
14539 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
14540 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
14541 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
14542 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
14543 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450  
14544 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
14545 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
14546 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
14547 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic

14548 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
14549 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
14550 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
14551 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
14552 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
14553 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
14554 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
14555 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyril-  
lic  
14556 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
14557 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
14558 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
14559 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457  
14560 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
14561 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
14562 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
14563 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
14564 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
14565 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
14566 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
14567 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
14568 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
14569 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
14570 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
14571 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
14572 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
14573 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14574 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14575 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14576 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
14577 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14578 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14579 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
14580 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14581 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14582 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14583 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14584 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
14585 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14586 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14587 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14588 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
14589 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
14590 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14591 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
14592 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
14593 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleio-  
tifiedcyrillic  
14594 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14595 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
fiedcyrillic  
14596 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14597 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14598 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14599 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14600 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B

14601 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic  
 14602 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 14603 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigitifiedcyrillic  
 14604 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 14605 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 14606 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 14607 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 14608 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 14609 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 14610 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 14611 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 14612 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 14613 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 14614 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 14615 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 14616 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 14617 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 14618 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 14619 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 14620 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 14621 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
 14622 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 14623 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
 14624 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 14625 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 14626 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 14627 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 14628 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 14629 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 14630 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 14631 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 14632 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 14633 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 14634 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 14635 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 14636 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 14637 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14638 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14639 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14640 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14641 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14642 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14643 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 14644 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 14645 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 14646 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-

cyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 14647 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 14648 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 14649 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 14650 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 14651 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 14652 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 14653 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 14654 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 14655 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 14656 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 14657 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 14658 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 14659 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, \*afii10050  
 14660 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 14661 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 14662 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 14663 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
 14664 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 14665 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 14666 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 14667 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 14668 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 14669 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 14670 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 14671 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 14672 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 14673 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 14674 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 14675 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 14676 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 14677 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 14678 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 14679 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 14680 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 14681 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 14682 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 14683 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 14684 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 14685 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic



14686 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 14687 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-  
 ticalstrokecyrillic  
 14688 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 14689 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 14690 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 14691 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 14692 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 14693 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 14694 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 14695 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 14696 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 14697 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 14698 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 14699 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic  
 14700 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 14701 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 14702 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 14703 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 14704 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 14705 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 dlehookcyrillic  
 14706 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 14707 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
 hookcyrillic  
 14708 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 14709 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
 lic  
 14710 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 14711 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 14712 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 14713 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
 dercyrillic  
 14714 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 14715 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 14716 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
 cyrillic  
 14717 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 14718 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
 14719 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
 dercyrillic  
 14720 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 14721 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-  
 cyrillic  
 14722 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 14723 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 14724 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 14725 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 14726 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
 14727 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
 traightstrokecyrillic  
 14728 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 14729 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
 traightstrokecyrillic  
 14730 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1

14731 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hades-  
cendercyrillic  
14732 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
14733 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
cyrillic  
14734 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
14735 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
14736 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
14737 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
14738 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
14739 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescen-  
dercyrillic  
14740 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
14741 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
dercyrillic  
14742 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
14743 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
erticalstrokecyrillic  
14744 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
14745 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
erticalstrokecyrillic  
14746 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
14747 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
14748 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
14749 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
14750 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
14751 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
14752 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
14753 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
14754 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
14755 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
14756 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
14757 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
14758 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
14759 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
14760 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
14761 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
14762 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
14763 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
14764 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
14765 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
14766 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
14767 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
14768 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
14769 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
14770 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
14771 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
14772 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
14773 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
14774 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
14775 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
14776 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
14777 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic

14778 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
14779 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic  
14780 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
14781 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic  
14782 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
14783 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
14784 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
14785 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
14786 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
14787 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
14788 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
14789 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
14790 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
14791 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
14792 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
14793 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
14794 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
14795 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
14796 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
14797 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
14798 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
14799 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
14800 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
14801 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
14802 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
14803 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
14804 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
14805 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
14806 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
14807 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic  
14808 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
14809 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic  
14810 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB  
14811 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic  
14812 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
14813 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
14814 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD  
14815 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
14816 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
14817 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
14818 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF  
14819 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic  
14820 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
14821 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
14822 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
14823 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
14824 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2

14825 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
14826 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3  
14827 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
14828 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
14829 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
14830 \DeclareTextCompositeCommand{\'} {PU}{\cyri}{\84\345}% U+04E5  
14831 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
14832 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
14833 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
14834 \DeclareTextCompositeCommand{\'} {PU}{\cyro}{\84\347}% U+04E7  
14835 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
14836 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
14837 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
14838 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
14839 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
14840 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
14841 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
14842 \DeclareTextCompositeCommand{\'} {PU}{\cyrotld}{\84\353}% U+04EB  
14843 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
14844 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
14845 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
14846 \DeclareTextCompositeCommand{\'} {PU}{\cyreref}{\84\355}% U+04ED  
14847 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
14848 \DeclareTextCompositeCommand{\=} {PU}{\CYRU}{\84\356}% U+04EE  
14849 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
14850 \DeclareTextCompositeCommand{\=} {PU}{\cyru}{\84\357}% U+04EF  
14851 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
14852 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
14853 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
14854 \DeclareTextCompositeCommand{\'} {PU}{\cyru}{\84\361}% U+04F1  
14855 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
14856 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
14857 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
14858 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
14859 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
14860 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
14861 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
14862 \DeclareTextCompositeCommand{\'} {PU}{\cyrch}{\84\365}% U+04F5  
14863 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
14864 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
14865 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
14866 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
14867 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
14868 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
14869 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
14870 \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

14871 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 14872 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 14873 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 14874 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 50.2.10 Thai: U+0E00 to U+0E7F

14875 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 14876 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14877 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 14878 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 14879 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 14880 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 14881 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 14882 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 14883 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 14884 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 14885 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 14886 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 14887 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 14888 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 14889 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 14890 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 14891 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 14892 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 14893 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 14894 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 14895 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 14896 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 14897 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 14898 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
 14899 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 14900 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
 14901 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
 14902 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
 14903 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
 14904 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
 14905 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
 14906 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
 14907 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
 14908 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
 14909 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
 14910 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
 14911 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
 14912 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
 14913 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
 14914 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
 14915 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
 14916 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
 14917 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
 14918 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
 14919 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
 14920 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31

14921 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
14922 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
14923 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
14924 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
14925 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
14926 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
14927 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
14928 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
14929 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
14930 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
14931 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
14932 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
14933 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
14934 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
14935 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
14936 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
14937 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
14938 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
14939 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
14940 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
14941 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
14942 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
14943 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
14944 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
14945 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
14946 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
14947 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
14948 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
14949 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
14950 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
14951 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
14952 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
14953 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
14954 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
14955 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
14956 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
14957 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
14958 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
14959 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
14960 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
14961 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
14962 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
14963 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
14964 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
14965 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
14966 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
14967 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
14968 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
14969 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
14970 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
14971 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
14972 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
14973 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
14974 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\200}% U+1E80  
14975 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
14976 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81  
14977 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute

14978 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82  
14979 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
14980 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83  
14981 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
14982 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84  
14983 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
14984 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85  
14985 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
14986 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86  
14987 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
14988 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87  
14989 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
14990 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A  
14991 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
14992 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B  
14993 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
14994 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
14995 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
14996 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
14997 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
14998 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
14999 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
15000 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
15001 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
15002 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
15003 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
15004 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
15005 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
15006 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
15007 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
15008 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
15009 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
15010 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
15011 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
15012 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
15013 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
15014 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
15015 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
15016 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
15017 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
cent  
15018 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B  
15019 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
15020 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
15021 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
15022 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
15023 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
15024 \DeclareTextCompositeCommand{'}{PU}{Y}{\9036\362}% U+1EF2  
15025 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
15026 \DeclareTextCompositeCommand{'}{PU}{y}{\9036\363}% U+1EF3  
15027 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
15028 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
15029 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
15030 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

15031 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner

15032 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 15033 % U+2013 EN DASH; endash  
 15034 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 15035 % U+2014 EM DASH; emdash  
 15036 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 15037 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 15038 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 15039 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15040 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 15041 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15042 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 15043 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15044 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 15045 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15046 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 15047 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15048 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 15049 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15050 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 15051 % U+2020 DAGGER; dagger  
 15052 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 15053 % U+2021 DOUBLE DAGGER; daggerdbl  
 15054 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 15055 % U+2022 BULLET; bullet  
 15056 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 15057 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15058 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 15059 % U+2030 PER MILLE SIGN; perthousand  
 15060 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 15061 % U+2031 PER TEN THOUSAND SIGN  
 15062 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 15063 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 15064 \DeclareTextCommand{\guillemotleft}{PU}{\9040\071}% U+2039  
 15065 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 15066 \DeclareTextCommand{\guillemotright}{PU}{\9040\072}% U+203A  
 15067 % U+203B REFERENCE MARK; referencemark  
 15068 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 15069 % U+203D INTERROBANG  
 15070 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 15071 % U+2044 FRACTION SLASH; fraction  
 15072 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 15073 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 15074 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 15075 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 15076 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 15077 % U+2052 COMMERCIAL MINUS SIGN  
 15078 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

15079 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 15080 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 15081 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 15082 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 15083 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 15084 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075



15085 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 15086 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 15087 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 15088 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 15089 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 15090 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 15091 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 15092 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 15093 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 15094 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 15095 % U+207B SUPERSCRIPT MINUS  
 15096 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 15097 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 15098 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}  
 15099 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 15100 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 15101 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 15102 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 15103 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 15104 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 15105 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 15106 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 15107 % U+2081 SUBSCRIPT ONE; oneinferior  
 15108 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 15109 % U+2082 SUBSCRIPT TWO; twoinferior  
 15110 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 15111 % U+2083 SUBSCRIPT THREE; threeinferior  
 15112 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 15113 % U+2084 SUBSCRIPT FOUR; fourinferior  
 15114 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 15115 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 15116 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 15117 % U+2086 SUBSCRIPT SIX; sixinferior  
 15118 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 15119 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 15120 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 15121 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 15122 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 15123 % U+2089 SUBSCRIPT NINE; nineinferior  
 15124 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 15125 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 15126 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 15127 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 15128 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

## 50.2.14 Currency Symbols: U+20A0 to U+20CF

15129 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 15130 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 15131 % U+20A4 LIRA SIGN; afi08941, \*lira  
 15132 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 15133 % U+20A6 NAIRA SIGN  
 15134 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 15135 % U+20A7 PESETA SIGN; peseta  
 15136 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 15137 % U+20A9 WON SIGN; won  
 15138 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 15139 % U+20AB DONG SIGN; dong

15140 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 15141 % U+20AC EURO SIGN; \*Euro, euro  
 15142 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 15143 % U+20B1 PESO SIGN  
 15144 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 15145 % U+20B2 GUARANI SIGN  
 15146 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 50.2.15 Letterlike Symbols: U+2100 to U+214F

15147 % U+2103 DEGREE CELSIUS; centigrade  
 15148 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 15149 % U+2116 NUMERO SIGN; \*afi61352, numero  
 15150 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 15151 % U+2117 SOUND RECORDING COPYRIGHT  
 15152 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 15153 % U+211E PRESCRIPTION TAKE; prescription  
 15154 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 15155 % U+2120 SERVICE MARK  
 15156 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 15157 % U+2122 TRADE MARK SIGN; trademark  
 15158 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 15159 % U+2126 OHM SIGN; Ohm, Omega  
 15160 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 15161 % U+2127 INVERTED OHM SIGN  
 15162 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 15163 % U+212B ANGSTROM SIGN; angstrom  
 15164 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 15165 % U+212E ESTIMATED SYMBOL; estimated  
 15166 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 15167 % U+2135 ALEF SYMBOL; aleph  
 15168 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

15169 % U+2190 LEFTWARDS ARROW; arrowleft  
 15170 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 15171 % U+2191 UPWARDS ARROW; arrowup  
 15172 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 15173 % U+2192 RIGHTWARDS ARROW; arrowright  
 15174 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 15175 % U+2193 DOWNWARDS ARROW; arrowdown  
 15176 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

15177 % U+2212 MINUS SIGN; minus  
 15178 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 15179 % U+221A SQUARE ROOT; radical  
 15180 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

15181 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 15182 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 15183 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 15184 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

### 50.2.19 Control Pictures: U+2400 to U+243F

15185 % U+2422 BLANK SYMBOL  
 15186 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422

15187 % U+2423 OPEN BOX; blank  
 15188 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

## 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

15189 % U+2460 CIRCLED DIGIT ONE; onecircle  
 15190 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 15191 % U+2461 CIRCLED DIGIT TWO; twocircle  
 15192 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 15193 % U+2462 CIRCLED DIGIT THREE; threecircle  
 15194 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 15195 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 15196 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 15197 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 15198 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 15199 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 15200 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 15201 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 15202 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 15203 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 15204 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 15205 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 15206 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 15207 % U+2469 CIRCLED NUMBER TEN; tencircle  
 15208 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 15209 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 15210 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 15211 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 15212 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 15213 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 15214 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 15215 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
 15216 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 15217 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 15218 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 15219 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 15220 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 15221 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 15222 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 15223 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 15224 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 15225 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 15226 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 15227 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 15228 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 15229 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 15230 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 15231 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 15232 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 15233 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 15234 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 15235 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 15236 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 15237 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 15238 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 15239 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 15240 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 15241 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle

15242 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
15243 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
15244 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
15245 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
15246 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
15247 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
15248 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
15249 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
15250 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
15251 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
15252 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
15253 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
15254 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
15255 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
15256 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
15257 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
15258 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
15259 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
15260 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
15261 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
15262 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
15263 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
15264 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
15265 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
15266 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
15267 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
15268 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
15269 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
15270 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
15271 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
15272 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
15273 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
15274 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
15275 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
15276 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
15277 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
15278 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
15279 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
15280 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
15281 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
15282 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
15283 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
15284 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
15285 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
15286 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
15287 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
15288 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
15289 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
15290 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
15291 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
15292 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
15293 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
15294 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
15295 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
15296 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
15297 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
15298 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8

15299 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15300 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15301 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15302 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15303 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15304 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15305 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15306 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15307 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 15308 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15309 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15310 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15311 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15312 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15313 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15314 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15315 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 15316 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15317 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15318 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15319 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15320 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15321 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15322 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15323 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15324 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15325 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15326 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15327 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15328 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15329 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 15330 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15331 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15332 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15333 % U+24EA CIRCLED DIGIT ZERO  
 15334 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

15335 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 15336 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 15337 % U+25EF LARGE CIRCLE; largecircle  
 15338 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

15339 % U+266A EIGHTH NOTE; musicalnote  
 15340 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 15341 % U+26AD MARRIAGE SYMBOL  
 15342 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 15343 % U+26AE DIVORCE SYMBOL  
 15344 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

15345 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 15346 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 15347 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 15348 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

## 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```
15349 % U+FB01 LATIN SMALL LIGATURE FI; fi
15350 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
15351 % U+FB02 LATIN SMALL LIGATURE FL; fl
15352 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02
```

## 50.2.25 Miscellaneous

```
15353 \DeclareTextCommand{\SS}{PU}{SS}
```

## 50.2.26 Aliases

Aliases (german.sty)

```
15354 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
15355 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
15356 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
15357 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
15358 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
15359 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
15360 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
15361 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
15362 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
15363 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
15364 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
15365 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
15366 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
15367 </puenc>
```

## 50.3 PU encoding, additions for VnT<sub>E</sub>X

This file is provided by Han The Thanh.

```
15368 <*puvnenc>
15369 \DeclareTextCommand{\abreve}{PU}{\81\003}
15370 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
15371 \DeclareTextCommand{\dj}{PU}{\81\021}
15372 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
15373 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
15374 \DeclareTextCommand{\ohorn}{PU}{\81\241}
15375 \DeclareTextCommand{\uhorn}{PU}{\81\260}
15376 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
15377 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
15378 \DeclareTextCommand{\DJ}{PU}{\81\020}
15379 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
15380 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
15381 \DeclareTextCommand{\OHORN}{PU}{\81\240}
15382 \DeclareTextCommand{\UHORN}{PU}{\81\257}
15383 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
15384 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
15385 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
15386 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
15387 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
15388 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
15389 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
15390 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
15391 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
```

15392 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}  
15393 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}  
15394 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}  
15395 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}  
15396 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}  
15397 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}  
15398 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}  
15399 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}  
15400 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}  
15401 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}  
15402 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}  
15403 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}  
15404 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}  
15405 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}  
15406 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}  
15407 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}  
15408 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}  
15409 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}  
15410 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}  
15411 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}  
15412 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
15413 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
15414 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
15415 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
15416 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
15417 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
15418 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
15419 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
15420 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
15421 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
15422 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
15423 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
15424 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
15425 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
15426 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
15427 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
15428 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
15429 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
15430 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
15431 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
15432 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
15433 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
15434 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
15435 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
15436 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
15437 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
15438 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
15439 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
15440 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
15441 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
15442 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
15443 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
15444 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
15445 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
15446 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
15447 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
15448 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}

15449 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
15450 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
15451 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
15452 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
15453 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
15454 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
15455 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
15456 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
15457 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
15458 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
15459 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
15460 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
15461 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
15462 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
15463 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
15464 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
15465 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
15466 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
15467 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
15468 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
15469 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
15470 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
15471 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
15472 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
15473 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
15474 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
15475 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
15476 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
15477 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
15478 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}  
15479 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}  
15480 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}  
15481 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}  
15482 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}  
15483 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}  
15484 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}  
15485 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}  
15486 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}  
15487 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}  
15488 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}  
15489 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}  
15490 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}  
15491 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}  
15492 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}  
15493 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}  
15494 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}  
15495 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}  
15496 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}  
15497 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}  
15498 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}  
15499 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}  
15500 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}  
15501 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}  
15502 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}  
15503 </puvnenc>



## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
15504 (*puarenc)
15505 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
TER HAMZA
15506 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
15507 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
15508 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
15509 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
15510 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
15511 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
15512 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
15513 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
15514 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
15515 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-
TER THEH
15516 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-
TER JEEM
15517 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
15518 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
15519 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
15520 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
15521 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
15522 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
15523 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
15524 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-
TER SHEEN
15525 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
15526 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
15527 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
15528 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
15529 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
15530 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LET-
TER GHAIN
15531 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
15532 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
15533 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
15534 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
15535 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
15536 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LET-
TER MEEM
15537 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
15538 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
15539 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
15540 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LET-
TER ALEF MAKSURA
15541 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
15542 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
15543 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
15544 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
15545 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
```

```

15546 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
15547 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
15548 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
15549 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi

15550 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
15551 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
 TER TCHEH
15552 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
15553 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
 TER KAF
15554 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
15555 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
 TER YEH

15556 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
15557 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

15558 \puarenc

```

## 51 End of file hyccheck.tex

```

15559 *check)
15560 \typeout{}
15561 \begin{document}
15562 \end{document}
15563 \check)

```

## 52 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 |                                  |                                        |
|---------|----------------------------------|----------------------------------------|
| \!      | 195, 220                         | 14222, 14224, 14226, 14228,            |
| \"      | 202, 227, 2841, 12752, 13101,    | 14230, 14232, 14234, 14236,            |
|         | 13113, 13125, 13248, 13334,      | 14291, 14293, 14295, 14297,            |
|         | 13348, 13356, 13371, 13383,      | 14355, 14358, 14360, 14385,            |
|         | 13399, 13413, 13424, 13425,      | 14404, 14550, 14569, 14918,            |
|         | 13439, 13451, 13457, 13508,      | 14920, 14930, 14932, 14946,            |
|         | 13536, 13555, 13576, 13703,      | 14948, 14978, 14980, 15383,            |
|         | 13717, 13725, 13739, 13751,      | 15388, 15393, 15398, 15403,            |
|         | 13767, 13781, 13792, 13793,      | 15408, 15413, 15418, 15423,            |
|         | 13807, 13819, 13825, 14072,      | 15428, 15433, 15438, 15443,            |
|         | 14287, 14289, 14299, 14351,      | 15448, 15453, 15458, 15463,            |
|         | 14353, 14381, 14394, 14546,      | 15468, 15473, 15478, 15483,            |
|         | 14559, 14792, 14794, 14808,      | 15488, 15493, 15498                    |
|         | 14810, 14812, 14814, 14816,      | \( .. 190, 215, 607, 610, 612, 12818,  |
|         | 14818, 14828, 14830, 14832,      | 13171                                  |
|         | 14834, 14840, 14842, 14844,      | \) .. 191, 216, 579, 585, 588, 12819,  |
|         | 14846, 14852, 14854, 14860,      | 13173                                  |
|         | 14862, 14868, 14870, 14910,      | \+ ..... 200, 225                      |
|         | 14912, 14982, 14984, 14994,      | \- ..... 201, 226                      |
|         | 14996, 15012                     | \. .... 198, 223, 1075, 13104, 13116,  |
| \#      | 408, 1939, 1940, 4066, 4077,     | 13128, 13190, 13481, 13488,            |
|         | 4079, 4095, 4127, 4165, 7632,    | 13506, 13539, 13558, 13582,            |
|         | 7634, 8386, 8395, 8423, 9148,    | 13622, 13623, 13847, 13849,            |
|         | 10641, 10652, 10681, 10912,      | 13871, 13873, 13891, 13893,            |
|         | 10921, 10951                     | 13927, 13958, 13960, 14078,            |
| \\$     | 184, 209, 409, 4068, 4164        | 14080, 14171, 14173, 14179,            |
| \%      | 410, 1914, 1915, 4065, 4074,     | 14181, 14878, 14880, 14886,            |
|         | 4076, 4128, 7634                 | 14888, 14898, 14900, 14906,            |
| \&      | 185, 210, 411, 4069, 4080, 4082, | 14908, 14934, 14936, 14938,            |
|         | 10691                            | 14940, 14950, 14952, 14954,            |
| \'      | 203, 228, 2781, 2795, 2836,      | 14956, 14962, 14964, 14986,            |
|         | 2838, 2839, 2840, 2841, 2846,    | 14988, 14990, 14992, 14998,            |
|         | 2847, 2849, 2854, 2860, 2864,    | 15000, 15018                           |
|         | 2865, 2868, 2911, 2912, 2917,    | \/ 194, 219, 521, 522, 523, 590, 1657, |
|         | 2918, 2919, 2920, 2921, 2922,    | 7034                                   |
|         | 2923, 2924, 2926, 2930, 2943,    | \: ..... 189, 214                      |
|         | 12750, 13098, 13110, 13122,      | \; ..... 199, 224, 7329                |
|         | 13328, 13344, 13352, 13365,      | \< ..... 196, 221                      |
|         | 13379, 13385, 13393, 13409,      | \= 167, 173, 180, 183, 13106, 13118,   |
|         | 13418, 13419, 13433, 13447,      | 13130, 13501, 13543, 13562,            |
|         | 13453, 13476, 13478, 13479,      | 13581, 13827, 13829, 13863,            |
|         | 13480, 13483, 13485, 13486,      | 13865, 13912, 13914, 13915,            |
|         | 13487, 13495, 13533, 13552,      | 13984, 13986, 14044, 14046,            |
|         | 13573, 13697, 13713, 13721,      | 14183, 14185, 14824, 14826,            |
|         | 13733, 13747, 13753, 13761,      | 14848, 14850, 14902, 14904             |
|         | 13777, 13786, 13787, 13801,      | \> ..... 197, 222                      |
|         | 13815, 13821, 13839, 13841,      | \@ ..... 2832                          |
|         | 13946, 13948, 13966, 13968,      | \@@@ ..... 2162                        |
|         | 14000, 14002, 14012, 14014,      | \@@BOOKMARK . 12733, 12736,            |
|         | 14074, 14076, 14126, 14128,      | <u>12794</u> , 12846, 12853            |
|         | 14134, 14136, 14138, 14140,      | \@@Listbox . 11255, 11277, 11736,      |
|         |                                  | 11767, 12077, <u>12118</u>             |
|         |                                  | \@@Menu ..... 11465, 11473             |
|         |                                  | \@@PasswordField . 11414, 11420        |
|         |                                  | \@@Radio .. 11240, 11261, 11463,       |
|         |                                  | 11487, 11721, 11742, 12062,            |
|         |                                  | <u>12083</u>                           |
|         |                                  | \@@TextField ..... 11416, 11431        |
|         |                                  | \@@commahyperpage . 7141, 7142         |
|         |                                  | \@@hyperref ..... 4199, 4200           |
|         |                                  | \@@latextohtmlX .... 2674, 4386        |
|         |                                  | \@@wrindex ..... 7069, 7070            |
|         |                                  | \@@writetorep .... 12645, 12651        |
|         |                                  | \@Alph ... 5840, 5841, 5844, 5845      |
|         |                                  | \@Alph@bul ..... 5844                  |
|         |                                  | \@BIBLABEL .. 6563, 6569, 6575         |
|         |                                  | \@BOOKMARK .. 12733, 12735             |
|         |                                  | \@CITE ..... 6640, 6648                |
|         |                                  | \@CITEX ..... 6642                     |
|         |                                  | \@CheckBox .. 5072, 9213, 11354,       |
|         |                                  | 11384, 11518, 11854, <u>12223</u>      |
|         |                                  | \@ChoiceMenu . 5069, 9216, 11192,      |
|         |                                  | 11387, 11453, 11672, <u>12013</u>      |
|         |                                  | \@Form . 4844, 9203, 10979, 11376,     |
|         |                                  | 11397, 11596, <u>11937</u>             |
|         |                                  | \@Gauge 5078, 9207, 11161, 11378,      |
|         |                                  | 11402, 11539, <u>11934</u>             |
|         |                                  | \@Localurifalse ..... 9156             |
|         |                                  | \@Localurltrue ..... 9153              |
|         |                                  | \@M ..... 980, 2201, 4153, 6191        |
|         |                                  | \@MM ..... 6325                        |
|         |                                  | \@PushButton . 5075, 9219, 11284,      |
|         |                                  | 11390, 11499, 11776, <u>12134</u>      |
|         |                                  | \@Refstar ..... 7441, 7448             |
|         |                                  | \@Reset . 5084, 9222, 11330, 11393,    |
|         |                                  | 11515, 11829, <u>12193</u>             |
|         |                                  | \@Roman ..... 483                      |
|         |                                  | \@SCTR ..... 7188, 7240                |
|         |                                  | \@SetMaxRnhefLabel ..... 6637          |
|         |                                  | \@Submit 5081, 9225, 11312, 11394,     |
|         |                                  | 11512, 11806, <u>12169</u>             |
|         |                                  | \@TextField ... 5066, 9210, 11164,     |
|         |                                  | 11381, 11405, 11643, <u>11976</u>      |
|         |                                  | \@addchap ..... 13057                  |
|         |                                  | \@addtoreset .. 6963, 6964, 6978,      |
|         |                                  | 7185                                   |
|         |                                  | \@afterheading ..... 13075             |
|         |                                  | \@alph ..... 5847, 5848                |
|         |                                  | \@alph@bul ..... 5847                  |
|         |                                  | \@anchorcolor . 8355, 8443, 9270,      |
|         |                                  | <u>10609</u> , 10882                   |
|         |                                  | \@arabic 950, 955, 959, 5841, 5845,    |
|         |                                  | 5848                                   |

`\@auxout` . 2156, 4244, 5294, 5296, 5909, 5937, 6583, 6598, 6614, 6624, 6654, 6677, 6703, 6709, 6733  
`\@backslashchar` . . . . 701, 704, 707, 1200, 1834, 1838, 1841, 1961, 1978, 1984, 1988, 1996, 4090, 7647, 7657  
`\@baseurl` . . . . . 3137, 3139, 4338, 8078, 8081, 8340, 8342, 8593, 8595, 9061, 9071, 9121, 9123, 9635, 9637, 10000, 10014, 10594, 10596, 10788, 10802, 10868, 10870  
`\@begintheorem` . . . . . 6159, 6165  
`\@bibitem` . . . . . 6590, 6621  
`\@biblabel` . . . . . 6563, 6610  
`\@bookmarkopenstatus` . . . 3904, 3921, 12703  
`\@bookmarksopenlevel` 3100, 3102, 3907  
`\@bsphack` . . . . . 2149, 4237, 6707  
`\@capstartfalse` . . . . . 6457  
`\@caption` 6422, 6434, 6477, 6513, 6515  
`\@capytype` 2158, 6417, 6421, 6425, 6432, 6439, 6481, 6506, 6510, 6513  
`\@car` 1445, 1461, 1479, 1499, 3079, 4462, 8030, 8041  
`\@cdr` . . . . . 8031, 8042  
`\@chapter` . . . . . 12978, 12979  
`\@cite` . . . . 6640, 6671, 6768, 6774  
`\@cite@opt` . 6769, 6775, 6779, 6789  
`\@citea` . . 6643, 6650, 6651, 6670, 6673, 6674  
`\@citeb` . . 6649, 6652, 6654, 6656, 6660, 6663, 6672, 6675, 6677, 6679, 6683, 6686  
`\@citebordercolor` . . . . . 3561  
`\@citedata@opt` . 6770, 6776, 6778  
`\@citedatax` . . . . . 6785, 6790  
`\@citedatax@opt` . . . . 6782, 6788  
`\@citeseppen` . . . . . 6767, 6773  
`\@citex` . . . . . 6669  
`\@clubpenalty` . . . . . 6193  
`\@commahyperpage` . . 7136, 7141  
`\@currDisplay` 4898, 11204, 11266, 11482, 11496, 11684, 11747, 12025, 12091  
`\@currValue` . . . 4900, 4902, 11271, 11482, 11493, 11754, 12106, 12525  
`\@currentHlabel` 5852, 5854, 5863, 6001, 6012, 6248, 6259, 6262, 6264, 6309, 6338  
`\@currentHref` . 2164, 5174, 5811, 5862, 5867, 5949, 5952, 5954, 5964, 6002, 6013, 6015, 6054, 6065, 6069, 6076, 6100, 6185, 6249, 6260, 6263, 6265, 6310, 6339, 6437, 6463, 6467, 6482, 6484, 6712, 6838, 6861, 6874, 6881, 6932, 6933, 6957, 6959, 12634, 12635, 12953, 12958, 12970, 12972, 12982, 12984, 13013, 13015, 13028, 13033, 13067, 13069  
`\@currentlabel` . 6328, 6705, 6712, 6938, 6945, 7194, 7246  
`\@currentlabelname` . . 2154, 6250, 6311, 6340, 6442  
`\@currentlabstr` . . . . . 2153, 2161  
`\@curropt` . . 11201, 11202, 11263, 11264, 11471, 11478, 11479, 11481, 11488, 11489, 11491, 11681, 11682, 11744, 11745, 12022, 12023, 12088, 12089  
`\@dblarg` . . . . . 2254, 6432, 6513  
`\@definecounter` . . . . . 6917, 6918  
`\@ehc` . . . . . 2480, 3674, 4302, 4556, 4680, 4875, 5021, 5057, 11294, 11342, 11787, 11841, 12145, 12205  
`\@ehd` . . . . . 63, 6418, 6507  
`\@endForm` . . . 4845, 9206, 11160, 11377, 11401, 11642, 11962  
`\@endparyenv` . . . . . 6155  
`\@eqnncr` . . . . . 6084  
`\@eqnstarfalse` . . . . . 6060, 6087  
`\@eqnstartrue` . . . . . 6084  
`\@eqnswtrue` . . . . . 6030, 6039  
`\@esphack` . 2170, 4248, 6717, 7081  
`\@extra@b@citeb` 6548, 6551, 6568, 6573, 6593, 6641, 6663, 6679, 6686  
`\@extra@binfo` . . 6547, 6550, 6554  
`\@fifthoffive` 3634, 4019, 4231, 7395, 7510  
`\@filebordercolor` 3559, 7947, 7949, 8917, 8919, 9349, 9351, 10318  
`\@filecolor` 3129, 7967, 8541, 8553, 8929, 9355  
`\@firstoffive` 4015, 4024, 7434, 7515  
`\@firstofone` . . . . . 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 473, 661, 816, 827, 1060, 1064, 1068, 1366, 3481, 3906, 4810, 4816, 4984, 5727, 5838, 5851, 5896, 6430, 6511, 6652, 6675, 6801, 7024, 8250, 11569, 12308, 12325, 12343  
`\@firstoftwo` . . 492, 771, 942, 1573, 5264, 13022  
`\@footnotemark` 6201, 6255, 6348, 6360, 6362, 6374, 6375, 6405, 6407  
`\@footnotetext` . 6200, 6207, 6236, 6361, 6363, 6377, 6378, 6398  
`\@for` 3156, 4452, 6649, 6672, 11201, 11263, 11471, 11478, 11488, 11681, 11744, 12022, 12088  
`\@fourthoffive` . 4018, 4232, 7505, 7512  
`\@gobble` . . . . . 49, 56, 117, 426, 427, 428, 429, 466, 467, 468, 469, 495, 496, 497, 506, 508, 665, 778, 814, 825, 966, 970, 973, 1303, 1364, 1383, 1396, 1400, 1462, 1525, 1526, 1533, 1538, 1552, 1557, 2191, 2423, 2435, 3469, 3622, 3624, 3676, 4056, 4795, 4974, 5228, 5232, 5250, 5252, 5268, 5269, 5270, 5272, 5273, 5275, 5706, 5721, 5725, 6148, 6419, 6508, 6837, 7570, 8252, 9515, 9518, 11597, 11938, 12691, 12692, 12693, 12845  
`\@gobblefour` 432, 531, 1096, 1097, 1098, 3288, 7309  
`\@gobbleopt` . . . . . 5275, 5277  
`\@gobbletwo` . . . . . 430, 499, 524, 532, 533, 678, 1095, 1480, 1557, 1561, 2308, 3286, 3287, 3626, 4741, 5254, 5263, 5271, 5275, 7493, 12968  
`\@harvarditem` . . . . . 6722, 6724  
`\@hyper@anchor` . . . 4347, 4348  
`\@hyper@itemfalse` . . . 5757, 5773, 5787  
`\@hyper@itemtrue` . . . . . 5758  
`\@hyper@launch` 4308, 4317, 7971, 9413, 10330  
`\@hyper@linkfile` 4289, 4292, 4296, 4328  
`\@hyper@readexternallink` . 4283, 4287  
`\@hyperdef` . . . . . 4207, 4208  
`\@hyperpage` . . . . . 7133, 7134  
`\@hyperref` . . . . . 4188, 4199  
`\@ifclasslater` . . . . . 13081, 13086  
`\@ifclassloaded` . . . . . 2141, 5881, 5918, 6632, 7169, 7173, 8255, 13080, 13085  
`\@ifnextchar` . . . . 12, 88, 103, 123, 525, 4158, 4188, 4207, 4256, 4844, 5066, 5069, 5072, 5075, 5078, 5081, 5084, 5275, 5339,

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5348, 6364, 6382, 6722, 6780,<br>10025, 10256, 10270, 12733,<br>12736                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10667, 10927, 10928, 10937,<br>10938, 10939                                                                                                                                                                                                                                                                                                                                                                                                                               | 4788, 4871, 5556, 5558, 6867,<br>7420, 8711                                                                                                                                                                                                                                                                                                      |
| \@ifpackagelater . 836, 2172, 5872,<br>6988                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \@listctr . . . . . 6599, 6625                                                                                                                                                                                                                                                                                                                                                                                                                                            | \@oparg . . . . . 6159, 6165                                                                                                                                                                                                                                                                                                                     |
| \@ifpackageloaded . 362, 731, 835,<br>2144, 2532, 3056, 3060, 3613,<br>3756, 5795, 5871, 5884, 5946,<br>5980, 5984, 5992, 6026, 6140,<br>6197, 6272, 6317, 6478, 6692,<br>6765, 6929, 6987, 7029, 7030,<br>7031, 7178, 7440, 7583, 7587,<br>10860                                                                                                                                                                                                                                                                                                                                                                                                                                             | \@m . . . . . 963, 6651, 6674, 9562                                                                                                                                                                                                                                                                                                                                                                                                                                       | \@outlinefile . 12701, 12741, 12831,<br>12833, 12835, 12900, 12902,<br>12904                                                                                                                                                                                                                                                                     |
| \@ifpackagewith . . . . . 3614, 6953                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | \@mainaux 5292, 5293, 5689, 5697,<br>11565, 11589                                                                                                                                                                                                                                                                                                                                                                                                                         | \@pagerefstar . . . 4042, 7436, 7464                                                                                                                                                                                                                                                                                                             |
| \@ifstar 66, 4040, 4042, 5209, 5213,<br>5281, 5285, 7448, 7474, 7493                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | \@makecaption . 6458, 6460, 6526                                                                                                                                                                                                                                                                                                                                                                                                                                          | \@pagesetref . . . . . 7386                                                                                                                                                                                                                                                                                                                      |
| \@ifundefined 34, 243, 474, 516, 591,<br>626, 742, 743, 744, 750, 758,<br>774, 777, 848, 854, 860, 865,<br>870, 877, 883, 889, 894, 900,<br>905, 915, 921, 927, 933, 1415,<br>1509, 1510, 2145, 2178, 2285,<br>2397, 2462, 2545, 3001, 3009,<br>3016, 3029, 3077, 3584, 3691,<br>3692, 3693, 4551, 4870, 5376,<br>5659, 5737, 5799, 5804, 5825,<br>5839, 5986, 5995, 6049, 6071,<br>6089, 6095, 6132, 6423, 6441,<br>6546, 6557, 6640, 6656, 6679,<br>6926, 6968, 6976, 6977, 6990,<br>6991, 6998, 7482, 7483, 7527,<br>7528, 7530, 7531, 7687, 7885,<br>7895, 8280, 9097, 9236, 9293,<br>9380, 9703, 9704, 9747, 9781,<br>9869, 10046, 10424, 11597,<br>11938, 12317, 12699, 12977,<br>12988 | \@makefnmark . . . . . 6267, 6410                                                                                                                                                                                                                                                                                                                                                                                                                                         | \@parboxrestore . 6327, 6450, 6521                                                                                                                                                                                                                                                                                                               |
| \@indexfile 7073, 7088, 7096, 7100,<br>7105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \@makefntext . . . . . 6329                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@parcount . . . . . 12800, 12808                                                                                                                                                                                                                                                                                                                |
| \@inlabelfalse . . . . . 6175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \@makeoother . . 166, 167, 179, 180,<br>182, 183, 188, 189, 190, 191,<br>192, 193, 194, 195, 196, 197,<br>198, 199, 200, 201, 202, 203,<br>4080, 7619, 12822                                                                                                                                                                                                                                                                                                              | \@part . . . . . 12997, 13004                                                                                                                                                                                                                                                                                                                    |
| \@inmathwarn . . . . . 402, 403                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@makeschapterhead 13072, 13074                                                                                                                                                                                                                                                                                                                                                                                                                                           | \@pdfauthor . . 3304, 3564, 8137,<br>8575, 9008, 9676, 9926, 10719                                                                                                                                                                                                                                                                               |
| \@inpenc@undefined@ . . . . 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | \@menubordercolor . . 3558, 8310,<br>8312, 8972, 8974, 9447, 9449                                                                                                                                                                                                                                                                                                                                                                                                         | \@pdfborder . . . . . 2678, 3182, 3185, 3187, 3987,<br>7834, 8729, 9258, 9795, 9887,<br>10248, 10260, 10275, 10296,<br>10315, 10340, 10368, 10455,<br>10543, 10696                                                                                                                                                                               |
| \@labels . . . . . 6188                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | \@menucolor . . . 8323, 8978, 9453                                                                                                                                                                                                                                                                                                                                                                                                                                        | \@pdfborderstyle . . . . . 3183, 3189, 3191, 3988,<br>7835, 8730, 9259, 9796, 9888,<br>10249, 10261, 10276, 10297,<br>10316, 10341, 10369, 10456,<br>10544, 10697                                                                                                                                                                                |
| \@latex@ . . . . . 5370, 5371                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \@minipagefalse . . . . . 6171                                                                                                                                                                                                                                                                                                                                                                                                                                            | \@pdfcreationdate . . . . . 3321, 3567, 8141, 8143, 8567,<br>8569, 9000, 9002, 9901, 9903,<br>10711, 10713                                                                                                                                                                                                                                       |
| \@latex@error . 2615, 2633, 2643,<br>2650, 6418, 6507                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | \@mkboth 499, 7291, 12968, 13060,<br>13062                                                                                                                                                                                                                                                                                                                                                                                                                                | \@pdfcreator . . 3316, 3566, 8140,<br>8566, 8999, 9679, 9925, 10710                                                                                                                                                                                                                                                                              |
| \@latex@warning 4226, 6659, 6682,<br>7370, 7390, 7407, 7521                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \@mpfn . . . . . 6204, 6383, 6395                                                                                                                                                                                                                                                                                                                                                                                                                                         | \@pdfdirection . 8101, 8631, 9041,<br>9647, 9980, 10768                                                                                                                                                                                                                                                                                          |
| \@lbibitem . . . . . 6564, 6609                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@mpfootnotetext 6207, 6220, 6221                                                                                                                                                                                                                                                                                                                                                                                                                                         | \@pdfduplex . . 8107, 8637, 9047,<br>9653, 9986, 10774                                                                                                                                                                                                                                                                                           |
| \@linkbordercolor 3556, 7903, 9260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \@mycount . . . . . 12798, 12808                                                                                                                                                                                                                                                                                                                                                                                                                                          | \@pdfhighlight . 3175, 3562, 7854,<br>7856, 7914, 7943, 7945, 7979,<br>7981, 8306, 8308, 9794, 9886,<br>10247, 10295, 10314, 10339                                                                                                                                                                                                               |
| \@linkcolor . . . . . 10047                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \@namedef 2555, 2556, 2557, 2558,<br>2559, 2560, 2561, 2562, 4562,<br>4563, 4564, 4565, 4886, 4887,<br>5882, 6083, 6086, 6697, 6698,<br>6699, 6700                                                                                                                                                                                                                                                                                                                        | \@pdfhightlight . . . . . 7912                                                                                                                                                                                                                                                                                                                   |
| \@linkdim . . . . . 329,<br>8401, 8402, 8407, 8408, 8409,<br>8474, 8475, 8484, 8485, 8486,<br>8503, 8504, 8513, 8514, 8515,<br>8533, 8534, 8543, 8544, 8545,<br>10659, 10660, 10665, 10666,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \@nameuse . 2158, 2552, 4568, 4878                                                                                                                                                                                                                                                                                                                                                                                                                                        | \@pdfkeywords . 3340, 3570, 8153,<br>8564, 9013, 9684, 9927, 10708                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@ne . 949, 2499, 2594, 8854, 8859,<br>9614, 10449, 11971                                                                                                                                                                                                                                                                                                                                                                                                                 | \@pdflang . . . . 3548, 3576, 8127,<br>8129, 8659, 8661, 9081, 9083,<br>10010, 10012, 10798, 10800                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@newctr . . . . . 6922, 6923                                                                                                                                                                                                                                                                                                                                                                                                                                             | \@pdfm@dest . . . 8673, 8732, 8736                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@newl@bel . . . . . 5333, 6550                                                                                                                                                                                                                                                                                                                                                                                                                                           | \@pdfm@mark . . . . . 5677, 8672,<br>8724, 8744, 8758, 8760, 8774,<br>8776, 8781, 8782, 8812, 8836,<br>8838, 8843, 8861, 8883, 8911,<br>8938, 8962, 8995, 9062, 9089,<br>11941, 11942, 11943, 11960,<br>12003, 12009, 12097, 12111,<br>12126, 12132, 12158, 12165,<br>12184, 12190, 12213, 12219,<br>12242, 12248, 12253, 12285,<br>12293, 12873 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@newlistfalse . . . . . 6172                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@nil . . . . 348, 352, 357, 361, 376,<br>1358, 1361, 1369, 1445, 1463,<br>1481, 1497, 1499, 1502, 1505,<br>1508, 2025, 2027, 2043, 2045,<br>3079, 4112, 4116, 4121, 4462,<br>4965, 4968, 4987, 5358, 5361,<br>5368, 5370, 5371, 5456, 5503,<br>5504, 5506, 5529, 5546, 5594,<br>5596, 5996, 6006, 6008, 6021,<br>7120, 7122, 7129, 7152, 7155,<br>7165, 7374, 7377, 7529, 7560,<br>7643, 7649, 7653, 7659, 8030,<br>8031, 8041, 8042, 9480, 9482,<br>12315, 12328, 12334 |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@nobreakfalse . . . . . 5330, 6191                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@nocnterr . . . . . 6977, 6991                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@nocounterr . . . . . 6976, 6990                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@noparitemfalse . . . . . 6173                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@number . . . . . 5838, 5896, 6801                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@cnx . . . . . 6980, 6994, 6997, 6999                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \@onelevel@sanitize . . 2301, 2305,<br>2514, 3078, 3651, 3681, 4552,                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                                                                 |                                                                                                                                                                                                                                            |                                                               |                                                                                                                                                                         |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \@pdfmoddate . . . . .                                                                                                          | 3327, 3568, 8145,<br>8147, 8571, 8573, 9004, 9006,<br>9905, 9909, 10715, 10717                                                                                                                                                             | \@pdftempwordfile . . . . .                                   | 4285, 4295                                                                                                                                                              | \@tempb . . . . .                                                                                                                                                                                                     | 6112, 6116                                                                                                                                                                                                                                                                                              |
| \@pdfnonfullscreenpagemode . . . . .                                                                                            | 8100, 8630, 9040, 9646, 9979,<br>10767                                                                                                                                                                                                     | \@pdftempwordrun . . . . .                                    | 4286, 4298                                                                                                                                                              | \@tempboxa 8400, 8401, 8407, 8471,<br>8474, 8477, 8478, 8484, 8489,<br>8490, 8501, 8503, 8506, 8507,<br>8513, 8518, 8519, 8531, 8533,<br>8536, 8537, 8543, 8548, 8549,<br>10658, 10659, 10665, 10926,<br>10927, 10937 |                                                                                                                                                                                                                                                                                                         |
| \@pdfnumcopies 8116, 8118, 8646,<br>8648, 9056, 9058, 9662, 9664,<br>9995, 9997, 10783, 10785                                   |                                                                                                                                                                                                                                            | \@pdftitle 3298, 3563, 8138, 8565,<br>8997, 9677, 9923, 10709 |                                                                                                                                                                         | \@tempcnta . . . . .                                                                                                                                                                                                  | 12657, 12658, 12659,<br>12660, 12661, 12663, 12666,<br>12667, 12668, 12674, 12676,<br>12678, 12717, 12718, 12719,<br>12722, 12723, 12724, 12725,<br>12726, 12923, 12924, 12925                                                                                                                          |
| \@pdfpageduration . . . . .                                                                                                     | 3145, 8196,<br>8200, 8205, 9571, 9573, 9576,<br>9831, 9833, 9841                                                                                                                                                                           | \@pdftrapped . . . . .                                        | 3345, 3348, 3351,<br>3360, 3369, 3571, 8154, 8156,<br>9014, 9016, 9928                                                                                                  | \@tempdima . . . . .                                                                                                                                                                                                  | 2204, 5106, 5107, 5108, 5109,<br>5110, 5111, 5112, 5113, 7815,<br>11200, 11205, 11207, 11244,<br>11245, 11246, 11250, 11251,<br>11252, 11253, 11680, 11685,<br>11687, 11725, 11726, 11727,<br>11731, 11732, 11733, 11734,<br>12021, 12026, 12028, 12066,<br>12067, 12068, 12072, 12073,<br>12074, 12075 |
| \@pdfpagelayout 8126, 8658, 9080,<br>9667, 9669, 10009, 10797                                                                   |                                                                                                                                                                                                                                            | \@pdfview . . . . .                                           | 3471,<br>7822, 7827, 8679, 8683, 8687,<br>8691, 8695, 8699, 8700, 8703,<br>8704, 8707, 8711, 8713, 8728,<br>9257, 9267, 9279, 9741, 9761,<br>10370, 10457, 10545, 10810 | \@tempdimb 11204, 11205, 11684,<br>11685, 12025, 12026                                                                                                                                                                |                                                                                                                                                                                                                                                                                                         |
| \@pdfpagemode 3744, 3745, 3917,<br>3918, 3927, 3928, 8080, 8614,<br>9075, 9634, 9963, 10751                                     |                                                                                                                                                                                                                                            | \@pdfviewarea . . . . .                                       | 8102, 8632, 9042,<br>9648, 9981, 10769                                                                                                                                  | \@tempdimc . . . . .                                                                                                                                                                                                  | 6784                                                                                                                                                                                                                                                                                                    |
| \@pdfpagescrop 3502, 3572, 8065,<br>8069, 8597, 8598, 8619, 8621,<br>9087, 9089, 9623, 9625, 9968,<br>9970, 10756, 10758        |                                                                                                                                                                                                                                            | \@pdfviewclip . . . . .                                       | 8103, 8633, 9043,<br>9649, 9982, 10770                                                                                                                                  | \@tempdimd . . . . .                                                                                                                                                                                                  | 6781                                                                                                                                                                                                                                                                                                    |
| \@pdfpagetransition . . . . .                                                                                                   | 3143, 8172,<br>8176, 8181, 9460, 9462, 9464,<br>9814, 9816, 9824                                                                                                                                                                           | \@pdfviewparams . . . . .                                     | 3473, 3475, 9741, 9761,<br>10371, 10458, 10546, 10811                                                                                                                   | \@tempdimf . . . . .                                                                                                                                                                                                  | 2948, 2953, 2956,<br>2958                                                                                                                                                                                                                                                                               |
| \@pdfpicktraybypdfsize . . . . .                                                                                                | 8108, 8110, 8638, 8640, 9048,<br>9050, 9654, 9656, 9987, 9989,<br>10775, 10777                                                                                                                                                             | \@percentchar . . . . .                                       | 4075, 4076, 4128,<br>12705                                                                                                                                              | \@tfor . . . . .                                                                                                                                                                                                      | 6113                                                                                                                                                                                                                                                                                                    |
| \@pdfprintarea . . . . .                                                                                                        | 8104, 8634, 9044,<br>9650, 9983, 10771                                                                                                                                                                                                     | \@processme . . . . .                                         | 4894, 4895, 8178,<br>8184, 8202, 8208, 8224, 8230,<br>10028, 10029, 10098, 10099,<br>10102, 10103                                                                       | \@the@H@page . . . . .                                                                                                                                                                                                | 6803, 6805                                                                                                                                                                                                                                                                                              |
| \@pdfprintclip . . . . .                                                                                                        | 8105, 8635, 9045,<br>9651, 9984, 10772                                                                                                                                                                                                     | \@protected@testopt . . . . .                                 | 528                                                                                                                                                                     | \@thefnmark . . . . .                                                                                                                                                                                                 | 6205, 6216, 6286,<br>6287, 6328, 6346, 6353, 6384,<br>6396, 6403                                                                                                                                                                                                                                        |
| \@pdfprintpagerange . . . . .                                                                                                   | 3256, 3575,<br>8112, 8114, 8642, 8644, 9052,<br>9054, 9658, 9660, 9991, 9993,<br>10779, 10781                                                                                                                                              | \@protected@testopt@xargs . . . . .                           | 529                                                                                                                                                                     | \@thirdoffive . . . . .                                                                                                                                                                                               | 4017                                                                                                                                                                                                                                                                                                    |
| \@pdfprintscaling 8106, 8636, 9046,<br>9652, 9985, 10773                                                                        |                                                                                                                                                                                                                                            | \@refstar . . . . .                                           | 4040, 7433                                                                                                                                                              | \@thm . . . . .                                                                                                                                                                                                       | 6141                                                                                                                                                                                                                                                                                                    |
| \@pdfproducer . . . . .                                                                                                         | 3310, 3565, 8006,<br>8149, 8151, 8557, 8558, 8576,<br>8578, 8984, 8985, 8989, 9009,<br>9011, 9591, 9592, 9596, 9599,<br>9600, 9680, 9682, 9912, 9916,<br>10365, 10366, 10448, 10450,<br>10452, 10540, 10541, 10701,<br>10702, 10720, 10722 | \@runbordercolor 3560, 7983, 7985,<br>9431, 9433, 10343       |                                                                                                                                                                         | \@topnewpage . . . . .                                                                                                                                                                                                | 13072                                                                                                                                                                                                                                                                                                   |
| \@pdfstartpage 3490, 3492, 3574,<br>8086, 8090, 8601, 8606, 9064,<br>9068, 9627, 9631, 9950, 9955,<br>10738, 10743              |                                                                                                                                                                                                                                            | \@runcolor . . . . .                                          | 8002, 9437                                                                                                                                                              | \@topsep . . . . .                                                                                                                                                                                                    | 6154                                                                                                                                                                                                                                                                                                    |
| \@pdfstartview 3497, 3499, 3573,<br>7960, 8088, 8090, 8603, 8607,<br>8924, 9066, 9068, 9629, 9952,<br>9956, 10324, 10740, 10744 |                                                                                                                                                                                                                                            | \@safe@activesfalse . . . . .                                 | 481, 4021                                                                                                                                                               | \@topsepadd . . . . .                                                                                                                                                                                                 | 6155                                                                                                                                                                                                                                                                                                    |
| \@pdfsubject . . . . .                                                                                                          | 3334, 3569, 8139,<br>8580, 8998, 9678, 9924, 10724                                                                                                                                                                                         | \@safe@activetrue . . . . .                                   | 480, 4020                                                                                                                                                               | \@typeset@protect . . . . .                                                                                                                                                                                           | 12936                                                                                                                                                                                                                                                                                                   |
| \@pdftempa . . . . .                                                                                                            | 4294, 4295, 4298                                                                                                                                                                                                                           | \@schapter . . . . .                                          | 12965, 12966                                                                                                                                                            | \@undefined 534, 2952, 5265, 5297,<br>5317, 5518, 5536, 5575, 6417,<br>6480, 6492, 6497, 6506, 7428,<br>7813, 8010, 8019, 9230, 9602,<br>9616                                                                         |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@secondoffive . . . . .                                      | 3635, 4016, 4029,<br>7396, 7397, 7437                                                                                                                                   | \@undottedtocline . . . . .                                                                                                                                                                                           | 7355                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@secondoftwo . . . . .                                       | 470, 498, 769, 945,<br>1571, 3634, 3635, 13024                                                                                                                          | \@unprocessedoptions . . . . .                                                                                                                                                                                        | 3866                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@sect . . . . .                                              | 13019, 13020                                                                                                                                                            | \@urlbordercolor 3557, 7916, 7918,<br>8944, 8946, 9368, 9370, 10298                                                                                                                                                   |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@seqncr . . . . .                                            | 6084                                                                                                                                                                    | \@urlcolor . . . . .                                                                                                                                                                                                  | 7931, 8406,<br>8415, 8511, 8523, 8954, 9374,<br>10664, 10673, 10936, 10944                                                                                                                                                                                                                              |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@serial@counter . . . . .                                    | 12748, 12796,<br>12798, 12799                                                                                                                                           | \@urltype . . . . .                                                                                                                                                                                                   | 8375,<br>8380, 9126, 9152, 9287, 9301,                                                                                                                                                                                                                                                                  |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@seteqlabel . . . . .                                        | 6954, 6955                                                                                                                                                              |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@setminipage . . . . .                                       | 6452, 6523                                                                                                                                                              |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@setref . . . . .                                            | 4024, 4029, 7365, 7366,<br>7403                                                                                                                                         |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@sharp . . . . .                                             | 5996, 6003                                                                                                                                                              |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@skiphyperreffalse . . . . .                                 | 5774, 6579,<br>6591                                                                                                                                                     |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@skiphyperreftrue . . . . .                                  | 6565, 6591                                                                                                                                                              |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@spart . . . . .                                             | 13010, 13011                                                                                                                                                            |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@ssect . . . . .                                             | 12950, 12951                                                                                                                                                            |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@startlos . . . . .                                          | 7303, 7310, 7359                                                                                                                                                        |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@starttoc . . . . .                                          | 5318                                                                                                                                                                    |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                 |                                                                                                                                                                                                                                            | \@tempa . . . . .                                             | 6158, 6164, 6168, 6274,<br>6278, 6281, 6297                                                                                                                             |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                         |

10629, 10634, 10901, 10906  
\@vpageref . . . . . 7458  
\@whilenum . . . . . 1112  
\@wrindex . . . . . 7037, 7038, 7069  
\@writefile . . . . . 6710  
\@x@sf . . . . . 6257, 6269, 6409, 6411  
\@xfootnote . . . . . 6382  
\@xfootnotemark . . . . . 6213, 6400  
\@xfootnotenext . . . . . 6202, 6393  
\@xp . . . . . 6944, 6979, 6980, 6993, 6994,  
6996, 6997  
\l . . . . . 192, 217  
\{ . . . . . 405  
\} . . . . . 406  
\l . . . . . 193, 218  
\^ . . . . . 186, 211, 1954,  
1955, 2859, 4063, 4064, 4072,  
13099, 13111, 13123, 13330,  
13346, 13354, 13367, 13381,  
13395, 13411, 13421, 13422,  
13435, 13449, 13497, 13534,  
13553, 13574, 13699, 13715,  
13723, 13735, 13749, 13763,  
13779, 13789, 13790, 13803,  
13817, 13843, 13845, 13883,  
13885, 13899, 13901, 13935,  
13937, 13938, 14016, 14018,  
14064, 14066, 14068, 14070,  
15002, 15004  
\\_ . . . . . 187, 212, 413, 4067, 4084, 4085  
\` . . . . . 166, 172, 179, 182,  
2795, 2929, 2932, 2934, 2942,  
13097, 13109, 13121, 13326,  
13342, 13350, 13363, 13377,  
13391, 13407, 13415, 13416,  
13431, 13445, 13493, 13532,  
13551, 13572, 13695, 13711,  
13719, 13731, 13745, 13759,  
13775, 13783, 13784, 13799,  
13813, 14130, 14132, 14378,  
14406, 14543, 14571, 14974,  
14976, 15024, 15026, 15385,  
15390, 15395, 15400, 15405,  
15410, 15415, 15420, 15425,  
15430, 15435, 15440, 15445,  
15450, 15455, 15460, 15465,  
15470, 15475, 15480, 15485,  
15490, 15495, 15500  
\l . . . . . 188, 213, 1780, 1896, 2741, 3599,  
7033, 7618, 7628  
\~ . . . . . 412, 1114, 2004, 2853,  
2861, 2862, 2863, 3695, 4088,  
13100, 13112, 13124, 13332,  
13361, 13369, 13397, 13429,  
13437, 13499, 13535, 13554,  
13575, 13701, 13729, 13737,  
13765, 13797, 13805, 13907,

13909, 13910, 14040, 14042,  
14970, 14972, 15020, 15022,  
15028, 15030, 15387, 15392,  
15397, 15402, 15407, 15412,  
15417, 15422, 15427, 15432,  
15437, 15442, 15447, 15452,  
15457, 15462, 15467, 15472,  
15477, 15482, 15487, 15492,  
15497, 15502

# Numbers

\3 . . . . . 390, 1158, 1159, 1160, 1161,  
1162, 1163, 1164, 1165, 2118,  
12817, 13326, 13328, 13330,  
13332, 13334, 13336, 13338,  
13340, 13342, 13344, 13346,  
13348, 13350, 13352, 13354,  
13356, 13358, 13359, 13361,  
13363, 13365, 13367, 13369,  
13371, 13373, 13375, 13377,  
13379, 13381, 13383, 13385,  
13387, 13389, 13391, 13393,  
13395, 13397, 13399, 13401,  
13403, 13405, 13407, 13409,  
13411, 13413, 13415, 13416,  
13418, 13419, 13421, 13422,  
13424, 13425, 13427, 13429,  
13431, 13433, 13435, 13437,  
13439, 13441, 13443, 13445,  
13447, 13449, 13451, 13453,  
13455, 13457, 13458, 13531,  
13695, 13697, 13699, 13701,  
13703, 13705, 13707, 13709,  
13711, 13713, 13715, 13717,  
13719, 13721, 13723, 13725,  
13727, 13729, 13731, 13733,  
13735, 13737, 13739, 13741,  
13743, 13745, 13747, 13749,  
13751, 13753, 13755, 13757,  
13759, 13761, 13763, 13765,  
13767, 13769, 13771, 13773,  
13775, 13777, 13779, 13781,  
13783, 13784, 13786, 13787,  
13789, 13790, 13792, 13793,  
13795, 13797, 13799, 13801,  
13803, 13805, 13807, 13809,  
13811, 13813, 13815, 13817,  
13819, 13821, 13823, 13825,  
14090, 14092, 14094, 14096,  
14097, 14099, 14101, 14103,  
14105, 14107, 14109, 14111,  
14113, 14115, 14117, 14119,  
14121, 14123, 14124, 14126,  
14128, 14130, 14132, 14134,  
14136, 14138, 14140, 14189,  
14191, 14193, 14195, 14197,  
14199, 14201, 14204, 14206,  
14331, 14333, 14335, 14337,

14339, 14341, 14343, 14345,  
14347, 14349, 14351, 14353,  
14355, 14357, 14358, 14360,  
14362, 14364, 14366, 14368,  
14370, 14372, 14374, 14376,  
14762, 14764, 14766, 14768,  
14770, 14772, 14774, 14776,  
14778, 14780, 14782, 14784,  
14786, 14788, 14790, 14792,  
14794, 14796, 14798, 14800,  
14802, 14804, 14806, 14808,  
14810, 14812, 14814, 14816,  
14818, 14820, 14822, 14824,  
14826, 14828, 14830, 14832,  
14834, 14836, 14838, 14840,  
14842, 14844, 14846, 14848,  
14850, 14852, 14854, 14856,  
14858, 14860, 14862, 14864,  
14866, 14868, 14870, 14872,  
14874, 15024, 15026, 15028,  
15030, 15250, 15252, 15254,  
15256, 15258, 15260, 15262,  
15264, 15266, 15268, 15270,  
15272, 15274, 15276, 15278,  
15280, 15282, 15284, 15286,  
15288, 15290, 15292, 15294,  
15296, 15298, 15300, 15302,  
15304, 15306, 15308, 15310,  
15312, 15314, 15316, 15318,  
15320, 15322, 15324, 15326,  
15328, 15330, 15332, 15334,  
15336, 15338, 15346, 15348,  
15370, 15372, 15373, 15377,  
15379, 15380, 15383, 15385,  
15387, 15398, 15400, 15404,  
15405, 15406, 15407, 15408,  
15409, 15410, 15411, 15413,  
15414, 15415, 15416, 15417,  
15418, 15419, 15420, 15421,  
15422, 15423, 15424, 15425,  
15426, 15427, 15428, 15429,  
15430, 15431, 15433, 15434,  
15435, 15436, 15437, 15438,  
15439, 15440, 15441, 15442,  
15443, 15445, 15447, 15458,  
15460, 15464, 15465, 15466,  
15467, 15468, 15469, 15470,  
15471, 15473, 15474, 15475,  
15476, 15477, 15478, 15479,  
15480, 15481, 15482, 15483,  
15484, 15485, 15486, 15487,  
15488, 15489, 15490, 15491,  
15493, 15494, 15495, 15496,  
15497, 15498, 15499, 15500,  
15501, 15502, 15555, 15557

\9 . . . . . 393, 1178, 1181, 1212,  
2046, 2061, 2070, 2098, 2118,



13531, 14876, 14878, 14880,  
 14882, 14884, 14886, 14888,  
 14890, 14892, 14894, 14896,  
 14898, 14900, 14902, 14904,  
 14906, 14908, 14910, 14912,  
 14914, 14916, 14918, 14920,  
 14922, 14924, 14926, 14928,  
 14930, 14932, 14934, 14936,  
 14938, 14940, 14942, 14944,  
 14946, 14948, 14950, 14952,  
 14954, 14956, 14958, 14960,  
 14962, 14964, 14966, 14968,  
 14970, 14972, 14974, 14976,  
 14978, 14980, 14982, 14984,  
 14986, 14988, 14990, 14992,  
 14994, 14996, 14998, 15000,  
 15002, 15004, 15006, 15008,  
 15010, 15012, 15014, 15016,  
 15018, 15020, 15022, 15024,  
 15026, 15028, 15030, 15032,  
 15034, 15036, 15038, 15040,  
 15042, 15044, 15046, 15048,  
 15050, 15052, 15054, 15056,  
 15058, 15060, 15062, 15064,  
 15066, 15068, 15070, 15072,  
 15074, 15076, 15078, 15080,  
 15082, 15084, 15086, 15088,  
 15090, 15092, 15094, 15096,  
 15098, 15100, 15102, 15104,  
 15106, 15108, 15110, 15112,  
 15114, 15116, 15118, 15120,  
 15122, 15124, 15126, 15128,  
 15130, 15132, 15134, 15136,  
 15138, 15140, 15142, 15144,  
 15146, 15148, 15150, 15152,  
 15154, 15156, 15158, 15160,  
 15162, 15164, 15166, 15168,  
 15170, 15172, 15174, 15176,  
 15178, 15180, 15182, 15184,  
 15186, 15188, 15190, 15192,  
 15194, 15196, 15198, 15200,  
 15202, 15204, 15206, 15208,  
 15210, 15212, 15214, 15216,  
 15218, 15220, 15222, 15224,  
 15226, 15228, 15230, 15232,  
 15234, 15236, 15238, 15240,  
 15242, 15244, 15246, 15248,  
 15250, 15252, 15254, 15256,  
 15258, 15260, 15262, 15264,  
 15266, 15268, 15270, 15272,  
 15274, 15276, 15278, 15280,  
 15282, 15284, 15286, 15288,  
 15290, 15292, 15294, 15296,  
 15298, 15300, 15302, 15304,  
 15306, 15308, 15310, 15312,  
 15314, 15316, 15318, 15320,  
 15322, 15324, 15326, 15328,

15330, 15332, 15334, 15336,  
 15338, 15340, 15342, 15344,  
 15346, 15348, 15350, 15352,  
 15384, 15386, 15388, 15389,  
 15390, 15391, 15392, 15393,  
 15394, 15395, 15396, 15397,  
 15399, 15401, 15402, 15403,  
 15404, 15405, 15406, 15407,  
 15409, 15411, 15414, 15416,  
 15418, 15419, 15420, 15421,  
 15422, 15423, 15424, 15425,  
 15426, 15427, 15429, 15431,  
 15433, 15434, 15435, 15436,  
 15437, 15439, 15440, 15441,  
 15442, 15444, 15446, 15448,  
 15449, 15450, 15451, 15452,  
 15453, 15454, 15455, 15456,  
 15457, 15459, 15461, 15462,  
 15463, 15464, 15465, 15466,  
 15467, 15469, 15471, 15474,  
 15476, 15478, 15479, 15480,  
 15481, 15482, 15483, 15484,  
 15485, 15486, 15487, 15489,  
 15491, 15493, 15494, 15495,  
 15496, 15497, 15499, 15500,  
 15501, 15502, 15556

□ . . . 513, 2876, 2879, 6651, 6674,  
 13121, 13122, 13123, 13124,  
 13125, 13126, 13127, 13128,  
 13129, 13130, 13131, 13132,  
 13551, 13552, 13553, 13554,  
 13555, 13556, 13557, 13558,  
 13559, 13560, 13561, 13562,  
 13563, 13564, 13565, 13566,  
 13567, 13568, 13569

## A

\ABREVE . . 15376, 15448, 15449,  
 15450, 15451, 15452  
 \abreve 15369, 15388, 15389, 15390,  
 15391, 15392  
 \AccFancyVerbLineautorefname .  
 . . . . . 2903  
 \Accfootnoteautorefname . . 2883  
 \Acctheoremautorefname . . 2907  
 \ACIRCUMFLEX . 15377, 15453,  
 15454, 15455, 15456, 15457  
 \acircumflex . . 2934, 15370, 15393,  
 15394, 15395, 15396, 15397  
 \Acrobatmenu . 2193, 3631, 5262,  
 8301, 8959, 9440, 10242  
 \active . . . 1092, 1099, 4064, 4065,  
 4066, 4067, 4068, 4069, 4072,  
 4074, 4077, 4085, 12821  
 \add@accent . . . . . 404

\addcontentsline 6446, 6517, 6835,  
 6840, 6911, 13077  
 \addtocontents 6880, 6912, 7186,  
 7238, 13064, 13065  
 \addtocounter . 5893, 5916, 5925,  
 5936, 5940, 6134, 8863  
 \addvspace . . . . . 13064, 13065  
 \advance . . . . . 327, 328,  
 1113, 4412, 4740, 4786, 5107,  
 5108, 5111, 5112, 5473, 8055,  
 8408, 8485, 8514, 8544, 9598,  
 10666, 10938, 11207, 11251,  
 11252, 11687, 11732, 11733,  
 11971, 12028, 12073, 12074,  
 12658, 12660, 12661, 12667,  
 12676, 12725, 12924  
 \AE . . . . . 13338, 13707, 14134  
 \ae . . . . . 13403, 13771, 14136  
 \afterassignment 1669, 1675, 1681  
 \AfterBeginDocument 243, 2572,  
 2626, 3735, 3835, 4045, 5176,  
 5289, 5695, 10548, 10586  
 \aftergroup . . . . . 6332  
 \alef . . . . . 15511  
 \alefhamza . . . . . 15507  
 \aleflowerhamza . . . . . 15509  
 \alefmadda . . . . . 15506  
 \alefmaqsura . . . . . 15540  
 \Alph . . . . . 5522, 5826, 5827  
 \alph . . . . . 5523, 6105, 6136  
 \AMSautorefname . . . . . 7592  
 \anchor@spot . . 4352, 4365, 4372,  
 4378, 7873, 8355, 8443, 9198,  
 9270, 9738, 10609, 10882  
 \appendix . . . . . 5823, 5824  
 \appendixautorefname 2751, 2769,  
 2787, 2805, 2823, 2841, 2859,  
 2891, 2892, 2917, 2935, 7602  
 \arabic . . . 5519, 5732, 5735, 5738,  
 5739, 5740, 5742, 5743, 5744,  
 5745, 5747, 5748, 5749, 5750,  
 5751, 5752, 5755, 5765, 5766,  
 5805, 5900, 6920, 6926, 6975,  
 6989, 7174, 7179, 7181  
 \AtBeginDocument 244, 846, 2471,  
 2531, 2674, 3027, 3582, 3620,  
 3741, 3971, 5880, 6693, 7439,  
 7586, 7782, 8248, 8822, 9252,  
 11562, 11563  
 \AtBeginShipout 5402, 8334, 8809  
 \AtBeginShipoutBox . 5406, 5409,  
 8329, 8330, 8810, 8811  
 \AtBeginShipoutFirst 5413, 9094,  
 10421, 10536  
 \AtEndDocument . . . . . 5309  
 \AtEndOfPackage 740, 2142, 3000,  
 3008, 3015, 3723, 3749, 3755,



3900, 3923  
\AtVeryEndDocument 5615, 11605  
\author ..... 5338, 5348  
\autopageref ..... 3743, 7473  
\autoref ... 503, 3742, 7492, 10959  
\ayn ..... 15529

## B

\b ... 732, 736, 742, 13107, 13119,  
13131, 13523, 13546, 13565,  
14882, 14884, 14890, 14892,  
14922, 14924, 14926, 14928,  
14942, 14944, 14958, 14960,  
14966, 14968, 15006, 15008,  
15010  
\baa ..... 15512  
\back@none .... 2686, 2696, 2709  
\back@page ..... 2688, 2701  
\back@section . 2687, 2693, 2699,  
2705  
\back@slide ..... 2689, 2698  
\backcite ..... 6711  
\backref ..... 6742, 10963  
\baselineskip .. 2196, 5120, 5121,  
5122, 5123, 5124, 5125, 8462,  
9757, 9780, 10404  
\bbl@cite@choice ..... 6558  
\BeforeTeXIVht ..... 2568  
\begin ..... 10968, 15561  
\belowpdfbookmark ..... 12721  
\bfseries ... 448, 6657, 6680, 7369,  
7389, 7406, 7520  
\bgroup ..... 522,  
4158, 6319, 6331, 9198, 9771,  
11409, 11501, 11522  
\bibcite .. 6549, 6555, 6559, 6584,  
6599, 6615, 6625  
\bitsetGetDec . 4464, 4597, 4615,  
4629, 4642, 4658, 4690, 4715  
\bitsetGetHex ..... 4465  
\bitsetGetSetBitList ..... 4453  
\bitsetIsEmpty 4594, 4612, 4626,  
4639, 4655, 4687, 4712  
\bitsetReset ... 4567, 4601, 4620,  
4634, 4647, 4663, 4695  
\bitsetSetValue ..... 4433, 4443  
\BOOKMARK .... 12702, 12732  
\box 5114, 5409, 7801, 8841, 10081  
\bullet .... 7321, 7329, 7339, 7347

## C

\C ..... 13517, 14622, 14624  
\c ..... 733, 737, 743, 2853,  
2861, 2862, 2863, 5361, 5368,  
13105, 13117, 13129, 13340,  
13405, 13525, 13540, 13559,  
13570, 13709, 13773, 13895,  
13897, 13940, 13942, 13950,

13952, 13970, 13972, 14004,  
14006, 14020, 14022, 14028,  
14030, 14175, 14177, 14677,  
14680, 14894, 14896, 14914,  
14916  
\c@footnote 6215, 6276, 6284, 6402  
\c@page .. 5455, 5473, 5474, 5478,  
5490, 5492, 5497, 5504, 5506,  
5508, 5537, 6798  
\c@secnumdepth .. 12987, 13005,  
13021  
\c@slidesection .. 7187, 7315, 7316  
\c@slidesubsection ..... 7239  
\c@tocdepth ..... 3070, 3075  
\calc@bm@number . 12847, 12922  
\calculate@pdfview .. 3467, 3470  
\capitalacute ..... 13573  
\capitalbreve ..... 13580  
\capitalcaron ..... 13579  
\capitalcedilla ..... 13570  
\capitalcircumflex ..... 13574  
\capitaldieresis ..... 13576  
\capitaldotaccent ..... 13582  
\capitalgrave ..... 13572  
\capitalhungarumlaut ... 13577  
\capitalmacron ..... 13581  
\capitalnewtie ..... 13584  
\capitalogonek ..... 13571  
\capitalring ..... 13578  
\capitaltie ..... 13583  
\capitaltilde ..... 13575  
\caption ... 6416, 6418, 6505, 6507  
\catcode ..... 172, 173,  
184, 185, 186, 187, 206, 658,  
659, 795, 1092, 1099, 1780,  
1781, 1896, 1897, 1953, 1954,  
1955, 3937, 3939, 4063, 4064,  
4065, 4066, 4067, 4068, 4069,  
4072, 4074, 4077, 4085, 4095,  
4164, 4165, 7618, 9807, 9808,  
12750, 12752, 12821  
\cf@encoding ..... 1381  
\chapterautorefname . 2752, 2770,  
2788, 2806, 2824, 2842, 2860,  
2889, 2918, 2936, 7603  
\chapternumberline 12689, 12693  
\char ..... 11632, 12754, 12791  
\chardef .. 2387, 2388, 2389, 2390,  
2594, 2596  
\check@bm@number 12858, 12866,  
12915, 12923  
\CheckBox ..... 5071  
\CheckCommand ..... 6273  
\checkcommand .. 42, 5935, 6393,  
6400, 6407, 6505, 6515, 6609,  
6621, 6911, 6914, 6975, 7403

\checklatex .. 4, 6392, 6504, 6608,  
6910, 7402  
\checkpackage .... 9, 5934, 6974  
\ChoiceBox ..... 4790  
\ChoiceMenu ..... 5068  
\citation ..... 6654, 6677, 6703  
\citeauthoryear ..... 6769, 6775  
\citeN ..... 6766  
\CJK@char ..... 1095  
\CJK@charx ..... 1096  
\CJK@CJK ..... 1084  
\CJK@eight .... 1259, 1262, 1376  
\CJK@five .... 1259, 1261, 1376  
\CJK@four .... 1258, 1261, 1375  
\CJK@hundred ..... 1325  
\CJK@hundredmillion .... 1288  
\CJK@ignorespaces ..... 1094  
\CJK@kern ..... 1082  
\CJK@minus ..... 1250  
\CJK@nine .... 1259, 1263, 1376  
\CJK@null ..... 1352  
\CJK@one .... 1258, 1260, 1375  
\CJK@punctchar ..... 1097  
\CJK@punctcharx ..... 1098  
\CJK@seven ... 1259, 1262, 1376  
\CJK@six .... 1259, 1262, 1376  
\CJK@ten 1260, 1261, 1262, 1263,  
1340  
\CJK@tenthousand .. 1273, 1294  
\CJK@thousand ..... 1310  
\CJK@three .... 1258, 1261, 1375  
\CJK@two .... 1258, 1260, 1375  
\CJK@zero 1258, 1276, 1293, 1297,  
1313, 1328, 1350  
\CJKdigits ..... 1171  
\CJKkern ..... 1083  
\CJKnumber ..... 1170  
\close@pdfink . 7868, 7892, 7901,  
7932, 7968, 8003, 8324  
\closeout ..... 5292, 12741  
\clubpenalty ..... 6191, 6193  
\codeof ..... 6733  
\color@endbox ..... 7794,  
8400, 8471, 8501, 8531, 8834,  
10658, 10926  
\color@hbox 7787, 8400, 8471, 8501,  
8531, 8827, 10658, 10926  
\columnwidth ..... 6326  
\comma@entry .. 4781, 4788, 4790  
\comma@parse ..... 4780  
\contentsline .. 5298, 5299, 5310,  
6881, 6885, 6912, 6914  
\copy 6008, 6017, 7797, 8330, 8811,  
8837  
\count@ ..... 697, 699,  
700, 703, 706, 709, 712, 1111,  
1112, 1113, 1114, 1670, 3086,

|                                                                                                                                                                                                           |                                                                                               |                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 3087, 3092, 3093, 4411, 4412,<br>4427, 4723, 4738, 4740, 4764,<br>4786, 4802, 8050, 8051, 8052,<br>8053, 8054, 8055, 8058, 9594,<br>9595, 9596, 9597, 9598, 9601                                          | \cyre . . . . . 2873, 2879,<br>2880, 2893, 2905, 2906, 2907,<br>14488, 14543, 14546, 14802    | \cyrk . . . . . 2882, 2883, 2885,<br>2899, 2900, 2902, 2903, 2904,<br>14499, 14569   |
| \CurrentBorderColor . 7858, 7860,<br>7886, 7888, 7896, 7898, 7903,<br>9260, 9294, 9296, 9307, 9309,<br>9328, 9330, 9381, 9383, 9400,<br>9402                                                              | \cyreref . . . . . 14846                                                                      | \CYRKBEAK . . . . . 14694                                                            |
| \currentpdfbookmark . . . 12713                                                                                                                                                                           | \CYREREV . . . . . 14472, 14844                                                               | \cyrkbeak . . . . . 14696                                                            |
| \curu . . . . . 14574                                                                                                                                                                                     | \cyrerev . . . . . 14537                                                                      | \CYRKDSC . . . . . 14682                                                             |
| \cyr . . 482, 2871, 2873, 2876, 2879,<br>2882, 2883, 2884, 2885, 2886,<br>2887, 2888, 2889, 2890, 2891,<br>2893, 2895, 2896, 2897, 2898,<br>2899, 2900, 2901, 2902, 2903,<br>2904, 2905, 2906, 2907, 2908 | \CYRERY . . . . . 14468, 14868                                                                | \cyrkdsc . . . . . 14684                                                             |
| \CYRA . . . . 14413, 14788, 14792                                                                                                                                                                         | \cyrery . 2871, 2873, 14533, 14870                                                            | \CYRKHCRS . . . . . 14690                                                            |
| \cyr . . . . 2873, 2880, 2882, 2887,<br>2890, 2895, 2896, 2902, 2906,<br>14478, 14790, 14794                                                                                                              | \CYRF . . . . . 14454                                                                         | \cyrkhcrs . . . . . 14692                                                            |
| \CYRABHCH . . . . 14752, 14757                                                                                                                                                                            | \cyrf . . . . . 14519                                                                         | \CYRKHK . . . . . 14768                                                              |
| \cyrabhch . . . . . 14754, 14760                                                                                                                                                                          | \CYRFITA . . . . . 14614                                                                      | \cyrkhk . . . . . 14770                                                              |
| \CYRABHCHDSC . . . . . 14756                                                                                                                                                                              | \cyrfita . . . . . 14616                                                                      | \CYRKOPPA . . . . . 14642                                                            |
| \cyrabhchdsc . . . . . 14759                                                                                                                                                                              | \CYRG . . . . . 14385, 14419                                                                  | \cyrkoppa . . . . . 14644                                                            |
| \CYRABHDZE . . . . . 14820                                                                                                                                                                                | \cyr . . . . . 2889, 14484, 14550                                                             | \CYRKSI . . . . . 14606                                                              |
| \cyrabhdze . . . . . 14822                                                                                                                                                                                | \CYRGDSC . . . . . 14864                                                                      | \cyrksi . . . . . 14608                                                              |
| \CYRABHHA . . . . . 14710                                                                                                                                                                                 | \cyrgdsc . . . . . 14866                                                                      | \CYRKVCRS . . . . . 14686                                                            |
| \cyrabhha . . . . . 14712                                                                                                                                                                                 | \CYRGHCRS . . . . . 14664                                                                     | \cyrkvcrs . . . . . 14688                                                            |
| \CYRAE . . . . . 14796                                                                                                                                                                                    | \cyrghcrs . . . . . 14666                                                                     | \CYRL . . . . . 14436                                                                |
| \cyr . . . . . 14798                                                                                                                                                                                      | \CYRGHK . . . . . 14668                                                                       | \cyr . 2887, 2889, 2891, 2893, 14501                                                 |
| \CYRB . . . . . 14415                                                                                                                                                                                     | \cyrghk . . . . . 14670                                                                       | \CYRLDSC . . . . . 14772                                                             |
| \cyrb . . . . . 2887, 14480                                                                                                                                                                               | \CYRGUP . . . . . 14660                                                                       | \cyrldsc . . . . . 14774                                                             |
| \CYRBYUS . . . . . 14598                                                                                                                                                                                  | \cyrgup . . . . . 14662                                                                       | \CYRLJE . . . . . 14398                                                              |
| \cyrbyus . . . . . 14600                                                                                                                                                                                  | \CYRH . . . . . 14456                                                                         | \cyrlje . . . . . 14563                                                              |
| \CYRC . . . . . 14458                                                                                                                                                                                     | \cyrh . . . . . 14521                                                                         | \CYRLYUS . . . . . 14590                                                             |
| \cyr . . . . . 14523                                                                                                                                                                                      | \CYRHDSC . . . . . 14732                                                                      | \cyrlyus . . . . . 14592                                                             |
| \CYRCH . . . . . 14460, 14860                                                                                                                                                                             | \cyrhdsc . . . . . 14734                                                                      | \CYRM . . . . . 14438                                                                |
| \cyrch . . 2879, 2880, 2888, 14525,<br>14862                                                                                                                                                              | \CYRHHK . . . . . 14872                                                                       | \cyr . 2876, 2880, 2906, 2907, 14503                                                 |
| \CYRCHLDSC . . . . . 14780                                                                                                                                                                                | \cyrhkh . . . . . 14874                                                                       | \CYRMDSC . . . . . 14784                                                             |
| \cyrchldsc . . . . . 14782                                                                                                                                                                                | \CYRHRDSN . . . . . 14466                                                                     | \cyrmdsc . . . . . 14786                                                             |
| \CYRCHRDSC . . . . . 14740                                                                                                                                                                                | \cyrhrdsn . . . . . 14531                                                                     | \CYRN . . . . . 14440                                                                |
| \cyrchrdsc . . . . . 14742                                                                                                                                                                                | \CYRI 14406, 14429, 14432, 14824,<br>14828                                                    | \cyrn 2873, 2879, 2880, 2882, 2883,<br>2885, 2893, 2899, 2900, 14505                 |
| \CYRCHVCRS . . . . . 14744                                                                                                                                                                                | \cyr . . . . . 2873,<br>2876, 2880, 2886, 2891, 2893,<br>14494, 14497, 14571, 14826,<br>14830 | \CYRNDSC . . . . . 14698                                                             |
| \cyrchvcrs . . . . . 14746                                                                                                                                                                                | \CYRIE . . . . . 14387                                                                        | \cyrndsc . . . . . 14700                                                             |
| \CYRD . . . . . 14421                                                                                                                                                                                     | \cyr . . . . . 14552                                                                          | \CYRNG . . . . . 14702                                                               |
| \cyrd 2876, 2879, 2890, 2895, 2896,<br>14486                                                                                                                                                              | \CYRII . . . . . 14391, 14394                                                                 | \cyrng . . . . . 14704                                                               |
| \CYRDJE . . . . . 14383                                                                                                                                                                                   | \cyr . . . . . 14556, 14559                                                                   | \CYRNHK . . . . . 14776                                                              |
| \cyrdje . . . . . 14548                                                                                                                                                                                   | \CYRIOTBYUS . . . . . 14602                                                                   | \cyrnhk . . . . . 14778                                                              |
| \CYRDZE . . . . . 14389                                                                                                                                                                                   | \cyr . . . . . 14604                                                                          | \CYRNJE . . . . . 14400                                                              |
| \cyrdze . . . . . 14554                                                                                                                                                                                   | \CYRIOTE . . . . . 14586                                                                      | \cyrnje . . . . . 14565                                                              |
| \CYRDZHE . . . . . 14411                                                                                                                                                                                  | \cyr . . . . . 14588                                                                          | \CYRO . . . . . 14442, 14832                                                         |
| \cyrdzhe . . . . . 14576                                                                                                                                                                                  | \CYRIOTLYUS . . . . . 14594                                                                   | \cyro 2876, 2879, 2882, 2883, 2893,<br>2902, 2903, 2905, 2906, 2907,<br>14507, 14834 |
| \CYRE 14378, 14381, 14423, 14800                                                                                                                                                                          | \cyr . . . . . 14596                                                                          | \CYROMEGA . . . . . 14578                                                            |
|                                                                                                                                                                                                           | \CYRISHRT . . . . . 14431                                                                     | \cyromega . . . . . 14580                                                            |
|                                                                                                                                                                                                           | \cyrishrt . . . . . 14496                                                                     | \CYROMEGARND . . . . . 14630                                                         |
|                                                                                                                                                                                                           | \CYRISHRTDSC . . . . . 14648                                                                  | \cyromegarnd . . . . . 14632                                                         |
|                                                                                                                                                                                                           | \cyrishrtdsc . . . . . 14650                                                                  | \CYROMEGATITLO . . . 14634                                                           |
|                                                                                                                                                                                                           | \CYRIZH . . . . . 14618, 14622                                                                | \cyromegatitlo . . . . . 14636                                                       |
|                                                                                                                                                                                                           | \cyrizh . . . . . 14620, 14624                                                                | \CYROT . . . . . 14638                                                               |
|                                                                                                                                                                                                           | \CYRJE . . . . . 14396                                                                        | \cyrot . . . . . 14640                                                               |
|                                                                                                                                                                                                           | \cyrje . . . . . 14561                                                                        | \CYROTLD . . . . . 14836, 14840                                                      |
|                                                                                                                                                                                                           | \CYRK . . . . . 14404, 14434                                                                  | \cyrotld . . . . . 14838, 14842                                                      |
|                                                                                                                                                                                                           |                                                                                               | \CYRP . . . . . 14444                                                                |

|               |                                                                                                                   |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
|---------------|-------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| \cyrp         | 2876, 2879, 2880, 2884, 2885, 2891, 2893, 2897, 2898, 2899, 2900, 14509                                           | \CYRYA                   | 14476                                                                                                                                                                                                                                                                           | 13103, 13104, 13105, 13106, 13107, 13108 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRpalochka  | 14762                                                                                                             | \cyrya                   | 14541                                                                                                                                                                                                                                                                           | \DefaultHeightofCheckBox                 | 5120, 11359, 11859, 12228                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRPHK       | 14706                                                                                                             | \CYRYAT                  | 14582                                                                                                                                                                                                                                                                           | \DefaultHeightofChoiceMenu               | 5122, 11197, 11677, 12018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrphk       | 14708                                                                                                             | \cyryat                  | 14584                                                                                                                                                                                                                                                                           | \DefaultHeightofReset                    | 5118, 11333, 11832, 12196                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRPSI       | 14610                                                                                                             | \CYRYHCRS                | 14728                                                                                                                                                                                                                                                                           | \DefaultHeightofSubmit                   | 5116, 11315, 11809, 12172                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrpsi       | 14612                                                                                                             | \cyryhcrs                | 14730                                                                                                                                                                                                                                                                           | \DefaultHeightofText                     | 5124, 11173, 11652, 11985                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRR         | 14446                                                                                                             | \CYRYI                   | 14393                                                                                                                                                                                                                                                                           | \DefaultHeightofTextMultiline            | 5125, 11171, 11650, 11983                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrr         | 2871, 2873, 2876, 2879, 2880, 2886, 2890, 2891, 2893, 2895, 2896, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14511 | \cyryi                   | 14558                                                                                                                                                                                                                                                                           | \DefaultOptionsofCheckBox                | 5130, 11362, 11862, 12231                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRRTICK     | 14656                                                                                                             | \CYRYO                   | 14380                                                                                                                                                                                                                                                                           | \DefaultOptionsofComboBox                | 5133                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
| \cyrrtick     | 14658                                                                                                             | \cyryo                   | 14545                                                                                                                                                                                                                                                                           | \DefaultOptionsofListBox                 | 5132                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
| \CYRS         | 14448, 14715                                                                                                      | \CYRYU                   | 14474                                                                                                                                                                                                                                                                           | \DefaultOptionsofPopdownBox              | 5134                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
| \cyr          | 2876, 2879, 2882, 2883, 2886, 2901, 2902, 2903, 2904, 2908, 14513, 14718                                          | \cyryu                   | 14539                                                                                                                                                                                                                                                                           | \DefaultOptionsofPushButton              | 5129, 11289, 11781, 12139                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRSCHWA     | 14804, 14808                                                                                                      | \CYRZ                    | 14427, 14677, 14816                                                                                                                                                                                                                                                             | \DefaultOptionsofRadio                   | 5135                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |
| \cyrschwa     | 14806, 14810                                                                                                      | \cyrz                    | 2890, 2895, 2896, 14492, 14680, 14818                                                                                                                                                                                                                                           | \DefaultOptionsofReset                   | 5128, 11336, 11835, 12199                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRSDSC      | 14714, 14715                                                                                                      | \CYRZDSC                 | 14676                                                                                                                                                                                                                                                                           | \DefaultOptionsofSubmit                  | 5127, 11318, 11812, 12175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrsdsc      | 14717                                                                                                             | \cyrzdsc                 | 14679                                                                                                                                                                                                                                                                           | \DefaultOptionsofText                    | 5131, 11179, 11658, 11991                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRSEMISFTSN | 14652                                                                                                             | \CYRZH                   | 14425, 14764, 14812                                                                                                                                                                                                                                                             | \DefaultWidthofCheckBox                  | 5121, 11358, 11858, 12227                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrsemisftsn | 14654                                                                                                             | \cyrzh                   | 2873, 2893, 14490, 14766, 14814                                                                                                                                                                                                                                                 | \DefaultWidthofChoiceMenu                | 5123, 11196, 11676, 12017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRSFTSN     | 14470                                                                                                             | \CYRZHDSC                | 14672                                                                                                                                                                                                                                                                           | \DefaultWidthofReset                     | 5119, 11332, 11831, 12195                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \cyrstsn      | 14535                                                                                                             | \cyrzhdsc                | 14674                                                                                                                                                                                                                                                                           | \DefaultWidthofSubmit                    | 5117, 11314, 11808, 12171                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
| \CYRSH        | 14462                                                                                                             | <b>D</b>                 |                                                                                                                                                                                                                                                                                 |                                          | \DefaultWidthofText                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5126, 11168, 11647, 11980 |
| \cyrsh        | 14527                                                                                                             | \d                       | 734, 738, 744, 2931, 2935, 2937, 2938, 2939, 2940, 2941, 2943, 13108, 13120, 13132, 13521, 13547, 13566, 15384, 15389, 15394, 15399, 15404, 15409, 15414, 15419, 15424, 15429, 15434, 15439, 15444, 15449, 15454, 15459, 15464, 15469, 15474, 15479, 15484, 15489, 15494, 15499 | \define@key                              | 2286, 2288, 2331, 2346, 2349, 2352, 2360, 2363, 2373, 2376, 2379, 2396, 2408, 2410, 2413, 2416, 2433, 2437, 2440, 2443, 2446, 2449, 2452, 2487, 2544, 2564, 2565, 2579, 2582, 2585, 2588, 2591, 2599, 2602, 2605, 2608, 2612, 2640, 2656, 2667, 2670, 2673, 2676, 2680, 2683, 2690, 2719, 2738, 2741, 2967, 2998, 3006, 3014, 3021, 3024, 3039, 3064, 3067, 3071, 3099, 3104, 3108, 3111, 3118, 3130, 3138, 3141, 3144, 3146, 3149, 3158, 3168, 3175, 3182, 3183, 3255, 3264, 3294, 3300, 3306, 3312, 3318, 3324, 3330, 3336, 3342, |                           |
| \CYRSHCH      | 14464                                                                                                             | \dad                     | 15526                                                                                                                                                                                                                                                                           |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrshch      | 14529                                                                                                             | \dal                     | 15519                                                                                                                                                                                                                                                                           |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRSHHA      | 14748                                                                                                             | \damma                   | 15546                                                                                                                                                                                                                                                                           |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrshha      | 14750                                                                                                             | \declare@shorthand       | 850, 851, 856, 857, 862, 872, 873, 874, 879, 880, 885, 886, 891, 896, 897, 902, 907, 908, 909, 910, 911, 912, 917, 918, 923, 924, 929, 930                                                                                                                                      |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRT         | 14450                                                                                                             | \DeclareFontEncoding     | 13096, 13491                                                                                                                                                                                                                                                                    |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyr          | 2876, 2879, 2885, 2887, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14515                               | \DeclareFontFamily       | 754, 762, 2466                                                                                                                                                                                                                                                                  |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRTDSC      | 14720                                                                                                             | \DeclareFontShape        | 755, 763, 2467                                                                                                                                                                                                                                                                  |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrtdsc      | 14722                                                                                                             | \DeclareFontSubstitution | 756, 764, 2468                                                                                                                                                                                                                                                                  |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRTETSE     | 14736                                                                                                             | \DeclareLocalOptions     | 3610                                                                                                                                                                                                                                                                            |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrtetse     | 14738                                                                                                             | \DeclareRobustCommand    | 4040, 4041, 4157, 4174, 4176, 4178, 4187, 5065, 5068, 5071, 5074, 5077, 5080, 5083, 5208, 5212, 5280, 5284, 7447, 7473, 7492, 12940                                                                                                                                             |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrthousands | 14646                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRTSHE      | 14402                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrtshe      | 14567                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRU         | 14409, 14452, 14848, 14852, 14856                                                                                 |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyru         | 2883, 2885, 2899, 2900, 2903, 2907, 14517, 14850, 14854, 14858                                                    |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRUK        | 14626                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyr          | 2876, 2879, 2885, 2887, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14515                               |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyr          | 2876, 2879, 2885, 2887, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14515                               |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRUSHRT     | 14408                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyrushrt     | 14573                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRV         | 14417                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyr          | 2876, 2879, 2885, 2887, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14515                               |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyr          | 2876, 2879, 2885, 2887, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 14515                               |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \CYRY         | 14724                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| \cyry         | 14726                                                                                                             |                          |                                                                                                                                                                                                                                                                                 |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3375, 3382, 3416, 3467, 3468,<br>3488, 3495, 3502, 3503, 3506,<br>3509, 3512, 3515, 3518, 3521,<br>3524, 3547, 3550, 3553, 4405,<br>4493, 4549, 4851, 4856, 4868,<br>4905, 4908, 4911, 4914, 4917,<br>4920, 4923, 4927, 4930, 4933,<br>4936, 4939, 4942, 4945, 4948,<br>4951, 4954, 4957, 4960, 4990,<br>4993, 4996, 4999, 5018, 5024,<br>5038, 5054, 5060, 5628, 5639,<br>10109, 10111, 10114, 10116,<br>10118, 10127, 10135, 10142,<br>10144, 10146, 10148, 10150,<br>10152, 10161, 10171, 10173,<br>10175, 10176, 10182, 10191,<br>10193, 10195, 10197, 10199,<br>10201, 10203, 10205, 10207,<br>10209, 10211, 10213, 10215,<br>10217, 10219, 10221, 10222,<br>10223, 10224, 10225, 10226,<br>10227, 10228, 10229, 10230,<br>10231, 10232                                                                                                                                                                                                                                                                                                                                                                                                              | 11488, 11681, 11744, 12022,<br>12088, 12820                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \documentclass . . . . . 2<br>\dospecials . . . . . 12825<br>\dots . . . . . 416<br>\dp . . . . . 5110, 5113,<br>6324, 8401, 8474, 8503, 8533,<br>10073, 10076, 10659, 10927,<br>11966<br>\dth@counter . . . 6156, 6157, 6182<br>\dth@everypar . . . . . 6170<br>\dvipdfm@setdim . . 11963, 12005,<br>12103, 12128, 12160, 12186,<br>12215, 12244                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \es@roman . . . . . 483<br>\es@save@dot . . . . . 1075<br>\escapechar 386, 682, 6109, 12844,<br>12845, 12896<br>\eTeX . . . . . 422, 10974<br>\etex@unexpanded . . . 1608, 1615<br>\eTeXversion . . . 8010, 8012, 8014<br>\evensidemargin . . . . . 6822<br>\everypar . . . . . 6193<br>\ExecuteOptions 3601, 3602, 3606<br>\ext@figure . . . . . 7171<br>\ext@table . . . . . 7170<br>\extra@b@citeb . . . . . 6656<br>\extrasvietnam . . . . . 3007<br>\extrasvietnamese . . . . . 2999 |
| \df@tag . . . . . 6936, 6942<br>\DH . . . . . 13358, 13727<br>\dh . . . . . 13427, 13795<br>\dhal . . . . . 15520<br>\dimen@ 368, 369, 373, 1676, 1744,<br>1745, 1748, 1750, 3585, 3586,<br>3588, 3595, 3596, 9561, 9562,<br>9564, 10072, 10084, 10087<br>\dimexpr . . 380, 2022, 2024, 2032,<br>2037, 2040, 2042, 2056, 2058,<br>2061, 2062, 2069, 2072, 2075,<br>2076, 2077, 2078, 2088, 2093,<br>2101, 2105, 2110, 2120, 2123,<br>2128, 2131, 2136, 2137<br>\ding . . . . . 4965, 4968<br>\DingObject . . . . . 11754<br>\discretionary . . . . . 524<br>\divide . . . . . 8051, 9595<br>\DJ . . . 2943, 13359, 13859, 15378<br>\dj . . . . 2940, 2941, 13861, 15371<br>\do . . . . 1112, 2303, 2308, 2313,<br>3156, 3177, 3178, 3179, 3180,<br>3195, 3196, 3197, 3198, 3199,<br>3200, 3203, 3204, 3205, 3206,<br>3207, 3208, 3211, 3212, 3215,<br>3216, 3217, 3218, 3219, 3222,<br>3223, 3224, 3225, 3226, 3229,<br>3230, 3231, 3232, 3233, 3236,<br>3237, 3238, 3239, 3240, 3243,<br>3244, 3247, 3248, 3249, 3252,<br>3253, 3259, 3260, 3261, 3262,<br>3540, 3541, 3542, 3543, 3544,<br>3545, 4453, 6116, 6649, 6672,<br>11201, 11263, 11471, 11478, | E<br>\ECIRCUMFLEX . 15379, 15463,<br>15464, 15465, 15466, 15467<br>\ecircumflex . 15372, 15403, 15404,<br>15405, 15406, 15407<br>\EdefEscapeHex . . . . . 677<br>\EdefEscapeName . . . 3406, 3450<br>\EdefEscapeString . . . . 633, 642<br>\EdefUnescapeName . . . . 3407<br>\EdefUnescapeString . . . . 628<br>\egroup . . 523, 9198, 9803, 11418,<br>11510, 11535<br>\em . . . . . 454<br>\emph . . . . . 433<br>\empty . . . . . 1094, 3074<br>\enc@html . . . . . 4855, 4858<br>\enc@update . . . . . 401<br>\END 1406, 1407, 1432, 1433, 1448,<br>1449, 1466, 1467, 1484, 1485,<br>1853, 1859, 1864, 1948, 1950,<br>8175, 8188, 8192, 8199, 8212,<br>8216, 8222, 8234, 8238<br>\end . . . . . 15562<br>\endeqnarray . . . 6062, 6080, 6087<br>\endequation . . . . . 6025, 6057<br>\endForm . . . . . 4845<br>\endinput . . 64, 2576, 2616, 2617,<br>2630, 2634, 2635, 2644, 2645,<br>2651, 2652, 3739, 3839, 7363,<br>9747, 10966, 12930<br>\endlinechar . . . . . 4062<br>\endNoHyper . . . . . 5244<br>\EndPreamble . . . . . 10969<br>\endsubeqnarray . . . . 6091, 6102<br>\eqnarray . . . . . 6061, 6063, 6084<br>\equal . . . . . 6730<br>\equation . . 6024, 6033, 6037, 6046<br>\equationautorefname 2745, 2763,<br>2781, 2799, 2817, 2835, 2853,<br>2871, 2872, 2911, 2929, 7592,<br>7596<br>\errmessage . . . . . 2964 | \fa . . . . . 15532<br>\FancyVerbLineautorefname 2758,<br>2776, 2794, 2812, 2830, 2848,<br>2866, 2901, 2904, 2924, 2942,<br>7609<br>\farsikaf . . . . . 15553<br>\farsiya . . . . . 15555<br>\fatha . . . . . 15545<br>\fbox . . . . . 11636, 11639<br>\Field@addtoks 4893, 4915, 4918,<br>5039, 5062<br>\Field@boolkey 4406, 4494, 4888,<br>4909, 4912<br>\Field@toks . . 4891, 4892, 4894,<br>11177, 11208, 11287, 11313,<br>11331, 11360, 11410, 11427,<br>11438, 11449, 11459, 11476,<br>11494, 11502, 11507, 11523,<br>11532, 11656, 11688, 11779,<br>11807, 11830, 11860, 11989,<br>12029, 12137, 12170, 12194,<br>12229<br>\Field@Width . . . . . 4830, 4925<br>\figureautorefname . . . 2748, 2766,<br>2784, 2802, 2820, 2838, 2856,<br>2886, 2914, 2932, 7599<br>\filename@area . . . . . 4334<br>\filename@base . . . . . 4334<br>\filename@ext . 4331, 4332, 4334,<br>4335<br>\filename@parse . . . . . 4330<br>\find@pdfink . . . 7837, 7890, 7900<br>\Fld@@additionalactions . 12416,<br>12459, 12463<br>\Fld@@@DingDef . 4965, 4968, 4987<br>\Fld@additionalactions . . 12416,<br>12498, 12530, 12564<br>\Fld@align . . . . 4834, 4952, 12366,<br>12473, 12538 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \Fld@annotflags 4613, 4615, 12362,<br>12392, 12469, 12502, 12534,<br>12569, 12603                                                                                                                                                                               | \Fld@format@code . . 5003, 12421,<br>12423                                                                                                                                                                                                                                                                | \Fld@onmouseup@code . . . 5010,<br>12445, 12447                                                                                                                                                                                                                                                                                                                                                                                 |
| \Fld@bcolor . . . 4836, 4994, 12377,<br>12379, 12489, 12491, 12517,<br>12519, 12542, 12554, 12556                                                                                                                                                               | \Fld@getmethodfalse . . . . . 4879                                                                                                                                                                                                                                                                        | \Fld@printfalse . . . . . 4521                                                                                                                                                                                                                                                                                                                                                                                                  |
| \fld@bcolor . . . . . 12477                                                                                                                                                                                                                                     | \Fld@getmethodtrue . . . . . 4881                                                                                                                                                                                                                                                                         | \Fld@printtrue . . . . . 4520                                                                                                                                                                                                                                                                                                                                                                                                   |
| \Fld@bordercolor . . . . 4837, 4997,<br>12373, 12375, 12399, 12407,<br>12409, 12476, 12485, 12487,<br>12513, 12515, 12541, 12550,<br>12552, 12576, 12584, 12586,<br>12610, 12618, 12620                                                                         | \Fld@height . . 4934, 11169, 11186,<br>11197, 11253, 11268, 11280,<br>11315, 11333, 11359, 11368,<br>11648, 11667, 11677, 11734,<br>11759, 11772, 11809, 11832,<br>11859, 11870, 11981, 11998,<br>12018, 12075, 12086, 12121,<br>12172, 12196, 12228, 12237                                               | \Fld@radiosymbol . . . 4842, 4961,<br>12521                                                                                                                                                                                                                                                                                                                                                                                     |
| \Fld@bordersep . . . . . 4838, 4946                                                                                                                                                                                                                             | \Fld@hiddenfalse . . . . . 4516                                                                                                                                                                                                                                                                           | \Fld@rotation . 4843, 4991, 12369,<br>12371, 12398, 12403, 12405,<br>12475, 12481, 12483, 12509,<br>12511, 12540, 12546, 12548,<br>12575, 12580, 12582, 12609,<br>12614, 12616                                                                                                                                                                                                                                                  |
| \Fld@borderstyle . . . . 4840, 4943,<br>12367, 12397, 12474, 12507,<br>12539, 12574, 12626                                                                                                                                                                      | \Fld@hiddentrue . . . . . 4517                                                                                                                                                                                                                                                                            | \Fld@submitflags . . . . 4595, 4597,<br>12596                                                                                                                                                                                                                                                                                                                                                                                   |
| \Fld@borderwidth . . . 4839, 4940,<br>5104, 5107, 5108, 5111, 5112,<br>11251, 11252, 11732, 11733,<br>12073, 12074, 12367, 12397,<br>12474, 12507, 12539, 12574,<br>12626                                                                                       | \Fld@invisiblefalse . . . . . 4512                                                                                                                                                                                                                                                                        | \Fld@temp 4964, 4966, 4969, 4970,<br>4979, 4980                                                                                                                                                                                                                                                                                                                                                                                 |
| \Fld@calculate@code 5005, 12429,<br>12431                                                                                                                                                                                                                       | \Fld@invisibletrue . . . . . 4513                                                                                                                                                                                                                                                                         | \Fld@validate@code . 5004, 12425,<br>12427                                                                                                                                                                                                                                                                                                                                                                                      |
| \Fld@cbsymbol 4841, 4958, 12381                                                                                                                                                                                                                                 | \Fld@keystroke@code 5006, 12417,<br>12419                                                                                                                                                                                                                                                                 | \Fld@value 4746, 4753, 4755, 4955,<br>11167, 11183, 11195, 11234,<br>11235, 11646, 11663, 11675,<br>11715, 11716, 11979, 11996,<br>12016, 12056, 12057, 12563                                                                                                                                                                                                                                                                   |
| \Fld@charsize . . 4831, 4832, 4937,<br>11250, 11731, 12072, 12383,<br>12495, 12523, 12560, 12608                                                                                                                                                                | \Fld@listcount . . . . 11262, 11265,<br>11276, 11743, 11746, 11760,<br>11766, 12084, 12090, 12094,<br>12099, 12110, 12117                                                                                                                                                                                 | \Fld@width . . 4924, 11168, 11182,<br>11186, 11196, 11233, 11244,<br>11246, 11268, 11280, 11301,<br>11314, 11322, 11332, 11346,<br>11358, 11365, 11368, 11647,<br>11662, 11667, 11676, 11714,<br>11725, 11727, 11759, 11772,<br>11794, 11808, 11816, 11831,<br>11845, 11858, 11866, 11870,<br>11980, 11995, 11998, 12017,<br>12055, 12066, 12068, 12086,<br>12121, 12153, 12171, 12179,<br>12195, 12209, 12227, 12235,<br>12237 |
| \Fld@checkedfalse . . . . . 4827                                                                                                                                                                                                                                | \Fld@loc . . . . . 4906                                                                                                                                                                                                                                                                                   | \float@caption . . . . . 6426, 6486                                                                                                                                                                                                                                                                                                                                                                                             |
| \Fld@checkequals . . . 4897, 11202,<br>11264, 11479, 11489, 11682,<br>11745, 12023, 12089                                                                                                                                                                       | \Fld@maxlen . . 4833, 4928, 12565                                                                                                                                                                                                                                                                         | \float@makebox . . . . . 6488, 6489                                                                                                                                                                                                                                                                                                                                                                                             |
| \Fld@choices . . 4720, 4728, 4730,<br>4734, 4743, 4751, 4756, 4804,<br>4806, 4814, 4815, 12497                                                                                                                                                                  | \Fld@menulength . . . . 4829, 4931,<br>11199, 11203, 11250, 11470,<br>11471, 11474, 11679, 11683,<br>11731, 12020, 12024, 12072                                                                                                                                                                           | \floatingpenalty . . . . . 6325                                                                                                                                                                                                                                                                                                                                                                                                 |
| \Fld@color . . . . 4835, 5000, 12384,<br>12496, 12524, 12561                                                                                                                                                                                                    | \Fld@name . . 4921, 11165, 11193,<br>11285, 11355, 11407, 11412,<br>11423, 11424, 11435, 11436,<br>11445, 11446, 11454, 11475,<br>11492, 11500, 11505, 11520,<br>11529, 11644, 11673, 11777,<br>11855, 11977, 12014, 12135,<br>12224, 12356, 12358, 12363,<br>12393, 12470, 12503, 12535,<br>12570, 12604 | \flq . . . . . 490                                                                                                                                                                                                                                                                                                                                                                                                              |
| \Fld@default . . . . . 4745, 4748, 4750, 4949,<br>11166, 11183, 11194, 11235,<br>11356, 11408, 11426, 11440,<br>11448, 11455, 11481, 11491,<br>11521, 11531, 11645, 11663,<br>11674, 11716, 11856, 11978,<br>11996, 12015, 12057, 12225,<br>12525, 12526, 12562 | \Fld@norotatefalse . . . . . 4529                                                                                                                                                                                                                                                                         | \flqq . . . . . 488                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Fld@DingDef . . 4958, 4961, 4963                                                                                                                                                                                                                               | \Fld@norotatetrue . . . . . 4528                                                                                                                                                                                                                                                                          | \fmtname . . . . . 7                                                                                                                                                                                                                                                                                                                                                                                                            |
| \Fld@disabledfalse . . . . . 4828                                                                                                                                                                                                                               | \Fld@noviewfalse . . . . . 4532                                                                                                                                                                                                                                                                           | \fmtversion . . . . . 7                                                                                                                                                                                                                                                                                                                                                                                                         |
| \Fld@export 4558, 4561, 4568, 4860                                                                                                                                                                                                                              | \Fld@noviewtrue . . . . . 4533                                                                                                                                                                                                                                                                            | \fontencoding 394, 398, 426, 11628                                                                                                                                                                                                                                                                                                                                                                                              |
| \Fld@findlength . . . 11458, 11469                                                                                                                                                                                                                              | \Fld@nozoomfalse . . . . . 4525                                                                                                                                                                                                                                                                           | \fontfamily . . . . . 427, 11627                                                                                                                                                                                                                                                                                                                                                                                                |
| \Fld@flags . . . . . 4627, 4629, 4640, 4642, 4656,<br>4658, 4688, 4690, 4713, 4715,<br>12365, 12395, 12472, 12505,<br>12537, 12572, 12606                                                                                                                       | \Fld@nozoomtrue . . . . . 4524                                                                                                                                                                                                                                                                            | \fontseries . . . . . 428, 6149, 11629                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                 | \Fld@onblur@code . . 5008, 12437,<br>12439                                                                                                                                                                                                                                                                | \fontshape . . . . . 429, 4003, 11630                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                 | \Fld@onclick@code . . 5002, 5061,<br>12413                                                                                                                                                                                                                                                                | \fontsize . . . . . 430                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                 | \Fld@onenter@code . 5011, 12449,<br>12451                                                                                                                                                                                                                                                                 | \footins . . . . . 6319                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                 | \Fld@onexit@code . . 5012, 12453,<br>12455                                                                                                                                                                                                                                                                | \footnote . . . . . 4382                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                 | \Fld@onfocus@code . 5007, 12433,<br>12435                                                                                                                                                                                                                                                                 | \footnoteautorefname 2746, 2764,<br>2782, 2800, 2818, 2836, 2854,<br>2875, 2878, 2912, 2930, 7593,<br>7597                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                 | \Fld@onmousedown@code . 5009,<br>12441, 12443                                                                                                                                                                                                                                                             | \footnotesep . . . . . 6323, 6330                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                           | \footnotesize . . . . . 459, 6321                                                                                                                                                                                                                                                                                                                                                                                               |



`\footnotetext` . . . . . 6276  
`\footref` . . . . . 6350, 6351  
`\Form` . . . . . 4844  
`\Form@action` 4854, 11399, 12594  
`\Form@boolkey` . . . . . 4848  
`\Form@htmlfalse` . . . . 4847, 4865  
`\Form@htmltrue` . . . . . 4859  
`\Form@method` 4877, 4885, 11399  
`\frq` . . . . . 491  
`\frqq` . . . . . 489  
`\futurelet` . . . . . 543, 1400  
`\FV@SetLineNo` . . . . . 5874  
`\FV@StepLineNo` 5873, 5875, 5876

## G

`\G` . . . . . 13516, 13542, 13561, 14142,  
 14144, 14146, 14148, 14150,  
 14152, 14153, 14155, 14157,  
 14159, 14161, 14163, 14165  
`\g@addto@macro` . . . . 5416, 5567,  
 6558, 6832, 8241, 9585, 9858,  
 10373, 10459, 10521, 10816,  
 10980  
`\G@refundefinedtrue` . 4225, 6658,  
 6681, 7368, 7388, 7405, 7519  
`\gaf` . . . . . 15554  
`\Gauge` . . . . . 5077  
`\GenericError` . . . . . 531, 3288  
`\GenericInfo` . . . . . 533, 3286  
`\GenericWarning` . . . . 532, 3287  
`\getpagerefnumber` . . . . 5989  
`\getrefbykeydefault` . . 5944, 5945  
`\gexmode` . . . . . 9616, 9617, 9705  
`\ghayn` . . . . . 15530  
`\Gin@setfile` . . . . . 7013, 7014  
`\glossary` . . . . . 497  
`\glq` . . . . . 486  
`\glqq` . . . . . 484  
`\greek@Alph` . . . . . 5840  
`\Greeknatural` . . . . . 938  
`\greeknumeral` . . . . . 937  
`\grq` . . . . . 487  
`\grqq` . . . . . 485  
`\guill@spacing` . . . . . 867  
`\guillemotleft` . . 907, 13285, 13465,  
 13653, 15358  
`\guillemotright` 908, 13316, 13466,  
 13685, 15359  
`\guilsinglleft` 13216, 13467, 15064,  
 15360  
`\guilsinglright` 13218, 13468, 15066,  
 15361

## H

`\H` . . . . . 13512, 13544, 13563, 13577,  
 13992, 13994, 14056, 14058,  
 14856, 14858

`\h` 2933, 15386, 15391, 15396, 15401,  
 15406, 15411, 15416, 15421,  
 15426, 15431, 15436, 15441,  
 15446, 15451, 15456, 15461,  
 15466, 15471, 15476, 15481,  
 15486, 15491, 15496, 15501  
`\H@@footnotemark` . . 6201, 6218,  
 6355, 6362, 6374, 6385  
`\H@@footnotetext` . . 6200, 6210,  
 6237, 6302, 6363, 6377, 6385  
`\H@cmpfootnotetext` . 6208, 6220,  
 6222  
`\H@definecounter` . . . 6917, 6919  
`\H@endeqnarray` . . . . 6062, 6081  
`\H@endequation` . . . . 6025, 6057  
`\H@endsubeqnarray` . . 6091, 6103  
`\H@eqnarray` . . . . . 6061, 6066  
`\H@equation` . . . . . 6024, 6048  
`\H@item` . . . . . 5753, 5759, 6566, 6591  
`\H@newctr` . . . . . 6922, 6924  
`\H@old@part` . . . . . 12997, 13008  
`\H@old@chapter` . . . 12965, 12975  
`\H@old@ssect` 13019, 13031, 13040  
`\H@old@spart` . . . . 13010, 13017  
`\H@old@ssect` . . . . . 12950, 12956  
`\H@refstepcounter` . . 5768, 5778,  
 5875, 5999, 6047, 6162, 6421,  
 7184, 7237  
`\H@seteqlabel` . . . . . 6954, 6956  
`\H@subeqnarray` . . . . 6090, 6094  
`\ha` . . . . . 15538  
`\Haa` . . . . . 15517  
`\halign` . . . . . 506  
`\hamza` . . . . . 15505  
`\HAR@checkcitations` . . . . 6746  
`\HAR@citetoaux` . . . . . 6702  
`\HAR@tempa` . . . . . 6747, 6748, 6749,  
 6750, 6751, 6752  
`\harvardcite` . . . . . 6696, 6733  
`\harvarditem` . . . . . 6721  
`\hbox` . . . . . 1668, 1674, 1680, 2208,  
 3085, 3091, 4925, 5098, 5099,  
 5100, 5101, 6686, 6817, 8329,  
 8402, 8409, 8475, 8486, 8504,  
 8515, 8534, 8545, 8810, 9771,  
 10076, 10087, 10660, 10667,  
 10928, 10939, 11547, 11997,  
 12085, 12120, 12151, 12180,  
 12210, 12236, 12942  
`\hc@currentHref` . . . . . 6437  
`\HCode` 11399, 11401, 11412, 11421,  
 11433, 11441, 11443, 11474,  
 11480, 11485, 11490, 11504,  
 11509, 11513, 11516, 11525  
`\headers@out` 5662, 10363, 10374,  
 10446, 10460, 10513, 10522,

10535, 10549, 10588, 10699,  
 10817, 10981  
`\hfill` 5098, 5099, 5100, 5101, 6577,  
 6610  
`\Hfootnoteautorefname` . . 7593  
`\hhyperref` . . . . . 4387  
`\hoffset` . . . . . 6818  
`\hphantom` . . . . . 469  
`\href` . . . . . 498, 4157, 4381, 4382, 5270  
`\href@` . . . . . 4158, 4161, 4166  
`\href@split` . . . . . 4166, 4167  
`\hsize` . . . . . 6326  
`\hskip` 1679, 1757, 2244, 2245, 4154,  
 5104, 11547  
`\hspace` . . . . . 494, 6736, 6737  
`\hss` . . . . . 6826, 12947  
`\ht` . . . . . 5106, 5109,  
 8407, 8478, 8484, 8490, 8507,  
 8513, 8519, 8537, 8543, 8549,  
 10072, 10665, 10937, 11964  
`\htmladdimg` . . . . . 4380  
`\htmladdnormallink` . . . . 4381  
`\htmladdnormallinkfoot` . . 4382  
`\htmlref` . . . . . 4383  
`\Huge` . . . . . 456  
`\huge` . . . . . 460  
`\Hurl` . . . . . 4173, 4175, 4177  
`\hv@pdf@char` 12749, 12814, 12815,  
 12816, 12817  
`\hvtex@buffer` . . . . 9480, 9484, 9492,  
 9495, 9504, 9508, 9524  
`\hvtex@gettoken` 9479, 9493, 9497,  
 9506, 9510  
`\hvtex@gettoken@` . . . 9480, 9482  
`\hvtex@par@dimension` 9475, 9516  
`\hvtex@par@direction` 9476, 9519  
`\hvtex@par@duration` . . 9477, 9511  
`\hvtex@par@motion` . . 9478, 9513  
`\hvtex@param@dimension` . 9488,  
 9517, 9535, 9538  
`\hvtex@param@direction` . . 9489,  
 9520, 9546, 9554  
`\hvtex@param@duration` . . 9490,  
 9512, 9559, 9561  
`\hvtex@param@motion` 9491, 9514,  
 9535, 9542  
`\hvtex@parse@trans` . . 9464, 9486  
`\hvtex@produce@trans` 9525, 9531  
`\hvtex@token` . . . . . 9483, 9494, 9500,  
 9507, 9512, 9515, 9518, 9520  
`\hvtex@trans@code` . . . 9468, 9469,  
 9470, 9471, 9472, 9473, 9474,  
 9487, 9533, 9534, 9536, 9538,  
 9540, 9542, 9544, 9546, 9548,  
 9549, 9550, 9551, 9552, 9554  
`\hvtex@trans@effect@Blinds` 9468  
`\hvtex@trans@effect@Box` . . 9469

|                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \hvtex@trans@effect@Dissolve . . . . .                                                                                                                                                                                                                                                                         | 2444, 2447, 2450, 2453, 2681, 2684, 2739, 3022, 3025, 3040, 3065, 3068, 3109, 3112, 3150, 3265, 3504, 3507, 3510, 3513, 3516, 3519, 3522, 3530, 3551, 3554, 5629                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5186, 5187, 5188, 5189, 5190, 5191, 5192, 5193, 5194, 5195, 5196, 5197, 5198, 5199, 5200, 5201, 5202, 5203, 5374, 5569, 6389, 7018, 7116, 7117, 7709, 7810, 8160, 8161, 8162, 8163, 8164, 8165, 8166, 8167, 8168, 8169, 8297, 8581, 8582, 8583, 8584, 8585, 8586, 8587, 8588, 8589, 8590, 8850, 9021, 9022, 9023, 9024, 9025, 9026, 9027, 9028, 9029, 9030, 9112, 9254, 9685, 9686, 9687, 9688, 9689, 9690, 9691, 9692, 9693, 9694, 9937, 9938, 9939, 9940, 9941, 9942, 9943, 9944, 9945, 9946, 10439, 10725, 10726, 10727, 10728, 10729, 10730, 10731, 10732, 10733, 10734 |
| \hvtex@trans@effect@Glitter 9471                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \hvtex@trans@effect@R . . . . .                                                                                                                                                                                                                                                                                | 9474                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \hvtex@trans@effect@Split . . . . .                                                                                                                                                                                                                                                                            | 9472                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \hvtex@trans@effect@Wipe . . . . .                                                                                                                                                                                                                                                                             | 9473                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \hvtex@trans@par . . . . .                                                                                                                                                                                                                                                                                     | 9507, 9511, 9513, 9516, 9519                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \hvtex@trans@params 9501, 9503, 9527                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@@boolkey . . . . .                                                                                                                                                                                                                                                                                         | 2254, 2255                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@@DefNameKey . . . . .                                                                                                                                                                                                                                                                                      | 2328, 2330                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@@escapeform . . . . .                                                                                                                                                                                                                                                                                      | 12315, 12328, 12334                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@@SectionAnchor 12937, 12940                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@Ctemp 3115, 3117, 5014, 5016                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@cabspace . . . . .                                                                                                                                                                                                                                                                                         | 5436, 5501, 5611, 5688                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@Acrobatmenu . . . . .                                                                                                                                                                                                                                                                                      | 3647, 3688, 8302, 8960, 9441, 10243                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@activeanchorfalse 4060, 7881, 8357, 8372, 8444, 8454, 8739, 9183, 9200, 9271, 9284, 9764, 10611, 10626, 10884, 10898                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@activeanchortrue . . . . .                                                                                                                                                                                                                                                                                 | 7877, 8354, 8368, 8442, 8451, 8735, 9179, 9197, 9269, 9281, 9754, 10608, 10622, 10881, 10894                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@ActiveCarriageReturn 4096, 4099                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@AllowHyphens . . . . .                                                                                                                                                                                                                                                                                     | 4150, 9752, 9775, 10068                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@AnchorName . . . . .                                                                                                                                                                                                                                                                                       | 4210, 4212, 4215, 4217, 4239, 4241, 4245, 4250, 4252                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@appendixstring . . . . .                                                                                                                                                                                                                                                                                   | 5821, 5828                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@author . . . . .                                                                                                                                                                                                                                                                                           | 5350, 5354                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@babelnormalise . . . . .                                                                                                                                                                                                                                                                                   | 4188, 4190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@backout . . . . .                                                                                                                                                                                                                                                                                          | 4056, 5228, 5232, 6532                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@backreffalse 291, 2710, 2732, 3747                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@backreftrue 2703, 2707, 2729                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@BeginAnnot 8852, 8868, 8908, 8936, 8961                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bibcite . . . . .                                                                                                                                                                                                                                                                                          | 6555, 6559                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bookmarksdepth 3070, 3075, 3087, 3093, 12643                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bookmarksnumberedfalse . . . . .                                                                                                                                                                                                                                                                           | 292                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bookmarksopenfalse . . . . .                                                                                                                                                                                                                                                                               | 293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bookmarkstrue . . . . .                                                                                                                                                                                                                                                                                    | 294                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@bookmarkstype . . . . .                                                                                                                                                                                                                                                                                    | 3105, 3107, 6848, 12654                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@boolkey . . . . .                                                                                                                                                                                                                                                                                          | 2254, 2347, 2350, 2353, 2374, 2377, 2380, 2411, 2414, 2417, 2434, 2438, 2441, 2444, 2447, 2450, 2453, 2681, 2684, 2739, 3022, 3025, 3040, 3065, 3068, 3109, 3112, 3150, 3265, 3504, 3507, 3510, 3513, 3516, 3519, 3522, 3530, 3551, 3554, 5629                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@BorderArrayPatch . . . . .                                                                                                                                                                                                                                                                                 | 10122, 10125, 10372, 10815                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@breaklinks@unsupported . . . . .                                                                                                                                                                                                                                                                           | 2422, 9733                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@breaklinksfalse . . . . .                                                                                                                                                                                                                                                                                  | 295                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@breaklinksunhbox . . . . .                                                                                                                                                                                                                                                                                 | 10063, 10079                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@CatcodeWrapper 3932, 3991, 4035, 4048                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@centerwindowfalse . . . . .                                                                                                                                                                                                                                                                                | 296                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@chapapp . . . . .                                                                                                                                                                                                                                                                                          | 5822, 5828, 5835, 12970, 12982, 13067                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@chapterstring . . . . .                                                                                                                                                                                                                                                                                    | 5817, 5819, 5822, 5834                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@CheckOptionValue . . . . .                                                                                                                                                                                                                                                                                 | 2298, 2335                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@CJKbookmarksfalse . . . . .                                                                                                                                                                                                                                                                                | 297                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@cjkpu . . . . .                                                                                                                                                                                                                                                                                            | 1105, 1107, 1128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@colorlink . . . . .                                                                                                                                                                                                                                                                                        | 3995, 4003, 4007, 7783, 7863, 7931, 7967, 8002, 8323, 8355, 8378, 8406, 8415, 8443, 8459, 8481, 8493, 8511, 8523, 8541, 8553, 8823, 8899, 8929, 8954, 8978, 9270, 9292, 9355, 9374, 9407, 9437, 9453, 9773, 10047, 10049, 10609, 10632, 10664, 10673, 10882, 10904, 10936, 10944                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@ColorList . . . . .                                                                                                                                                                                                                                                                                        | 3155, 3156                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@CounterExists . . . . .                                                                                                                                                                                                                                                                                    | 5718, 5731, 5734                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@currentbookmarklevel 12649, 12659, 12660, 12666, 12673, 12714, 12717, 12722, 12726                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@defaultdriver 3824, 3848, 3854                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DefFormAction . . . . .                                                                                                                                                                                                                                                                                    | 4852, 4854                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DefNameKey . . . . .                                                                                                                                                                                                                                                                                       | 2327, 3176, 3194, 3202, 3210, 3214, 3221, 3228, 3235, 3242, 3246, 3251, 3258, 3539                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DEST . . . . .                                                                                                                                                                                                                                                                                             | 10064, 10089                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DestName . . . . .                                                                                                                                                                                                                                                                                         | 7827, 7831                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DisableOption . . . . .                                                                                                                                                                                                                                                                                    | 2284, 3640, 3641, 3642, 3644, 3728, 3754, 3883, 3884, 3885, 3886, 3887, 3888, 3889, 3890, 3891, 3892, 3893, 3894, 3895, 3896, 3897, 3898, 3899, 3901, 3931, 3984, 4012, 4013, 4058, 4059, 5180, 5181, 5182, 5183, 5184, 5185, 5186, 5187, 5188, 5189, 5190, 5191, 5192, 5193, 5194, 5195, 5196, 5197, 5198, 5199, 5200, 5201, 5202, 5203, 5374, 5569, 6389, 7018, 7116, 7117, 7709, 7810, 8160, 8161, 8162, 8163, 8164, 8165, 8166, 8167, 8168, 8169, 8297, 8581, 8582, 8583, 8584, 8585, 8586, 8587, 8588, 8589, 8590, 8850, 9021, 9022, 9023, 9024, 9025, 9026, 9027, 9028, 9029, 9030, 9112, 9254, 9685, 9686, 9687, 9688, 9689, 9690, 9691, 9692, 9693, 9694, 9937, 9938, 9939, 9940, 9941, 9942, 9943, 9944, 9945, 9946, 10439, 10725, 10726, 10727, 10728, 10729, 10730, 10731, 10732, 10733, 10734 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@displaydoctitlefalse . . . . .                                                                                                                                                                                                                                                                             | 325                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DistillerDestFix . . . . .                                                                                                                                                                                                                                                                                 | 6794, 9698, 9700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@draftfalse . . . . .                                                                                                                                                                                                                                                                                       | 257                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@drafttrue . . . . .                                                                                                                                                                                                                                                                                        | 258                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@driver 330, 2427, 2569, 2580, 2583, 2586, 2589, 2600, 2603, 2606, 2609, 2620, 2623, 2648, 2657, 2668, 2671, 2677, 3757, 3760, 3764, 3767, 3771, 3774, 3776, 3780, 3784, 3788, 3791, 3795, 3799, 3803, 3806, 3810, 3813, 3815, 3819, 3823, 3826, 3829, 3832, 3843, 3846, 3848, 3854, 3856, 3861, 3863, 3865 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@DvipdfmxOutlineOpentru . . . . .                                                                                                                                                                                                                                                                           | 3873, 3880                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@EndAnnot 8858, 8902, 8932, 8957, 8981                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@endcolorlink . . . . .                                                                                                                                                                                                                                                                                     | 3999, 4004, 4008, 7792, 7869, 8355, 8392, 8410, 8417, 8443, 8467, 8482, 8494, 8511, 8523, 8541, 8553, 8832, 8860, 9270, 9338, 9355, 9374, 9407, 9437, 9453, 9800, 10056, 10609, 10648, 10668, 10675, 10882, 10918, 10936, 10944                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@endWrap . . . . .                                                                                                                                                                                                                                                                                          | 3933, 3935, 3936, 3969                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@escapeform . . . . .                                                                                                                                                                                                                                                                                       | 11185, 11267, 11279, 11304, 11323, 11347, 11367, 11665, 11749, 11770, 11797, 11818, 11846, 11868, 12002, 12093, 12124, 12157, 12182, 12211, 12241, 12309, 12339, 12346                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \Hy@escapeformfalse . . . . .                                                                                                                                                                                                                                                                                  | 298                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                  |                                                                                                                                                                                                      |                                                                                                                  |  |  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--|--|
| \Hy@escapestring . . .           | 12306, 12381, 12413, 12419, 12423, 12427, 12431, 12435, 12439, 12443, 12447, 12451, 12455, 12562, 12563, 12594                                                                                       |                                                                                                                  |  |  |
| \Hy@EveryPageAnchor              | 6793, 6833                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@EveryPageBoxHook . .         | 5400, 5404, 5408, 6832, 9585, 9858                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@EveryPageHook . .            | 5399, 5403, 5567, 8241                                                                                                                                                                               |                                                                                                                  |  |  |
| \Hy@ExchangeLeftParenthesis . .  | 7643, 7649                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@ExchangeRightParenthesis .   | 7653, 7659                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@false . .                    | 2190, 2265, 2695, 2731                                                                                                                                                                               |                                                                                                                  |  |  |
| \Hy@figuresfalse . . . . .       | 299                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@finalfalse . . . . .         | 258                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@finaltrue . . . . .          | 257                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@FirstPage . . . . .          | 3658                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@FirstPageHook . . . . .      | 5401, 5414, 5416, 5660, 5661, 10373, 10459, 10521, 10816, 10980                                                                                                                                      |                                                                                                                  |  |  |
| \Hy@fitwindowfalse . . . . .     | 300                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@FixNotFirstPage              | 8327, 8328, 8334                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@float@caption . . .          | 6427, 6477, 6479                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@float@currentHref            | 6480, 6482, 6484, 6492, 6495, 6497                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@footnote@currentHlabel . . . | 6248, 6262, 6294, 6338                                                                                                                                                                               |                                                                                                                  |  |  |
| \Hy@footnote@currentHref .       | 5175, 6225, 6230, 6240, 6245, 6249, 6263, 6266, 6293, 6335, 6339                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@FormObjects . .              | 11599, 11876, 11930, 11940, 12252, 12302                                                                                                                                                             |                                                                                                                  |  |  |
| \Hy@Gin@setfile . . . .          | 7013, 7015                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@GlobalStepCount . . . . .    | 328, 5501, 5866, 5948, 6808, 6931, 7226, 7277, 12633, 12952, 12969, 12981, 13012, 13027, 13066                                                                                                       |                                                                                                                  |  |  |
| \Hy@gtemp . .                    | 655, 656, 4750, 4751, 4755, 4756, 4767, 4781, 7667, 7669, 12356, 12358                                                                                                                               |                                                                                                                  |  |  |
| \Hy@href . . . . .               | 4158, 4160                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@hyperfootnotesfalse . .      | 6197                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@hyperfootnotetrue . . .      | 301                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@hyperindextrue . . . . .     | 302                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@hypertextnamesfalse . .      | 2146                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@hypertextnamestrue . . .     | 303                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@implicittrue . . . . .       | 304                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@Info . .                     | 242, 2273, 3698, 3700, 3703, 3705, 3708, 3710, 3713, 3715, 3718, 3720, 3916, 3922, 4000, 4005, 4009, 4138, 4146,                                                                                     | 4460, 5137, 5139, 5142, 5144, 5147, 5149, 5152, 5154, 5157, 5159, 5162, 5164, 5167, 5169, 6633, 6694, 6853, 6870 |  |  |
| \Hy@LastPage . . . . .           | 3661                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@level . .                    | 12655, 12657, 12668, 12673, 12674, 12675, 12703                                                                                                                                                      |                                                                                                                  |  |  |
| \Hy@levelcheck . . .             | 12656, 12671                                                                                                                                                                                         |                                                                                                                  |  |  |
| \Hy@linkcounter . . . . .        | 332, 334, 5866, 5867, 5948, 5949, 6931, 6932, 6957, 7226, 7227, 7231, 7277, 7278, 7282, 12633, 12634, 12952, 12953, 12969, 12970, 12981, 12982, 13012, 13013, 13027, 13028, 13066, 13067             |                                                                                                                  |  |  |
| \Hy@linkfileprefix               | 3140, 4319, 4340, 8395, 9148, 10652, 10921                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@linktoc . . .                | 2382, 2384, 2392, 2394, 2404, 6889                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@linktoc@all . . . . .        | 2390                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@linktoc@none . . . . .       | 2387                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@linktoc@page . . .           | 2382, 2389, 2392                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@linktoc@section .            | 2384, 2388, 2394                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@linktocpagefalse . . . . .   | 305                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@LT@currentHlabel             | 6001, 6012                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@LT@currentHref .             | 6002, 6013                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@LT@footnotetext              | 6291, 6301                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@make@anchor . . .            | 6930, 6937, 6943                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@make@cdf@tag@@               | 6935, 6950                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@make@cdf@tag@@@              | 6941, 6951                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@maketitle@end . .            | 6366, 6371, 6373                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@maketitle@optarg             | 6364, 6369                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@MaybeStopNow .               | 2611, 2616, 2634, 2644, 2651, 3607                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@menubartrue . . . . .        | 306                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@naturalnamesfalse . . . .    | 307                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@nestingfalse . . . . .       | 308                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@newline@author . . . . .     | 5393                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@newline@title . . . . .      | 5392                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@newwindowfalse . . . . .     | 310                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@newwindowsetfalse            | 309, 3527                                                                                                                                                                                            |                                                                                                                  |  |  |
| \Hy@newwindowsettrue . . .       | 3529                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@next                         | 5517, 5527, 5532, 12980, 12990, 12993                                                                                                                                                                |                                                                                                                  |  |  |
| \Hy@nextfalse . . . . .          | 3690, 7028                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@NextPage . . . . .           | 3652                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@nexttrue . .                 | 3691, 3692, 3693, 7029, 7030, 7031                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@number . . .                 | 3480, 3484, 3492                                                                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@numberline . .               | 12650, 12687, 12688, 12689                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@ObsoletePaperOption          | 2356, 2364                                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@ocgcolor . .                 | 7786, 7800, 8826, 8840                                                                                                                                                                               |                                                                                                                  |  |  |
| \Hy@ocgcolorlinksfalse . . . .   | 3979                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@org@chapter . .              | 12978, 12994                                                                                                                                                                                         |                                                                                                                  |  |  |
| \Hy@OutlineName .                | 12857, 12911                                                                                                                                                                                         |                                                                                                                  |  |  |
| \Hy@OutlineRerunCheck .          | 12738, 12832, 12901                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@pageanchortrue . . . . .     | 311                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@pagecounter .                | 333, 335, 5906, 6808, 6810                                                                                                                                                                           |                                                                                                                  |  |  |
| \Hy@pageheight . . . .           | 3596, 10461, 10550                                                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@pagelabelsfalse . . . . .    | 5423                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@pagelabelstrue . . . . .     | 312                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@param                        | 5833, 5834, 5835, 5863, 5867                                                                                                                                                                         |                                                                                                                  |  |  |
| \Hy@pdfafalse . . . . .          | 326                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@pdfencoding@pdfdoc .         | 2526                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@pdfmarkerrorfalse . .        | 10027                                                                                                                                                                                                |                                                                                                                  |  |  |
| \Hy@pdfmarkerrortrue . . .       | 10155, 10164                                                                                                                                                                                         |                                                                                                                  |  |  |
| \Hy@pdfminorversion              | 7676, 7682, 7685, 7693, 7698, 7700, 7703, 7707                                                                                                                                                       |                                                                                                                  |  |  |
| \Hy@pdfpagehiddenfalse . . .     | 313                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@pdfstringdef .               | 654, 4725, 4733                                                                                                                                                                                      |                                                                                                                  |  |  |
| \Hy@pdfstringfalse . . . .       | 314, 5205                                                                                                                                                                                            |                                                                                                                  |  |  |
| \Hy@pdfstringtrue . . . .        | 510, 5177                                                                                                                                                                                            |                                                                                                                  |  |  |
| \Hy@pdfversion                   | 2552, 2563, 4727, 7698, 7700, 7704, 7707, 12350                                                                                                                                                      |                                                                                                                  |  |  |
| \Hy@plainpagesfalse . . . . .    | 315                                                                                                                                                                                                  |                                                                                                                  |  |  |
| \Hy@PrevPage . . . . .           | 3655                                                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@ps@CR                        | 10503, 10510, 10515, 10516, 10533, 10554, 10555, 10556, 10562, 10569, 10576, 10583                                                                                                                   |                                                                                                                  |  |  |
| \Hy@pstringB . . . . .           | 8078, 8083, 9061, 9073, 10000, 10016, 10788, 10804                                                                                                                                                   |                                                                                                                  |  |  |
| \Hy@pstringD .                   | 7938, 7962, 8910, 8924, 10308, 10324                                                                                                                                                                 |                                                                                                                  |  |  |
| \Hy@pstringdef . . . . .         | 7613, 7826, 7847, 7906, 7937, 7938, 7973, 7974, 8078, 8677, 8877, 8909, 8910, 8937, 9061, 9291, 9360, 9414, 9415, 10000, 10153, 10162, 10289, 10307, 10308, 10332, 10333, 10788, 12332, 12856, 12872 |                                                                                                                  |  |  |
| \Hy@pstringDest . . . . .        | 7826, 7827, 8677, 8724, 10153, 10154, 10158, 10162, 10163, 10167                                                                                                                                     |                                                                                                                  |  |  |
| \Hy@pstringF . . . . .           | 7937, 7956, 7973, 7992, 7997,                                                                                                                                                                        |                                                                                                                  |  |  |



8909, 8923, 9414, 9421, 9425,  
 10307, 10323, 10332, 10348,  
 10351  
 \Hy@pstringName . 12856, 12857,  
 12872, 12886  
 \Hy@pstringP . 7974, 7997, 9415,  
 9425, 10333, 10351  
 \Hy@pstringURI 7906, 7927, 8937,  
 8950, 9291, 9303, 9360, 9364,  
 10289, 10299  
 \Hy@PutCatalog 5563, 5571, 5677  
 \Hy@raisedlink . . . . . 2197, 5810,  
 5951, 5972, 5973, 5974, 5977,  
 6014, 6054, 6057, 6184, 6228,  
 6243, 6306, 6333, 6465, 6543,  
 6567, 6572, 6592, 6933, 6958,  
 10361, 10444, 10695, 10859,  
 12635, 12944, 12971, 12983,  
 13014, 13068  
 \Hy@raiselinksfalse . . . 316, 6695  
 \Hy@RemoveDurPageAttr . 8199,  
 8212  
 \Hy@RemoveHidPageAttr . 8222,  
 8234  
 \Hy@RemovePercentCr . . . 4112,  
 4116, 4121  
 \Hy@RemoveTransPageAttr 8174,  
 8188  
 \Hy@Reserved@a 4255, 6064, 6093,  
 11406, 11456, 11519  
 \Hy@RestoreCatcodes 205, 3603,  
 3867  
 \Hy@RestoreLastskip . . . . .  
 . . . . . 2212, 7828, 8358,  
 8373, 8445, 8455, 8726, 9184,  
 9201, 9272, 9285, 9745, 9765,  
 10612, 10627, 10885, 10899  
 \Hy@ReturnAfterElseFi 336, 4100  
 \Hy@ReturnAfterElseFiFiEnd . .  
 . . . . . 340, 1642  
 \Hy@ReturnAfterFi 336, 356, 1820,  
 4104, 4120, 7128, 7164, 7648,  
 7658, 12333  
 \Hy@ReturnAfterFiFiEnd . . 339,  
 1634, 1648, 1726, 1733  
 \Hy@ReturnEnd . . 338, 339, 340,  
 1654, 1738  
 \Hy@safe@activesfalse 341, 4025,  
 4030, 4269, 7508  
 \Hy@safe@activestruer . 341, 4023,  
 4028, 4092, 4129, 4137, 4145,  
 4192, 4261, 7418, 7497  
 \Hy@saved@currentHlabel . 6259,  
 6264  
 \Hy@saved@currentHref . . . 6260,  
 6265  
 \Hy@saved@footnotemark . 6360,  
 6375  
 \Hy@saved@footnotetext . . 6361,  
 6378  
 \Hy@saved@hook . . . . 5378, 5388  
 \Hy@SaveLastskip . . . . .  
 . . . . . 2212, 7824, 8346,  
 8361, 8436, 8448, 8674, 9171,  
 9187, 9262, 9275, 9735, 9749,  
 10601, 10615, 10874, 10888  
 \Hy@scanauthor . . . . 5348, 5353  
 \Hy@scanoptauthor . . 5348, 5349  
 \Hy@scanopttitle . . . 5339, 5340  
 \Hy@scantitle . . . . . 5339, 5344  
 \Hy@secnum@part . 13000, 13002,  
 13005  
 \Hy@SectionAnchorHref . . . . 508,  
 12935, 12958, 13033  
 \Hy@SectionHShift 12934, 12943,  
 12954, 13029  
 \Hy@seminarslidesfalse . . . 7176  
 \Hy@seminarslidestruer . . . 7174  
 \Hy@setbreaklinks . . . 2419, 2423,  
 2435, 7675, 8670  
 \Hy@SetCatcodes 181, 231, 3605  
 \Hy@SetNewWindow . . . . .  
 . . . . . 3533, 7958, 7994, 8925, 9422,  
 10322, 10347  
 \Hy@setouterhbox . 10062, 10068  
 \Hy@setpagesizetrue . . . . . 317  
 \Hy@setpdfborder . . . 3184, 7853,  
 7911, 7942, 7978, 8305, 8888,  
 8916, 8943, 8971, 9306, 9327,  
 9348, 9367, 9399, 9430, 9446  
 \Hy@setpdfversiontrue . . . . 2551  
 \Hy@setref@link . . . . 7374, 7377  
 \Hy@slidetitle . 7203, 7205, 7212,  
 7220, 7230, 7254, 7256, 7263,  
 7271, 7281  
 \Hy@StartlinkName . . 7851, 7865  
 \Hy@StepCount 327, 5478, 11203,  
 11265, 11471, 11683, 11746,  
 12024, 12090, 12718, 12723,  
 12799  
 \Hy@temp . . . . . 538, 545,  
 658, 730, 834, 837, 845, 846,  
 2362, 2367, 2368, 2369, 2370,  
 2371, 2372, 3114, 3123, 3124,  
 3125, 3126, 3127, 3128, 3129,  
 3156, 3157, 3158, 3161, 3163,  
 3166, 3343, 3344, 3347, 3350,  
 3353, 3378, 3386, 3387, 3388,  
 3389, 3390, 3391, 3392, 3393,  
 3394, 3525, 3526, 3679, 3683,  
 3684, 3685, 3686, 3762, 3764,  
 3769, 3771, 3774, 3786, 3788,  
 3793, 3795, 3801, 3803, 3808,  
 3810, 3813, 3855, 3856, 4450,  
 4454, 4455, 4466, 4550, 4551,  
 4552, 4554, 4558, 4869, 4870,  
 4871, 4873, 4877, 4878, 5013,  
 5029, 5030, 5031, 5032, 5033,  
 5034, 5035, 5036, 5037, 5042,  
 5043, 5044, 5045, 5046, 5047,  
 5048, 5049, 5050, 5051, 5052,  
 5458, 5461, 5470, 5472, 5476,  
 5480, 5524, 5526, 5900, 5903,  
 5906, 5912, 6027, 6033, 6344,  
 6350, 7125, 7126, 8093, 8122,  
 8124, 8600, 8605, 8611, 8615,  
 8618, 8623, 8654, 8656, 9033,  
 9076, 9078, 9900, 9903, 9907,  
 9908, 9914, 9915, 9921, 9949,  
 9954, 9960, 9964, 9967, 9972,  
 10005, 10007, 10119, 10120,  
 10128, 10129, 10233, 10234,  
 10737, 10742, 10748, 10752,  
 10755, 10760, 10793, 10795,  
 12314, 12315, 12854, 12860,  
 12868, 12883  
 \Hy@temp@A 569, 570, 1626, 1628,  
 1639, 1641, 1646, 1647, 1650,  
 3379, 3381, 7047, 7048, 7049,  
 7056, 7084, 7085, 7086, 7095  
 \Hy@temp@B . . . . . 1627, 1628  
 \Hy@tempa . . . . . 2256, 2258,  
 2260, 2261, 2263, 2265, 2267,  
 2270, 2273, 2274, 2691, 2692,  
 2693, 2695, 2696, 2698, 2699,  
 2701, 2705, 2709, 2720, 2722,  
 2724, 2725, 2727, 2731, 4098,  
 4099, 4110, 4114, 4193, 4197,  
 4260, 4263, 4272, 4274, 4857,  
 4858, 5507, 5509, 5547, 5549,  
 5688, 5690, 6111, 6113, 6114,  
 6117, 6118, 6119, 6422, 6427,  
 6432, 6847, 6848, 6866, 6867,  
 6873, 7190, 7191, 7242, 7243,  
 8379, 8380, 9152, 9300, 9301,  
 10633, 10634, 10905, 10906,  
 12653, 12654, 12677, 12679,  
 12696, 12704, 13056, 13082,  
 13087, 13090, 13093  
 \Hy@tempb 5508, 5509, 5548, 5549,  
 12678, 12679, 12704  
 \Hy@tempcolor 9782, 9784, 9797,  
 9870, 9872, 9884  
 \Hy@TempPageAnchor . . . 6798,  
 6805, 6809, 6825  
 \Hy@testname . 7839, 7840, 7845,  
 7847, 7848, 7862, 8869, 8870,  
 8875, 8877, 8879, 8895, 9314,  
 9315, 9320, 9324, 9386, 9387,  
 9392, 9396, 9875, 9876, 9881,

9892  
 \Hy@texhtfalse . . . . . 318  
 \Hy@texhttrue . . . . . 2566, 3758  
 \Hy@title . . . . . 5341, 5345  
 \Hy@toclevel . . . . . 6858, 6862, 6875  
 \Hy@toolbartrue . . . . . 319  
 \Hy@true . . . . . 2189, 2261, 2263, 2725, 2727  
 \Hy@typexmlfalse . . . . . 320  
 \Hy@undefinedname . . . . . 7836, 7843, 7845, 8865, 8873, 8875, 9288, 9318, 9320, 9390, 9392, 9866, 9879, 9881  
 \Hy@unicodefalse . . . . . 321, 635, 644, 2482, 2483, 2491, 3320, 3326, 5902, 6802, 12352  
 \Hy@unicodetrue . . . . . 2483, 5622, 5636  
 \Hy@usehidkeyfalse . . . . . 3148  
 \Hy@usehidkeytrue . . . . . 3152  
 \Hy@usemaketitleinfos . . . . . 5394, 8134, 8562, 8993, 9674, 9898, 10706  
 \Hy@usemaketitlestring . . . . . 5375, 5395, 5396  
 \Hy@useNameKey . . . . . 2340, 8100, 8101, 8102, 8103, 8104, 8105, 8106, 8107, 8126, 8630, 8631, 8632, 8633, 8634, 8635, 8636, 8637, 8658, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9080, 9646, 9647, 9648, 9649, 9650, 9651, 9652, 9653, 9979, 9980, 9981, 9982, 9983, 9984, 9985, 9986, 10009, 10767, 10768, 10769, 10770, 10771, 10772, 10773, 10774, 10797  
 \Hy@usetitlefalse . . . . . 322  
 \Hy@varioref@undefined . . . . . 5983, 5987, 7503  
 \Hy@verboseAnchor . . . . . 4142, 7825, 8347, 8362, 8437, 8449, 8675, 9172, 9188, 9263, 9276, 9736, 9750, 10602, 10616, 10875, 10889  
 \Hy@verbosefalse . . . . . 323  
 \Hy@verboseLinkStart . . . . . 4134, 7884, 7894, 8377, 8422, 8458, 8470, 8867, 9128, 9151, 9290, 9379, 9768, 9868, 10631, 10680, 10903, 10950  
 \Hy@vt@PutCatalog . . . . . 5594, 5596  
 \Hy@VTeXversion . . . . . 5574, 5586, 9344, 9457, 9593, 12751  
 \Hy@Warning . . . . . 240, 363, 1566, 2278, 2293, 2318, 2398, 2510, 2515, 3031, 3083, 3355, 3402, 3410, 3975, 4275, 4507, 5632, 6839, 7484, 7533, 7841, 8708, 8712, 8871, 9316, 9388, 9877, 10156, 10165, 12662, 12680  
 \Hy@WarningNoLine . . . . . 241, 2357, 2425, 2536, 3134, 3172, 3271, 3371, 3589, 3638, 3766, 3775, 3790, 3805, 3814, 4350, 5322, 5424, 5588, 5702, 5887, 6849, 7005, 10035  
 \Hy@WarningPageBorderColor . . . . . 3169, 3171, 3173  
 \Hy@WarningPageColor . . . . . 3131, 3133, 3135  
 \Hy@WarnOptionDisabled . . . . . 2290, 2292  
 \Hy@WarnOptionValue . . . . . 2271, 2277, 2712, 2734  
 \Hy@windowuitrue . . . . . 324  
 \Hy@writebookmark . . . . . 2194, 6859, 7210, 7218, 7228, 7261, 7269, 7279, 12639, 12729  
 \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  
 \HyCal@do . . . . . 357, 361  
 \HyCal@scan . . . . . 348, 352, 376  
 \HyColor@FieldBColor . . . . . 4994, 4997  
 \HyColor@FieldColor . . . . . 5000  
 \HyColor@HyperrefBorderColor . . . . . 3159  
 \HyColor@HyperrefColor . . . . . 3119  
 \HyColor@UseColor . . . . . 3997, 7789, 7800, 8829, 8840  
 \HyField@@AddToFields . . . . . 11582, 11586  
 \HyField@@PDFChoices . . . . . 4745, 4746, 4761  
 \HyField@@SetFlag . . . . . 4440, 4442  
 \HyField@@UseFlag . . . . . 4430, 4432  
 \HyField@AddToFields . . . . . 11552, 11581, 11668, 11761, 11774, 11801, 11826, 11850, 11872  
 \HyField@AdvanceAnnotCount . . . . . 11970, 12000, 12095, 12125, 12154, 12183, 12212, 12239  
 \HyField@afields . . . . . 11549, 11571, 11572, 11574, 11608  
 \HyField@AfterAuxOpen . . . . . 11562, 11569, 11587  
 \HyField@AnnotCount . . . . . 11968, 11971, 11974  
 \HyField@AuxAddToFields . . . . . 11561, 11566, 11570, 11590  
 \HyField@FlagsAnnot . . . . . 4600, 4619, 4633, 4646, 4662, 4694  
 \HyField@FlagsCheckBox . . . . . 4632, 11364, 11865, 12234  
 \HyField@FlagsChoice . . . . . 4693, 11243, 11724, 12065  
 \HyField@FlagsPushButton . . . . . 4618, 11300, 11320, 11345, 11793, 11814, 11844, 12152, 12177, 12208  
 \HyField@FlagsRadioButton . . . . . 4645, 11239, 11720, 12061  
 \HyField@FlagsSubmit . . . . . 4566, 11321, 11815, 12178  
 \HyField@FlagsText . . . . . 4661, 11181, 11661, 11994  
 \HyField@NewBitsetFlag . . . . . 4398, 4401, 4409  
 \HyField@NewFlag . . . . . 4396, 4472, 4473, 4474, 4475, 4476, 4477, 4478, 4479, 4480, 4481, 4482, 4483, 4484, 4485, 4486, 4487, 4488, 4489, 4490, 4491, 4496, 4497, 4498, 4499, 4500, 4501, 4502, 4503, 4504, 4537, 4539,

4540, 4542, 4543, 4545, 4546,  
4547, 4548

\HyField@NewFlagOnly . . . 4400,  
4538, 4541, 4544

\HyField@NewOption 4397, 4403

\HyField@PDFAFlagWarning . . .  
4506, 4514, 4518, 4522, 4526,  
4530, 4534

\HyField@PDFChoices . . . . 4718,  
11278, 11768, 12119

\HyField@PrintFlags . 4447, 4593,  
4611, 4625, 4638, 4654, 4686,  
4711

\HyField@SetFlag . . . 4439, 4579,  
4585, 4590, 4624, 4652

\HyField@SetKeys . . 4822, 11178,  
11210, 11213, 11232, 11288,  
11317, 11335, 11361, 11657,  
11690, 11693, 11712, 11780,  
11811, 11834, 11861, 11990,  
12031, 12034, 12053, 12138,  
12174, 12198, 12230

\HyField@TheAnnotCount 11973,  
12004, 12009, 12100, 12112,  
12127, 12132, 12159, 12165,  
12185, 12190, 12214, 12219,  
12243, 12248

\HyField@UseFlag . . . 4429, 4570,  
4571, 4572, 4573, 4574, 4575,  
4576, 4577, 4580, 4581, 4582,  
4583, 4586, 4587, 4588, 4591,  
4602, 4603, 4604, 4605, 4606,  
4607, 4608, 4609, 4610, 4621,  
4622, 4623, 4635, 4636, 4637,  
4648, 4649, 4650, 4651, 4653,  
4664, 4665, 4666, 4667, 4668,  
4669, 4670, 4671, 4682, 4685,  
4696, 4697, 4698, 4699, 4701,  
4703, 4704, 4707, 4710

\HyInd@@@wrindex . . 7043, 7046,  
7077, 7083

\HyInd@@hyperpage . 7123, 7133

\HyInd@@wrindex . . . 7038, 7039

\HyInd@EncapChar . . 2742, 3599,  
7033

\HyInd@hyperpage . . . 7120, 7122,  
7129

\HyInd@org@wrindex . 7037, 7041,  
7051, 7057, 7059, 7062

\HyInd@pagelink 7138, 7144, 7146,  
7149

\HyInd@ParenLeft . . . 7020, 7048,  
7085

\HyInd@ParenRight . . 7021, 7049,  
7056, 7086, 7095

\HyInd@removespaces 7152, 7155,  
7165

\HyInfo@AddonHandler . . . 3397,  
3400

\HyInfo@AddonList . . 3424, 3425,  
3459, 3466

\HyInfo@Addons 3445, 3461, 8158,  
9018, 9930, 9934

\HyInfo@AddonUnsupportedtrue  
. . . 8560, 9672, 10704

\HyInfo@do . . . . 3399, 3426, 3449

\HyInfo@GenerateAddons . 3443,  
8135, 8994, 9899

\HyInfo@Key . . 3407, 3408, 3416,  
3421, 3426, 3429, 3436, 3450,  
3454

\HyInfo@KeyEscaped . 3406, 3407

\HyInfo@trapped@false 3347, 3366

\HyInfo@trapped@true 3344, 3365

\HyInfo@trapped@unknown 3350,  
3367

\HyInfo@TrappedUnsupported . .  
. . . . 3368, 3372, 8563, 9675,  
10707

\HyInfo@Value . . . . . 3420, 3422

\HyLang@addto 2946, 2968, 2999,  
3007

\HyLang@afrikaans . . . . . 2744

\HyLang@DeclareLang 2960, 2975,  
2976, 2977, 2978, 2979, 2980,  
2981, 2982, 2983, 2984, 2985,  
2986, 2987, 2988, 2989, 2990,  
2991, 2992, 2993, 2994, 2995,  
2996, 2997

\HyLang@english . . . . . 2762

\HyLang@french . . . . . 2780

\HyLang@german . . . . . 2798

\HyLang@italian . . . . . 2816

\HyLang@magyar . . . . . 2834

\HyLang@portuges . . . . . 2852

\HyLang@russian . . . . . 2870

\HyLang@spanish . . . . . 2910

\HyLang@vietnamese . 2928, 2999,  
3007

\HyLinguex@OrgB . . . . . 732, 736

\HyLinguex@OrgC . . . . . 733, 737

\HyLinguex@OrgD . . . . . 734, 738

\HyLinguex@Restore . . 735, 748,  
752, 760, 2464

\HyOrg@addtoreset . . 6963, 6965,  
6992

\HyOrg@appendix . . . 5823, 5829

\HyOrg@author . 5338, 5351, 5355

\HyOrg@float@makebox . . 6488,  
6490

\HyOrg@hyperpage . . 7023, 7025,  
7026

\HyOrg@languageshorthands 804,  
819, 830, 840

\HyOrg@make@df@tag@@ . 6948

\HyOrg@make@df@tag@@@ 6949

\HyOrg@maketitle . . . 6358, 6365,  
6370

\HyOrg@subequations 6128, 6135

\HyOrg@title . . . 5337, 5342, 5346

\HyOrg@url . . . . . 4172

\hyper@@@anchor 3622, 4182, 4184,  
4215, 4217, 4250, 4252, 4347,  
5217, 5233, 5250, 6224, 6229,  
6239, 6244, 6304, 6307, 6334,  
6463, 6466, 6494, 6798, 6805,  
6810, 7209, 7217, 7227, 7260,  
7268, 7278

\hyper@@@link . . 4132, 4168, 4205,  
4229, 4231, 4255, 6551, 6697,  
6698, 6699, 6747, 6749, 6751,  
7379, 7394, 7493

\hyper@@@normalise . . 4101, 4105,  
4109

\hyper@anchor . . . . . 4374,  
5220, 5235, 5297, 7872, 8345,  
8435, 8731, 9186, 9261, 9734,  
10600, 10873

\hyper@anchorend . . . . . 3625,  
5204, 5222, 5237, 5253, 5811,  
5953, 6015, 6057, 6076, 6100,  
6185, 6545, 6570, 6573, 6593,  
6726, 6933, 6959, 7879, 8370,  
8453, 8738, 9181, 9283, 9756,  
10624, 10896, 12635, 12730,  
12945, 12972, 12984, 13015,  
13069

\hyper@anchorstart . . . . . 3624,  
5204, 5221, 5236, 5252, 5811,  
5952, 6015, 6054, 6076, 6100,  
6185, 6543, 6568, 6573, 6593,  
6726, 6933, 6959, 7875, 8360,  
8447, 8734, 9170, 9274, 9748,  
10614, 10887, 12635, 12730,  
12945, 12972, 12984, 13015,  
13069

\hyper@chars . . . . . 4126, 7907,  
8350, 8364, 8384, 8403, 8413,  
8427, 8499, 8529, 9137, 9158,  
9174, 9191, 9266, 9278, 9361,  
10290, 10618, 10638, 10661,  
10671, 10685, 10891, 10910,  
10930, 10942, 10955

\hyper@currentanchor 9753, 9762,  
9776, 9793

\hyper@currentlinktype . . . 9777,  
9781, 9785

\hyper@hash . . 4078, 4079, 4127,  
4311, 4323, 4340, 4343, 5171,  
9131

|                                                                                                                                                                                                  |                                                                                                                                                                                                                                            |                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| \hyper@image . 4178, 4179, 8425, 9410, 9863, 10683, 10953                                                                                                                                        | \hyper@readexternallink . . 4266, 4282                                                                                                                                                                                                     | \HyPL@LastNumber . 5439, 5474, 5497                                 |
| \hyper@last . . . . . 5313, 5317                                                                                                                                                                 | \hyper@refstepcounter 5786, 5789, 5796                                                                                                                                                                                                     | \HyPL@LastPrefix . . . 5440, 5468, 5499                             |
| \hyper@link 3623, 4264, 5218, 5219, 5234, 5245, 5251, 7893, 8421, 8469, 8903, 9127, 9378, 9867, 10679, 10949                                                                                     | \hyper@tilde 4087, 4088, 4089, 5172                                                                                                                                                                                                        | \HyPL@LastType 5438, 5459, 5498                                     |
| \hyper@link@ . . 3630, 4256, 4258, 5216, 5227, 5231, 5242, 5258                                                                                                                                  | \hyperbaseurl . . 3137, 3138, 5269                                                                                                                                                                                                         | \HyPL@page . . 5449, 5451, 5456, 5464                               |
| \hyper@linkend 3627, 5224, 5239, 5255, 6268, 6537, 6540, 6893, 6897, 6901, 6903, 7892, 8390, 8466, 8902, 8904, 9163, 9336, 9779, 10646, 10916                                                    | \hypercalcbp . . . . . 343, 343                                                                                                                                                                                                            | \HyPL@Prefix . 5464, 5466, 5468, 5482, 5485, 5487, 5499, 5513, 5551 |
| \hyper@linkfile . . . . . 3629, 4336, 5226, 5241, 5257, 7935, 8394, 8527, 8906, 9147, 9340, 10305, 10650, 10920                                                                                  | \hypercalcbpdef . . 345, 382, 3499                                                                                                                                                                                                         | \HyPL@Roman . . . . . 5442                                          |
| \hyper@linkstart 3626, 5223, 5238, 5254, 6266, 6533, 6540, 6893, 6897, 6901, 6903, 7883, 8376, 8457, 8866, 8904, 9150, 9289, 9767, 10630, 10902                                                  | \hyperdef . . . . . 4207, 5271                                                                                                                                                                                                             | \HyPL@roman . . . . . 5443                                          |
| \hyper@linkurl . . . . . 3628, 4177, 4311, 4318, 4339, 4343, 5225, 5240, 5256, 7904, 8395, 8397, 8423, 8497, 8934, 9135, 9148, 9358, 9411, 9864, 10287, 10651, 10655, 10681, 10921, 10923, 10951 | \HyperDestNameFilter . . . . . 3581, 4146, 7826, 7848, 8352, 8366, 8386, 8423, 8677, 8878, 9131, 9141, 9159, 9177, 9195, 9267, 9279, 9323, 9395, 10153, 10162, 10606, 10620, 10641, 10681, 10879, 10892, 10912, 10951, 12808, 12856, 12872 | \HyPL@SetPageLabels 5557, 5616, 5704                                |
| \hyper@livelink . . . . . 5218, 5245                                                                                                                                                             | \hypergetpageref . . . . . 5945                                                                                                                                                                                                            | \HyPL@storePageLabel . . . 5482, 5484, 5554, 5606, 5685             |
| \hyper@makecurrent . 5807, 5831, 6000, 6053, 6075, 6099, 6163, 6261, 6439, 6481                                                                                                                  | \hypergetref . . . . . 5944                                                                                                                                                                                                                | \HyPL@thisLabel 5432, 5434, 5448, 5451, 5452                        |
| \hyper@n@rmalise . . . 4093, 4097                                                                                                                                                                | \hyperimage . . . 4178, 4380, 7015                                                                                                                                                                                                         | \HyPL@Type . . 5454, 5459, 5463, 5481, 5489, 5498, 5512, 5550       |
| \hyper@nat@current . . . . . 6534                                                                                                                                                                | \hyperindexformat . . . . . 7022                                                                                                                                                                                                           | \HyPL@Useless . . . . . 5555, 5561                                  |
| \hyper@nat@anchorend . . . . 6545                                                                                                                                                                | \hyperlink 4131, 5272, 7161, 7299, 7307, 7322, 7330, 7340, 7348, 7355                                                                                                                                                                      | \HyPsd@@@autoref . . 1487, 1489, 1492                               |
| \hyper@nat@anchorstart . . . . 6542                                                                                                                                                              | \hyperlinkfileprefix . . 3140, 3141, 3142, 10865                                                                                                                                                                                           | \HyPsd@@@CJKdigits 1358, 1361, 1369                                 |
| \hyper@nat@linkbreak . . . . . 6539                                                                                                                                                              | \hyperpage 5278, 7023, 7024, 7026, 7119                                                                                                                                                                                                    | \HyPsd@@@nameref . . 1469, 1471, 1474                               |
| \hyper@nat@linkend . . . . . 6536                                                                                                                                                                | \HyperRaiseLinkDefault . . 2196, 2205                                                                                                                                                                                                      | \HyPsd@@@pageref . . 1451, 1453, 1456                               |
| \hyper@nat@linkstart . . . . . 6531                                                                                                                                                              | \HyperRaiseLinkHook 2195, 2206                                                                                                                                                                                                             | \HyPsd@@@ref . . 1435, 1437, 1440                                   |
| \hyper@normalise . . . 3601, 3606, 4070, 4158, 4161, 4174, 4176, 4178, 4199, 4852                                                                                                                | \HyperRaiseLinkLength . . . 2204, 2205, 2208                                                                                                                                                                                               | \HyPsd@@@UTFviii@four . . 2071, 2074                                |
| \hyper@pageduration . 8195, 8243, 9570, 9587, 9830, 9860                                                                                                                                         | \hyperref . 4187, 4387, 4388, 5274, 7451, 7455, 7465, 7479                                                                                                                                                                                 | \HyPsd@@@AppendItalcorr . 1656                                      |
| \hyper@pagehidden . . 8219, 8244, 9580, 9588, 9847, 9861                                                                                                                                         | \hypersetup 2503, 2984, 3383, 3600, 3602, 5268                                                                                                                                                                                             | \HyPsd@@@autoref . . . 1484, 1485                                   |
| \hyper@pagetransition 8171, 8242, 9459, 9586, 9813, 9859                                                                                                                                         | \hypertarget . . . . . 4180, 5273                                                                                                                                                                                                          | \HyPsd@@@autorefname 1505, 1508                                     |
| \hyper@quote . 5173, 8352, 8366, 8381, 8386, 8404, 8414, 8428, 9131, 9141, 9154, 9177, 9195, 10606, 10620, 10635, 10641, 10662, 10672, 10686, 10879, 10892, 10907, 10912, 10932, 10943, 10956    | \HyPL@@@CheckThePage . 5528, 5546                                                                                                                                                                                                          | \HyPsd@@@CJKdigits . 1350, 1352, 1355                               |
|                                                                                                                                                                                                  | \HyPL@@@CheckThePage . . 5504, 5506                                                                                                                                                                                                        | \HyPsd@@@CJKhook@bookmarks . . . . . 1086                           |
|                                                                                                                                                                                                  | \HyPL@Alph . . . . . 5444                                                                                                                                                                                                                  | \HyPsd@@@CJKnumber 1251, 1253, 1256, 1309, 1324, 1337, 1339, 1343   |
|                                                                                                                                                                                                  | \HyPL@alph . . . . . 5445                                                                                                                                                                                                                  | \HyPsd@@@ConvertToUnicode . . . . . 1950                            |
|                                                                                                                                                                                                  | \HyPL@arabic . . . . . 5441                                                                                                                                                                                                                | \HyPsd@@@GetNextTwoTokens . . . . . 1948                            |
|                                                                                                                                                                                                  | \HyPL@CheckThePage 5456, 5503                                                                                                                                                                                                              | \HyPsd@@@GlyphProcessWarning . . . . . 1826, 1829                   |
|                                                                                                                                                                                                  | \HyPL@Entry . 5690, 5698, 5706, 5708                                                                                                                                                                                                       | \HyPsd@@@GreekNum . . 953, 962, 1061, 1065, 1069                    |
|                                                                                                                                                                                                  | \HyPL@EveryPage . . . 5446, 5567                                                                                                                                                                                                           | \HyPsd@@@hspace . . . . 1406, 1407                                  |
|                                                                                                                                                                                                  | \HyPL@Format 5519, 5520, 5521, 5522, 5523, 5535                                                                                                                                                                                            | \HyPsd@@@LetCommand . . 1529, 1550                                  |
|                                                                                                                                                                                                  | \HyPL@found . 5518, 5525, 5529, 5536, 5546, 5548                                                                                                                                                                                           | \HyPsd@@@nameref . . . 1466, 1467                                   |
|                                                                                                                                                                                                  | \HyPL@Labels . 5435, 5558, 5559, 5561, 5563, 5608, 5609, 5701, 5709, 5710                                                                                                                                                                  | \HyPsd@@@pageref . . . 1448, 1449                                   |
|                                                                                                                                                                                                  |                                                                                                                                                                                                                                            | \HyPsd@@@ProtectSpacesFi . 1578, 1582, 1600, 1606, 1611             |

\HyPsd@@ref . . . . . [1432](#), [1433](#)  
\HyPsd@@RemoveBraces . . [1624](#)  
\HyPsd@@RemoveBracesFi [1621](#),  
[1624](#)  
\HyPsd@@RemoveCmdPrefix . . . . .  
. . . . . [1783](#), [1786](#)  
\HyPsd@@ReplaceFi . [1853](#), [1859](#),  
[1864](#)  
\HyPsd@@UTFviii@four . . . [2055](#),  
[2060](#)  
\HyPsd@add@accent . . [404](#), [1395](#)  
\HyPsd@AfterCountRemove [1669](#),  
[1740](#)  
\HyPsd@AfterDimenRemove . . . . .  
. . . . . [1675](#), [1743](#)  
\HyPsd@AfterSkipRemove . [1681](#),  
[1755](#)  
\HyPsd@AMScasfi . . [493](#), [1416](#),  
[1418](#)  
\HyPsd@AppendItalcrr . . [1640](#),  
[1647](#), [1656](#)  
\HyPsd@autoref . . . . . [503](#), [1484](#)  
\HyPsd@autorefname . [1496](#), [1502](#)  
\HyPsd@babel@danish . . . . . [849](#)  
\HyPsd@babel@dutch . . . . . [855](#)  
\HyPsd@babel@finnish . . . . . [861](#)  
\HyPsd@babel@frenchb . . . . . [866](#)  
\HyPsd@babel@german . . . . . [871](#)  
\HyPsd@babel@macedonian . . [878](#)  
\HyPsd@babel@ngerman . . . [884](#)  
\HyPsd@babel@portuges . . . [890](#)  
\HyPsd@babel@russian . . . . [895](#)  
\HyPsd@babel@slovene . . . . [901](#)  
\HyPsd@babel@spanish . . . . [906](#)  
\HyPsd@babel@swedish . . . . [916](#)  
\HyPsd@babel@ukrainian . . . [922](#)  
\HyPsd@babel@usorbian . . . [928](#)  
\HyPsd@BabelPatch [479](#), [803](#), [839](#)  
\HyPsd@CatcodeWarning . [1685](#),  
[1702](#), [1705](#), [1708](#), [1711](#), [1767](#)  
\HyPsd@Char . . . . . [1952](#)  
\HyPsd@CharOctByte [1972](#), [1974](#),  
[1977](#), [1986](#), [1991](#)  
\HyPsd@CharSurrogate . . . [1966](#),  
[1983](#)  
\HyPsd@CharTwoByte [1964](#), [1971](#)  
\HyPsd@CheckCatcodes [556](#), [1662](#)  
\HyPsd@CJK@Unicode [1169](#), [1173](#)  
\HyPsd@CJKActiveChars . [1109](#),  
[1124](#)  
\HyPsd@CJKdigit . . . [1362](#), [1372](#)  
\HyPsd@CJKdigits . . [1171](#), [1348](#)  
\HyPsd@CJKhook [509](#), [1080](#), [1091](#)  
\HyPsd@CJKhook@bookmarks . . . . .  
. . . . . [1120](#)  
\HyPsd@CJKhook@unicode [1088](#),  
[1168](#)  
\HyPsd@CJKnumber . [1170](#), [1248](#)  
\HyPsd@CJKnumberFour . [1266](#),  
[1270](#), [1274](#), [1287](#), [1291](#), [1295](#),  
[1301](#)  
\HyPsd@CJKnumberLarge . [1279](#),  
[1286](#)  
\HyPsd@CJKnumberThree [1307](#),  
[1311](#), [1317](#)  
\HyPsd@CJKnumberTwo . . [1322](#),  
[1326](#), [1332](#)  
\HyPsd@ConvertToUnicode . [624](#),  
[1898](#)  
\HyPsd@DecimalToOctal . . [1101](#),  
[1132](#), [1176](#), [1185](#)  
\HyPsd@DecimalToOctalFirst . . . . .  
. . . . . [1175](#), [1211](#)  
\HyPsd@DefCommand . [539](#), [540](#),  
[541](#), [542](#), [1518](#)  
\HyPsd@DisableCommands . [783](#),  
[785](#)  
\HyPsd@DoConvert . . [1900](#), [1910](#)  
\HyPsd@DoEscape . . . . . [1924](#)  
\HyPsd@doxspace . . . . [596](#), [1871](#)  
\HyPsd@empty [581](#), [583](#), [587](#), [588](#),  
[590](#), [598](#), [605](#)  
\HyPsd@End [556](#), [560](#), [1579](#), [1582](#),  
[1585](#), [1588](#), [1591](#), [1604](#), [1614](#),  
[1621](#), [1624](#), [1662](#), [1670](#), [1676](#),  
[1682](#), [1727](#), [1734](#), [1740](#), [1743](#),  
[1755](#)  
\HyPsd@EndWithElse [1385](#), [1394](#)  
\HyPsd@fi . [1596](#), [1602](#), [1606](#), [1612](#)  
\HyPsd@GetNextTwoTokens [1948](#)  
\HyPsd@GetOneBye . . . . . [1943](#)  
\HyPsd@GetTwoBytes . . . . [1939](#)  
\HyPsd@GLYPHERR [561](#), [1382](#),  
[1396](#), [1403](#)  
\HyPsd@GlyphProcess [563](#), [1814](#),  
[1827](#)  
\HyPsd@GlyphProcessWarning . . . . .  
. . . . . [1821](#), [1825](#)  
\HyPsd@GobbleFiFi . [1387](#), [1393](#)  
\HyPsd@GreekNum [942](#), [945](#), [947](#)  
\HyPsd@Greeknumeral . [938](#), [944](#)  
\HyPsd@greeknumeral . . [937](#), [941](#)  
\HyPsd@GreekNumI . . [965](#), [991](#),  
[1034](#), [1060](#)  
\HyPsd@GreekNumII . [969](#), [1013](#),  
[1057](#), [1064](#)  
\HyPsd@GreekNumIII [972](#), [1036](#),  
[1068](#)  
\HyPsd@GreekNumIV . [981](#), [1059](#)  
\HyPsd@GreekNumV . . [984](#), [1063](#)  
\HyPsd@GreekNumVI . [986](#), [1067](#)  
\HyPsd@GreekPatch [477](#), [934](#), [936](#)  
\HyPsd@HighA . . . . . [1179](#), [1188](#)  
\HyPsd@HighB . . . . . [1189](#), [1194](#)  
\HyPsd@HighC . . . . . [1195](#), [1198](#)  
\HyPsd@HighD . . . . . [1191](#), [1203](#)  
\HyPsd@hspace . . . . . [494](#), [1406](#)  
\HyPsd@hspacetest . . [1409](#), [1411](#),  
[1414](#)  
\HyPsd@ifnextchar [525](#), [526](#), [527](#),  
[1555](#)  
\HyPsd@ignorespaces . . . [507](#), [794](#)  
\HyPsd@InitUnicode . . . . . [757](#)  
\HyPsd@inmathwarn . . [403](#), [1379](#)  
\HyPsd@ITALCORR . . [517](#), [521](#),  
[1403](#)  
\HyPsd@langshort@system . . [810](#),  
[813](#)  
\HyPsd@LanguageShorthands . . . . .  
. . . . . [805](#), [811](#), [823](#)  
\HyPsd@LetCommand . [543](#), [544](#),  
[1518](#)  
\HyPsd@LetUnexpandableSpace . . . . .  
. . . . . [512](#), [513](#), [514](#), [515](#), [1399](#),  
[1402](#)  
\HyPsd@LoadStringEnc . . . [2507](#),  
[2527](#), [2529](#), [2533](#), [2535](#), [5627](#)  
\HyPsd@LoadUnicode [2456](#), [2461](#),  
[2469](#), [2472](#), [2474](#), [2481](#), [5621](#)  
\HyPsd@nameref . . . . . [502](#), [1466](#)  
\HyPsd@pageref . . . . . [501](#), [1448](#)  
\HyPsd@pdfencoding . [625](#), [2455](#),  
[2458](#), [2490](#), [2502](#), [2505](#), [2506](#),  
[2511](#), [2526](#), [5623](#), [5625](#), [5642](#),  
[5645](#)  
\HyPsd@pdfencoding@auto . [625](#),  
[2496](#), [2506](#), [2523](#), [5625](#), [5644](#)  
\HyPsd@pdfencoding@pdfdoc . . . . .  
. . . . . [2489](#), [2511](#), [2524](#)  
\HyPsd@pdfencoding@unicode . . . . .  
. . . . . [2493](#), [2525](#), [5623](#), [5641](#)  
\HyPsd@PrerenderUnicode [3281](#),  
[3297](#), [3303](#), [3309](#), [3315](#), [3333](#),  
[3339](#), [3419](#)  
\HyPsd@protected@testopt . [528](#),  
[529](#), [1559](#)  
\HyPsd@ProtectSpaces [549](#), [1576](#),  
[1597](#), [1646](#)  
\HyPsd@ref . . . . . [500](#), [1432](#)  
\HyPsd@RemoveBraces [551](#), [1618](#),  
[1635](#), [1643](#), [1649](#)  
\HyPsd@RemoveCmdPrefix [1776](#),  
[1782](#)  
\HyPsd@RemoveMask [559](#), [1585](#),  
[1591](#), [1604](#), [1614](#)  
\HyPsd@RemoveSpaceWarning . . . . .  
. . . . . [1750](#), [1762](#), [1788](#)  
\HyPsd@ReplaceSpaceWarning . . . . .  
. . . . . [1745](#), [1757](#), [1801](#)



|                                                                                                                                                |                                                                                                     |                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \HyPsd@Rest . . . 1663, 1723, 1731, 1734, 1741, 1746, 1752, 1758, 1764                                                                         | \HyPsd@XeTeXBigCharsfalse 650, 664, 669                                                             | \if@hyper@item . . . . . 5771, 5784                                                                                                                                                                                                                                  |
| \HyPsd@SPACEOPTI . . . 553, 568, 569, 571, 573, 575, 576, 615, 617, 1698, 1882                                                                 | \HyPsd@XeTeXBigCharstrue . . . . . 663, 672, 3296, 3302, 3308, 3314, 3332, 3338, 3418, 12355, 12695 | \if@inlabel . . . . . 6174                                                                                                                                                                                                                                           |
| \HyPsd@spaceopti . . . . 617, 1845                                                                                                             | \HyPsd@XSPACE 519, 595, 1403                                                                        | \if@Localurl . . . . . 9118, 9164                                                                                                                                                                                                                                    |
| \HyPsd@SpanishPatch . 478, 1071                                                                                                                | \HyPsd@xspace . . . . 593, 595, 596                                                                 | \if@mid@expandable . . . . . 492                                                                                                                                                                                                                                     |
| \HyPsd@String . . . . . 550, 552, 555, 557, 562, 564, 1629, 1630, 1640, 1692, 1693, 1697, 1698, 1713, 1714, 1744, 1756, 1815, 1816             | \HyRef@@StarSetRef . 7422, 7427                                                                     | \if@minipage . . . . . 6451, 6522                                                                                                                                                                                                                                    |
| \HyPsd@StringSubst . . . 565, 567, 573, 579, 582, 585, 588, 607, 610, 612, 1868                                                                | \HyRef@autopageref . 7476, 7478                                                                     | \if@nmbrrlist . . . . . 5758                                                                                                                                                                                                                                         |
| \HyPsd@Subst . . . . 561, 570, 574, 580, 586, 590, 594, 599, 600, 601, 602, 603, 604, 608, 611, 1852, 1869                                     | \HyRef@autopagerefname . 7475, 7479, 7481                                                           | \if@nobreak . . . . . 6190                                                                                                                                                                                                                                           |
| \HyPsd@temp . . . . 628, 630, 631, 633, 634, 640, 642, 643, 2488, 2489, 2490, 2493, 2496, 2502, 2514, 2518, 5640, 5641, 5642, 5644, 5645, 5650 | \HyRef@autoref . . . . . 7493, 7495                                                                 | \if@skiphyperref . . . . . 5772, 5782                                                                                                                                                                                                                                |
| \HyPsd@ToBigChar 683, 684, 693                                                                                                                 | \HyRef@autosetref . . . 7498, 7501                                                                  | \if@twocolumn . . . . . 13071                                                                                                                                                                                                                                        |
| \HyPsd@ToBigChars . . . 637, 675                                                                                                               | \HyRef@CaseStar . . . . 7562, 7568                                                                  | \if@twoside . . . . . 13059                                                                                                                                                                                                                                          |
| \HyPsd@tocsection . . 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1427                                                                           | \HyRef@currentHtag . 7514, 7532, 7535, 7541, 7548, 7554, 7569                                       | \ifcase . . . . . 998, 1020, 1043, 1133, 1182, 1204, 1207, 1213, 1257, 1373, 2049, 2493, 3080, 4568, 4673, 4802, 4878, 6889, 7048, 7085, 7314, 7503, 9606, 12398, 12475, 12540, 12575, 12609, 12755                                                                  |
| \HyPsd@UnescapedString . . 630, 677, 678, 684                                                                                                  | \HyRef@MakeUppercaseFirstOfFive . . . . . 7442, 7444                                                | \ifcat 1664, 1691, 1696, 1701, 1704, 1707, 1710, 4358, 4360                                                                                                                                                                                                          |
| \HyPsd@UnexpandableSpace . . . . 1402, 1587, 1611, 1746, 1758                                                                                  | \HyRef@name . 7530, 7531, 7536, 7543, 7561, 7562, 7563, 7565                                        | \ifdim 1414, 1744, 1748, 1756, 1760, 2215, 2234, 3586, 3871, 8261, 8265, 8270, 8274, 8281, 8284, 8288, 8291, 9098, 9099, 9104, 9105, 9237, 9240, 9244, 9247, 10073, 10084, 10425, 10426, 10431, 10432, 11205, 11244, 11245, 11685, 11725, 11726, 12026, 12066, 12067 |
| \HyPsd@unichar 2013, 2080, 2086, 2091                                                                                                          | \HyRef@Ref . . . . . 7448, 7450                                                                     | \ifetex@unexpanded . . . . . 1570                                                                                                                                                                                                                                    |
| \HyPsd@unichar@first@byte 2099, 2119                                                                                                           | \HyRef@ShowKeysInit 7571, 7584, 7588                                                                | \iffalse . . . . . 670                                                                                                                                                                                                                                               |
| \HyPsd@unichar@octtwo . . 2121, 2129, 2135                                                                                                     | \HyRef@ShowKeysRef 7502, 7570                                                                       | \IfFileExists . . . . . 5321, 10966                                                                                                                                                                                                                                  |
| \HyPsd@unichar@second@byte . . . . . 2107, 2127                                                                                                | \HyRef@StarSetRef . . 7416, 7434, 7437, 7442                                                        | \ifFld@checked 4825, 11526, 12386                                                                                                                                                                                                                                    |
| \HyPsd@UnicodeReplacementCharacter . . . . . 2083, 2118                                                                                        | \HyRef@StripStar . . . 7529, 7560                                                                   | \ifFld@comb . . . . . 4672                                                                                                                                                                                                                                           |
| \HyPsd@UTFviii . 395, 2001, 2006                                                                                                               | \HyRef@testreftype . . 7507, 7526                                                                   | \ifFld@combo . 4700, 4705, 11219, 11248, 11699, 11729, 12040, 12070                                                                                                                                                                                                  |
| \HyPsd@UTFviii@@three . . 2036, 2045                                                                                                           | \HyRef@thisref . . . . 7504, 7507                                                                   | \ifFld@disabled . . . . 4826, 11527                                                                                                                                                                                                                                  |
| \HyPsd@UTFviii@@two 2021, 2027                                                                                                                 | \HyTmp@found . 4772, 4782, 4785                                                                     | \ifFld@edit . . . . . 4706                                                                                                                                                                                                                                           |
| \HyPsd@UTFviii@ccxliv@def 2011, 2017                                                                                                           | \HyTmp@key . . . . . 4766, 4767                                                                     | \ifFld@fileselect . . . . . 4675                                                                                                                                                                                                                                     |
| \HyPsd@UTFviii@ccxliv@undef . . . . . 2010, 2016                                                                                               | \HyTmp@optitem . . . 4722, 4738, 4765, 4770, 4776, 4797, 4808                                       | \ifFld@hidden 11182, 11233, 11301, 11322, 11346, 11365, 11425, 11437, 11447, 11530, 11662, 11714, 11794, 11816, 11845, 11866, 11995, 12055, 12153, 12179, 12209, 12235                                                                                               |
| \HyPsd@UTFviii@four 2009, 2054                                                                                                                 | \HyTmp@optlist 4721, 4736, 4737, 4768, 4769, 4774, 4775, 4783, 4784, 4804, 4806, 4813, 4816         | \ifFld@multiline . . . . 4673, 11170, 11432, 11649, 11982                                                                                                                                                                                                            |
| \HyPsd@UTFviii@three 2008, 2035                                                                                                                | \HyWarning . . . . . 5647                                                                           | \ifFld@multiselect . . . . . 4744                                                                                                                                                                                                                                    |
| \HyPsd@UTFviii@two 2007, 2020                                                                                                                  | \HyXeTeX@CheckUnicode . 3267, 3278, 3295, 3301, 3307, 3313, 3331, 3337, 3417, 5655                  | \ifFld@password . . . 4674, 11413                                                                                                                                                                                                                                    |
| \HyPsd@Warning 1563, 1768, 1789, 1802, 1831, 1837                                                                                              |                                                                                                     | \ifFld@popdown . . . 4492, 11220, 11700, 12041                                                                                                                                                                                                                       |
|                                                                                                                                                |                                                                                                     | \ifFld@radio . 11216, 11238, 11462, 11696, 11719, 12037, 12060                                                                                                                                                                                                       |
|                                                                                                                                                |                                                                                                     | \ifFld@readonly . . . 11434, 11444, 11528                                                                                                                                                                                                                            |
|                                                                                                                                                |                                                                                                     | \ifForm@html . . . . . 4846                                                                                                                                                                                                                                          |

|                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \ifhmode . 2233, 2242, 4152, 6142, 6257, 6269, 6409, 6411                                                                                                                             | 11616, 11784, 11838, 11954, 12142, 12202, 12388, 12461, 12599                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12575, 12580, 12609, 12614, 12643, 12659, 12751, 12821, 12876, 12987, 13005, 13021                                                                                                                                            |
| \ifHy@activeanchor . . . 247, 4371                                                                                                                                                    | \ifHy@pdfmarkerror 10024, 10032                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | \ifodd . . . . . 2063, 2068, 6819                                                                                                                                                                                             |
| \ifHy@backref . . 248, 3717, 4053, 5151, 6704, 6740                                                                                                                                   | \ifHy@pdfpagehidden . 276, 3151, 8223, 9582, 9853                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | \ifpdf . . . . . 2659, 3763, 3825                                                                                                                                                                                             |
| \ifHy@bookmarks . . . . 249, 3915                                                                                                                                                     | \ifHy@pdfstring . . 277, 768, 5776                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \ifpdfstringunicode . . . . 396, 399                                                                                                                                                                                          |
| \ifHy@bookmarksnumbered . 250, 7202, 7253, 12686                                                                                                                                      | \ifHy@plainpages 278, 3712, 5899, 6797                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | \ifportrait . . . . . 8260                                                                                                                                                                                                    |
| \ifHy@bookmarksopen . 251, 3905                                                                                                                                                       | \ifHy@psize . . . . . 279                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \ifthenelse . . . . . 6730                                                                                                                                                                                                    |
| \ifHy@breaklinks 252, 2424, 9769, 9801, 10067, 10078                                                                                                                                  | \ifHy@raiselinks . 280, 8399, 8473, 8502, 8532, 10657, 10925                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | \iftrue 673, 1577, 1599, 1863, 12989                                                                                                                                                                                          |
| \ifHy@centerwindow . 253, 8098, 8628, 9038, 9644, 9977, 10765                                                                                                                         | \ifHy@seminarslides . . . . . 281                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | \ifvmode . . . . . 2198, 2214, 2223                                                                                                                                                                                           |
| \ifHy@CJKbookmarks . 254, 1085                                                                                                                                                        | \ifHy@setpagesize 282, 8249, 9095, 9234, 10422                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \ifvoid . . . . . 6008, 6017, 6178                                                                                                                                                                                            |
| \ifHy@colorlinks . 255, 3986, 5156, 10587                                                                                                                                             | \ifHy@setpdfversion . . 2543, 7697                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \ifvtexhtml . . . . . 3802, 3831                                                                                                                                                                                              |
| \ifHy@displaydoctitle . 289, 8099, 8629, 9039, 9645, 9978, 10766                                                                                                                      | \ifHy@texht 283, 4014, 4046, 5204, 7362                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | \ifvtexpdf . . . . . 3842                                                                                                                                                                                                     |
| \ifHy@draft . . . . . 256, 3621                                                                                                                                                       | \ifHy@toolbar . . 284, 8094, 8624, 9034, 9640, 9973, 10761                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \ifvtexps . . . . . 3845                                                                                                                                                                                                      |
| \ifHy@DvipdfmxOutlineOpen . . . . . 3869, 12874                                                                                                                                       | \ifHy@typexml . . 246, 3722, 3989, 4033, 5291, 12834, 12903                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | \ifxetex 629, 660, 2661, 3268, 3787, 3828, 3870                                                                                                                                                                               |
| \ifHy@escapeform . . . 259, 12310, 12340                                                                                                                                              | \ifHy@unicode . . . . 285, 391, 566, 578, 606, 614, 623, 948, 1104, 1770, 1791, 1804, 1833, 1839, 2081, 2454, 2504, 3269, 5630, 12351                                                                                                                                                                                                                                                                                                                                                                                                                 | \ignorespaces . . . 507, 5981, 6137, 6341, 6447, 6458, 6461, 6518, 6526, 6588, 6603, 6619, 6628, 6738, 7187, 7239                                                                                                             |
| \ifHy@figures 260, 3697, 5136, 7012                                                                                                                                                   | \ifHy@usehidkey 3147, 8220, 9581, 9848                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | \IJ . . . . . 13249, 13931                                                                                                                                                                                                    |
| \ifHy@fitwindow 261, 8097, 8627, 9037, 9643, 9976, 10764                                                                                                                              | \ifHy@usetitle . . . . . 286, 5336                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \ij . . . . . 13458, 13933                                                                                                                                                                                                    |
| \ifHy@frenchlinks . . . . 262, 4002                                                                                                                                                   | \ifHy@verbose . . 287, 4135, 4143, 4448, 6864                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | \immediate . . . . . 5292, 5293, 5294, 5296, 5328, 5599, 5689, 5697, 5909, 5937, 6583, 6598, 6614, 6624, 6654, 6677, 6703, 6733, 7711, 7726, 7741, 9708, 10446, 11543, 11565, 11606, 12741, 12807, 12833, 12835, 12902, 12904 |
| \ifHy@hyperfootnotes . 263, 6198                                                                                                                                                      | \ifHy@windowui . 288, 8096, 8626, 9036, 9642, 9975, 10763                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \incr@eqnum . . . . . 6028, 6041                                                                                                                                                                                              |
| \ifHy@hyperindex 264, 3707, 5146, 7019                                                                                                                                                | \ifHyInfo@AddonUnsupported . . . . . 3395, 3409, 3444                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \index . . . . . 496                                                                                                                                                                                                          |
| \ifHy@hypertexnames 265, 5837, 5898, 6796, 7207, 7258                                                                                                                                 | \ifHyPsd@XeTeXBigChars . . 668, 670, 673, 676                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | \indexentry 7074, 7089, 7097, 7101, 7106                                                                                                                                                                                      |
| \ifHy@implicit . . 266, 3729, 12928                                                                                                                                                   | \ifmeasuring@ . . . . . 5795, 5808                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \input . . . . . 751, 759, 2463, 3002, 3010, 3017, 3865, 10364, 10447, 10538, 10700                                                                                                                                           |
| \ifHy@linktocpage 267, 2381, 2391                                                                                                                                                     | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \InputIfFileExists . . 3604, 12826, 12849, 12894, 12896                                                                                                                                                                       |
| \ifHy@menubar . 268, 8095, 8625, 9035, 9641, 9974, 10762                                                                                                                              | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \input . . . . . 751, 759, 2463, 3002, 3010, 3017, 3865, 10364, 10447, 10538, 10700                                                                                                                                           |
| \ifHy@naturalnames . . 269, 5850, 7208, 7259                                                                                                                                          | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \InputIfFileExists . . 3604, 12826, 12849, 12894, 12896                                                                                                                                                                       |
| \ifHy@nesting . . 270, 3702, 4181, 4214, 4249, 4356, 5141, 6223, 6238, 6303, 6462                                                                                                     | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \inputlineno . . . . . 4363                                                                                                                                                                                                   |
| \ifHy@newwindow 272, 3536, 9344                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \insert . . . . . 6319                                                                                                                                                                                                        |
| \ifHy@newwindowset . . 271, 3534                                                                                                                                                      | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \IntCalcAdd . . . . . 1989                                                                                                                                                                                                    |
| \ifHy@next . . . . . 847, 3694, 7036                                                                                                                                                  | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \IntCalcDec . . . . . 1196                                                                                                                                                                                                    |
| \ifHy@ocgcolorlinks . . 273, 3030, 3972, 3982, 5161, 7692, 7710, 7785, 7793, 8742, 8825, 8833                                                                                         | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \IntCalcDiv 1190, 1199, 1204, 1271, 1280, 1292, 1309, 1324, 1339, 1973, 1979, 1985                                                                                                                                            |
| \ifHy@pageanchor 274, 5885, 5897, 5912, 6795                                                                                                                                          | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \intcalcDiv . 1180, 1980, 1987, 1990                                                                                                                                                                                          |
| \ifHy@pagelabels 275, 5420, 5606, 5684                                                                                                                                                | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \IntCalcMod . . 1192, 1201, 1207, 1275, 1281, 1296, 1312, 1327, 1341, 1343, 1975, 1980, 1981, 1987, 1990, 1992                                                                                                                |
| \ifHy@pdfa 290, 3645, 3974, 4299, 4505, 5017, 5053, 5166, 7852, 7923, 7954, 7990, 8317, 8887, 8915, 8942, 8966, 9305, 9326, 9347, 9366, 9398, 9429, 9445, 10177, 11141, 11291, 11339, | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \intcalcMod . . . . . 1182                                                                                                                                                                                                    |
|                                                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \intcalcSub . . . . . 1967                                                                                                                                                                                                    |
|                                                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \interfootnotelinepenalty . . 6322                                                                                                                                                                                            |
|                                                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \interlinepenalty . . . . . 6322                                                                                                                                                                                              |
|                                                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 9457, 9593, 9601, 9603, 9604, 9614, 9617, 9703, 9705, 9810, 10449, 11600, 11760, 12094, 12099, 12110, 12350, 12369, 12398, 12403, 12475, 12481, 12509, 12540, 12546, 12565, | \item 5753, 5756, 6610, 6622, 6725                                                                                                                                                                                            |
|                                                                                                                                                                                       | \ifnum . . . . . 700, 703, 706, 709, 712, 824, 949, 952, 963, 964, 968, 976, 980, 983, 993, 1015, 1038, 1174, 1249, 1265, 1269, 1289, 1302, 1305, 1318, 1320, 1333, 1335, 1341, 1960, 1963, 2039, 2082, 2085, 2097, 2619, 2622, 2647, 3081, 3082, 3879, 3906, 4727, 4798, 4809, 5455, 5474, 5490, 5586, 7316, 7354, 7693, 7698, 8014, 8021, 8027, 8035, 8854, 8859, 9344, 945                                                                                                                                                                         |                                                                                                                                                                                                                               |

|                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\itemautorefname</code> . . . 2747, 2765, 2783, 2801, 2819, 2837, 2855, 2884, 2885, 2913, 2931, 7594, 7595, 7598                                                                | <code>\Large</code> . . . . . 458                                                                                                                                                                                                                                                                                                                                              | <code>\LT@start</code> . . . . . 6010, 6021                                                                                                     |
| <code>\itemindent</code> . . . . . 6179                                                                                                                                               | <code>\large</code> . 461, 7319, 7327, 7337, 7345                                                                                                                                                                                                                                                                                                                              | <code>\ltx@ifpackageloaded</code> . . . . . 1081                                                                                                |
| <code>\itshape</code> . . . . . 450                                                                                                                                                   | <code>\lastbox</code> . . . . . 6177                                                                                                                                                                                                                                                                                                                                           | <code>\luatexrevision</code> . . . . . 8058                                                                                                     |
| <b>J</b>                                                                                                                                                                              | <code>\lastpage@putlabel</code> . . . . . 5880                                                                                                                                                                                                                                                                                                                                 | <code>\luatexversion</code> . . . . . 8050, 8055                                                                                                |
| <code>\j</code> . . . . . 13938, 14123, 14187                                                                                                                                         | <code>\lastskip</code> . 2215, 2219, 2226, 2234, 2238, 2245                                                                                                                                                                                                                                                                                                                    | <b>M</b>                                                                                                                                        |
| <code>\jarr</code> . . . . . 15544                                                                                                                                                    | <code>\LaTeX</code> . . . 420, 421, 10972, 10973                                                                                                                                                                                                                                                                                                                               | <code>\m@ne</code> . . . 4412, 5925, 6109, 8863, 12896, 12987, 13002                                                                            |
| <code>\jeem</code> . . . . . 15516                                                                                                                                                    | <code>\LaTeXe</code> . . . . . 421, 10973                                                                                                                                                                                                                                                                                                                                      | <code>\make@df@tag@@</code> . . . . 6948, 6950                                                                                                  |
| <code>\jeh</code> . . . . . 15552                                                                                                                                                     | <code>\LayoutCheckField</code> . 5092, 11366, 11867, 12240                                                                                                                                                                                                                                                                                                                     | <code>\make@df@tag@@@</code> . . . 6949, 6951                                                                                                   |
| <code>\jobname</code> 5293, 5321, 5328, 10966, 12740, 12826, 12833, 12849, 12894, 12896, 12902                                                                                        | <code>\LayoutChoiceField</code> . 5089, 11237, 11718, 12059                                                                                                                                                                                                                                                                                                                    | <code>\make@stripped@name</code> 5800, 6050, 6072, 6096, 6107                                                                                   |
| <b>K</b>                                                                                                                                                                              | <code>\LayoutPushButtonField</code> . . 5095, 11295, 11302, 11788, 11795, 12146, 12155                                                                                                                                                                                                                                                                                         | <code>\makeatletter</code> . . . . . 3, 782, 5320                                                                                               |
| <code>\k</code> . . . 13133, 13475, 13477, 13482, 13484, 13527, 13545, 13564, 13571, 13835, 13837, 13875, 13877, 13922, 13924, 13925, 14060, 14062, 14119, 14121, 14718, 14757, 14760 | <code>\LayoutTextField</code> . . . 5086, 11184, 11664, 12001                                                                                                                                                                                                                                                                                                                  | <code>\MakeButtonField</code> . . 5102, 11297, 11305, 11324, 11343, 11348, 11790, 11799, 11824, 11842, 11848, 12148, 12151, 12180, 12206, 12210 |
| <code>\kaf</code> . . . . . 15534                                                                                                                                                     | <code>\lccode</code> 699, 1114, 2004, 4977, 7033, 7034                                                                                                                                                                                                                                                                                                                         | <code>\MakeCheckField</code> . . . 5099, 11368, 11870, 12237                                                                                    |
| <code>\kasra</code> . . . . . 15547                                                                                                                                                   | <code>\ldots</code> . . . . . 415                                                                                                                                                                                                                                                                                                                                              | <code>\MakeChoiceField</code> . . 5101, 11280, 11772, 12121                                                                                     |
| <code>\keepPDF@SetupDoc</code> 10591, 10598                                                                                                                                           | <code>\leavevmode</code> . . . . . 504, 2193, 3631, 3648, 3688, 4304, 5262, 6256, 6408, 6644, 7454, 7462, 7838, 7908, 7939, 7975, 8398, 8472, 8500, 8530, 8907, 8935, 9129, 9138, 9192, 9341, 9362, 9385, 9416, 9771, 10066, 10291, 10309, 10334, 10656, 10924, 11296, 11303, 11338, 11748, 11769, 11789, 11796, 11817, 11837, 12092, 12123, 12147, 12156, 12181, 12201, 12941 | <code>\MakeFieldObject</code> . 11542, 11625, 11635, 11638                                                                                      |
| <code>\kern</code> 1673, 1745, 1750, 1762, 6179, 6814, 6815, 6816, 6818, 6819, 6824, 12943                                                                                            | <code>\LetLtxMacro</code> . 5207, 5211, 5279, 5283                                                                                                                                                                                                                                                                                                                             | <code>\MakeLowercase</code> . . . . . 472                                                                                                       |
| <code>\kernel@ifnextchar</code> . . . . . 526                                                                                                                                         | <code>\limits</code> . . . . . 4118                                                                                                                                                                                                                                                                                                                                            | <code>\MakeLowercaseUnsupportedInPdfStrings</code> . . . . . 472                                                                                |
| <code>\kha</code> . . . . . 15518                                                                                                                                                     | <code>\listofslides</code> . . . . . 7288                                                                                                                                                                                                                                                                                                                                      | <code>\MakeRadioField</code> . . . 5098, 11268, 11759, 12086                                                                                    |
| <code>\KV@Hyp@draft</code> . . . . . 2355                                                                                                                                             | <code>\listslidenam</code> . 7287, 7290, 7292, 7294                                                                                                                                                                                                                                                                                                                            | <code>\makeslideheading</code> . . . . . 7197                                                                                                   |
| <code>\KV@Hyp@nolinks</code> . . . . . 2355                                                                                                                                           | <code>\literalps@out</code> . . . . . 2191, 9697, 9702, 9751, 9757, 9774, 9780, 10042, 10053, 10074, 10076, 10085, 10087, 10362, 10445, 10508, 10698                                                                                                                                                                                                                           | <code>\makeslidesubheading</code> . . . . 7249                                                                                                  |
| <code>\kv@key</code> . . 3403, 3406, 3413, 4725, 4728, 4730, 4734, 4738                                                                                                               | <code>\lower</code> . . . 8402, 8475, 8504, 8534, 10076, 10660, 10928                                                                                                                                                                                                                                                                                                          | <code>\maketag@@@</code> . . . . . 6937                                                                                                         |
| <code>\kv@parse</code> . . . . . 4724                                                                                                                                                 | <code>\lowercase</code> . 719, 1115, 2005, 2257, 2691, 2721, 3343, 3379, 4397, 4398, 4401, 4406, 4430, 4440, 4494, 4550, 4869, 4909, 4912, 4978, 7035, 9809                                                                                                                                                                                                                    | <code>\MakeTextField</code> . . . . 5100, 11186, 11667, 11998                                                                                   |
| <code>\kv@parse@normalized</code> 3428, 3435                                                                                                                                          | <code>\lslide@flag</code> 7314, 7317, 7335, 7354, 7358                                                                                                                                                                                                                                                                                                                         | <code>\maketitle</code> . . . . . 6358, 6359                                                                                                    |
| <code>\kv@processor@default</code> 3431, 3438                                                                                                                                         | <code>\LT@array</code> . . . . . 5994                                                                                                                                                                                                                                                                                                                                          | <code>\MakeUppercase</code> 471, 7292, 7294, 7445                                                                                               |
| <code>\kv@set@family@handler</code> . . 3396                                                                                                                                          | <code>\LT@firsthead</code> . . . . . 6008, 6017                                                                                                                                                                                                                                                                                                                                | <code>\MakeUppercaseUnsupportedInPdfStrings</code> . . . . . 471                                                                                |
| <code>\kv@value</code> . 3401, 4726, 4733, 4734                                                                                                                                       | <code>\LT@p@ftn</code> . 6275, 6278, 6282, 6296                                                                                                                                                                                                                                                                                                                                | <code>\MathBSuppress</code> . . . . 9139, 9143                                                                                                  |
| <code>\kvsetkeys</code> . . . . . 3376                                                                                                                                                | <code>\LT@p@ftntext</code> . . . . . 6273, 6280                                                                                                                                                                                                                                                                                                                                | <code>\mathdisplay</code> . . . . . 6031, 6040                                                                                                  |
| <b>L</b>                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mathdisplay@push</code> . . 6029, 6038                                                                                                   |
| <code>\L</code> . . . . . 13242, 13962                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mathversion</code> . . . . . 466                                                                                                         |
| <code>\l</code> . . . . . 13255, 13964                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                | <code>\maxdimen</code> . . . . . 3102, 11547                                                                                                    |
| <code>\l@slide</code> . . 7187, 7297, 7302, 7306, 7313                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                | <code>\MaybeStopEarly</code> 331, 2570, 2624, 3733, 3833, 5717                                                                                  |
| <code>\l@subslide</code> . 7239, 7302, 7309, 7353                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mbox</code> 505, 6657, 6680, 7795, 8835                                                                                                  |
| <code>\label</code> . . . . . 495, 6837                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mddefault</code> . . . . . 6149                                                                                                          |
| <code>\label@hyperref</code> . . . . 4221, 4223                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mdseries</code> . . . . . 449                                                                                                            |
| <code>\label@hyperdef</code> . . . . 4207, 4235                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                | <code>\meaning</code> . . . . . 62, 153, 159, 2154, 5360, 5863, 6114, 12860, 12868, 12883                                                       |
| <code>\label@hyperref</code> . 4188, 4220, 4384                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                | <code>\measuring@false</code> . . . . . 5795                                                                                                    |
| <code>\labelsep</code> . . . . . 6737                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mediaheight</code> . . 9230, 9232, 9238, 9245                                                                                            |
| <code>\labelwidth</code> . . . . . 6736                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                | <code>\mediawidth</code> . . . . . 9241, 9248                                                                                                   |
| <code>\lam</code> . . . . . 15535                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                | <code>\meem</code> . . . . . 15536                                                                                                              |
| <code>\language@group</code> . . . . . 475                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |
| <code>\languageshortands</code> 804, 805, 840                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |
| <code>\LARGE</code> . . . . . 457                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |



|                               |                                |                                   |                               |                               |                                |
|-------------------------------|--------------------------------|-----------------------------------|-------------------------------|-------------------------------|--------------------------------|
| \message . . . . .            | 7315                           | \newlabelxx . . . . .             | 5305, 5306                    | \normalfont . . . . .         | 444, 6145                      |
| \MessageBreak . . . . .       | 364,                           | \newlength . . . . .              | 12934                         | \normalsize . . . . .         | 462, 6454, 6525                |
|                               | 1776, 1797, 1810, 1833, 1838,  | \newline . . . . .                | 418, 5381                     | \NR@getttitle . . . . .       | 6444                           |
|                               | 1840, 2279, 2280, 2294, 2316,  | \newname . . . . .                | 5801, 6051, 6073, 6097,       | \null . . . . .               | 6722, 6730, 7411, 7516         |
|                               | 2319, 2321, 2399, 2400, 2426,  |                                   | 6110, 6119                    | \number . . . . .             | 966,                           |
|                               | 2427, 2476, 2477, 2478, 2516,  | \newsavebox . . . . .             | 8671, 10061                   |                               | 970, 973, 981, 984, 986, 1251, |
|                               | 2517, 2537, 2547, 2713, 3032,  | \newtie . . . . .                 | 13135, 13136, 13519, 13549,   |                               | 1253, 1280, 1281, 1964, 2022,  |
|                               | 3272, 3356, 3411, 3412, 3591,  |                                   | 13568, 13584                  |                               | 2023, 2024, 2025, 2029, 2030,  |
|                               | 3767, 3768, 3776, 3777, 3791,  | \newtoks . . . . .                | 90, 4891, 9896, 10094,        |                               | 2031, 2032, 2033, 2037, 2038,  |
|                               | 3792, 3806, 3807, 3815, 3816,  |                                   | 10095                         |                               | 2039, 2040, 2041, 2042, 2043,  |
|                               | 3976, 4451, 4456, 4465, 4508,  | \newwrite . . . . .               | 5327, 12831, 12900            |                               | 2047, 2048, 2049, 2050, 2051,  |
|                               | 4554, 4678, 4791, 4873, 5425,  | \next . . . . .                   | 6731, 6732, 6733, 9525, 9527, |                               | 2052, 2055, 2057, 2061, 2062,  |
|                               | 5633, 5649, 5888, 6841, 6871,  |                                   | 9529                          |                               | 2064, 2066, 2068, 2071, 2075,  |
|                               | 6872, 6873, 6874, 6875, 7007,  | \nfss@text . . . . .              | 7369, 7389, 7406, 7520        |                               | 2076, 2077, 2078, 2087, 2088,  |
|                               | 7842, 8872, 9317, 9389, 9878,  | \NG . . . . .                     | 13980                         |                               | 2092, 2093, 2100, 2101, 2105,  |
|                               | 11555, 11557, 12664, 12682,    | \ng . . . . .                     | 13982                         |                               | 2108, 2109, 2110, 2120, 2122,  |
|                               | 12743                          | \noboundary . . . . .             | 15557                         |                               | 2123, 2128, 2130, 2131, 2136,  |
| \MF . . . . .                 | 424, 10975                     | \nobreak . . . . .                | 2216, 2224, 2235, 2243,       |                               | 2137, 3481, 3871, 3907, 4418,  |
| \MP . . . . .                 | 425, 10976                     |                                   | 6257, 6409                    |                               | 7704, 7707, 8462, 8477, 8478,  |
| \multiply . . . . .           | 8054, 9562, 9597               | \nobreakspace . . . . .           | 515, 7457, 7486,              |                               | 8489, 8490, 8506, 8507, 8518,  |
|                               |                                |                                   | 7489                          |                               | 8519, 8536, 8537, 8548, 8549   |
| N                             |                                |                                   |                               |                               |                                |
| \n . . . . .                  | 710                            | \noexpand . . . . .               | 22, 93, 95, 108, 116,         | \numberline . . . . .         | 6447, 6518, 12687,             |
| \name@of@eq . . . . .         | 5769, 5798                     |                                   | 169, 171, 172, 173, 176, 206, |                               | 12691                          |
| \name@of@slide . . . . .      | 5770, 5780                     |                                   | 688, 792, 1128, 1524, 1541,   | \numberwithin . . . . .       | 6972                           |
| \nameref . . . . .            | 502                            |                                   | 1664, 2018, 2222, 2223, 2224, | \numexpr . . . . .            | 2029, 2030, 2031, 2033,        |
| \nasb . . . . .               | 15542                          |                                   | 2227, 2241, 2242, 2243, 2246, |                               | 2039, 2047, 2048, 2049, 2050,  |
| \netscape . . . . .           | 8434                           |                                   | 2963, 2965, 2967, 2968, 2984, |                               | 2051, 2052, 2056, 2058, 2062,  |
| \new@ifnextchar . . . . .     | 527                            |                                   | 3158, 3159, 3161, 3461, 4112, |                               | 2064, 2066, 2068, 2072, 2075,  |
| \new@pdfink . . . . .         | 7823, 7873, 7876               |                                   | 4195, 4275, 4358, 4360, 4460, |                               | 2076, 2078, 2087, 2092, 2109,  |
| \new@refstepcounter . . . . . | 6023, 6055                     |                                   | 5528, 5529, 5538, 5540, 5543, |                               | 2123, 2131, 2137, 3485         |
| \newblock . . . . .           | 6741                           |                                   | 5662, 5922, 5923, 5925, 5951, | \nun . . . . .                | 15537                          |
| \newcommand . . . . .         | 4, 9, 42, 2192, 5266,          |                                   | 5952, 5953, 5954, 5955, 5963, | O                             |                                |
|                               | 5732, 5735, 5738, 5739, 5740,  |                                   | 5964, 5965, 6113, 6276, 6284, | \O . . . . .                  | 13375, 13743, 14138            |
|                               | 5742, 5743, 5744, 5745, 5747,  |                                   | 6285, 6286, 6287, 6288, 6290, | \o . . . . .                  | 13443, 13811, 14140            |
|                               | 5748, 5749, 5750, 5751, 5752,  |                                   | 6418, 6507, 6582, 6597, 6613, | \obeylines . . . . .          | 10504                          |
|                               | 5761, 5762, 5763, 5764, 5765,  |                                   | 6967, 6969, 7422, 7423, 7536, | \OBJ@acroform . . . . .       | 11622, 11623                   |
|                               | 5766, 6105, 6975, 7174, 7179,  |                                   | 7537, 7542, 7544, 7549, 7550, | \OBJ@Helv . . . . .           | 11603, 11612, 11929            |
|                               | 7180, 12713, 12716, 12721      |                                   | 7555, 7556, 8057, 8612, 9961, | \OBJ@OCG@print . . . . .      | 7740, 7743,                    |
| \newcount . . . . .           | 332, 333, 4829, 5436,          |                                   | 10028, 10505, 10749, 11212,   |                               | 7751, 7777, 8759, 8761, 8774,  |
|                               | 11276, 11766, 11968, 12117,    |                                   | 11213, 11214, 11215, 11692,   |                               | 8778, 8787, 8816               |
|                               | 12748                          |                                   | 11693, 11694, 11695, 12033,   | \OBJ@OCG@view . . . . .       | 7725, 7743,                    |
| \newcounter . . . . .         | 5754, 6199, 8741,              |                                   | 12034, 12035, 12036, 12312    |                               | 7776, 8743, 8745, 8758, 8778,  |
|                               | 12712                          | \nofrenchguillemets . . . . .     | 534, 536                      |                               | 8815                           |
| \newdimen . . . . .           | 329, 4830, 4831                | \NoHy@OrgPageRef . . . . .        | 5211, 5213,                   | \OBJ@OCGs . . . . .           | 7746, 7749, 7755,              |
| \newif . . . . .              | 246, 247, 248, 249,            |                                   | 5283, 5285                    |                               | 7760, 7765, 8775, 8777, 8781,  |
|                               | 250, 251, 252, 253, 254, 255,  | \NoHy@OrgRef . . . . .            | 5207, 5209, 5279,             |                               | 8785, 8791, 8796, 8801         |
|                               | 256, 259, 260, 261, 262, 263,  |                                   | 5281                          | \OBJ@pdfdocencoding . . . . . | 11601,                         |
|                               | 264, 265, 266, 267, 268, 269,  | \NoHyper . . . . .                | 5215                          |                               | 11910, 11926                   |
|                               | 270, 271, 272, 273, 274, 275,  | \nohyperpage . . . . .            | 5261, 7118, 7120,             | \OBJ@ZaDb . . . . .           | 11602, 11611, 11919            |
|                               | 276, 277, 278, 279, 280, 281,  |                                   | 7122                          | \OCIRCUMFLEX . . . . .        | 15380, 15478,                  |
|                               | 282, 283, 284, 285, 286, 287,  | \nolinkurl . . . . .              | 4174                          |                               | 15479, 15480, 15481, 15482     |
|                               | 288, 289, 290, 668, 847, 2543, | \nolinkurl@ . . . . .             | 4174, 4175                    | \ocircumflex . . . . .        | 15373, 15418, 15419,           |
|                               | 3147, 3395, 3869, 4404, 4492,  | \NomFancyVerbLineautorefname      |                               |                               | 15420, 15421, 15422            |
|                               | 4825, 4826, 4846, 5771, 5772,  |                                   | 2902                          | \oddsidemargin . . . . .      | 6820                           |
|                               | 5795, 6059, 9118, 10024        | \Nomfootnoteautorefname . . . . . | 2882                          | \OE . . . . .                 | 13244, 13996                   |
| \newlabel . . . . .           | 2157, 4245, 5303, 5304,        | \Nomtheoremautorefname . . . . .  | 2906                          | \oe . . . . .                 | 13257, 13998                   |
|                               | 5311, 5333, 5910, 5938         | \nonumber . . . . .               | 6084, 6087                    | \offinterlineskip . . . . .   | 5407                           |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| \OHORN . . . 15381, 15483, 15484, 15485, 15486, 15487                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | \PackageInfo . . . 242, 7688, 7702, 11553                                                                                                                                                                                                                                                                                       | \pdf@rect . . . 10038, 10052, 10065                                                                               |
| \ohorn . . . 2929, 2936, 15374, 15423, 15424, 15425, 15426, 15427                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | \PackageWarning . 240, 2546, 4789                                                                                                                                                                                                                                                                                               | \PDF@SetupDoc . . . . 3577, 3632, 5178, 5179, 5259, 8064, 8339, 8592, 9032, 9120, 9622, 9948, 10593, 10736, 10867 |
| \oldb . . . . . 742                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \PackageWarningNoLine . . . 241                                                                                                                                                                                                                                                                                                 | \PDF@SetupDox . . . . . 8064                                                                                      |
| \oldc . . . . . 743                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \pageautorefname . . . 2760, 2778, 2796, 2814, 2832, 2850, 2868, 2908, 2926, 2944, 7489, 7611                                                                                                                                                                                                                                   | \pdf@strcmp . . . . . 824                                                                                         |
| \oldcontentsline . 5298, 5301, 5310                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \pagename . . . . . 7486                                                                                                                                                                                                                                                                                                        | \pdf@toks . . . 10028, 10043, 10054, 10094, 10098, 10102                                                          |
| \oldd . . . . . 744                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \pageref . . . 501, 3743, 4041, 5211, 5212, 5283, 5284, 5888, 7475, 7479                                                                                                                                                                                                                                                        | \pdf@type . . . 10030, 10034, 10043, 10054, 10089, 10109                                                          |
| \oldnewlabel . . . 5303, 5308, 5311                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \paperheight . . . . . 3584, 8265, 8267, 8270, 8272, 8284, 8285, 9099, 9100, 9237, 9238, 9240, 10426, 10427                                                                                                                                                                                                                     | \pdfannotlink . . . . . 7814                                                                                      |
| \OMEGA . . . . . 10971                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \paperwidth . . . . 8261, 8263, 8274, 8276, 8281, 8282, 9098, 9100, 9241, 10425, 10427                                                                                                                                                                                                                                          | \pdfbookmark . . 2192, 5265, 5266, 12714, 12719, 12724, 12728                                                     |
| \on@line . . . . . 6868, 6869                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | \par . . 6143, 6446, 6474, 6516, 6526, 6724, 6744                                                                                                                                                                                                                                                                               | \pdfcatalog . 5571, 7747, 8079, 8121, 11623                                                                       |
| \openout . 5293, 5328, 12833, 12902                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \paragraphautorefname . . . 2756, 2774, 2792, 2810, 2828, 2846, 2864, 2897, 2899, 2922, 2940, 7607                                                                                                                                                                                                                              | \PDFdefaults . . . . . 10105                                                                                      |
| \OpMode . 2619, 2622, 2633, 2647, 2650, 9614, 9705, 10449                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | \partautorefname 2750, 2768, 2786, 2804, 2822, 2840, 2858, 2888, 2916, 2934, 7601                                                                                                                                                                                                                                               | \pdfdest . . . . . 7832                                                                                           |
| \or . . . . . 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1183, 1205, 1208, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1258, 1259, 1260, 1261, 1262, 1374, 1375, 1376, 4578, 4584, 4589, 4803, 6891, 6895, 7334, 7343, 9607, 12756, 12757, 12758, 12759, 12760, 12761, 12762, 12763, 12764, 12765, 12766, 12767, 12768, 12769, 12770, 12771, 12772, 12773, 12774, 12775, 12776, 12777, 12778, 12779, 12780, 12781, 12782, 12783, 12784, 12785, 12786, 12787 | \partnumberline . . . 12688, 12692                                                                                                                                                                                                                                                                                              | \pdfendlink . . 7870, 11667, 11759, 11773, 11800, 11825, 11849, 11871                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \PassOptionsToPackage . . . 2663, 2702, 2706, 2728, 3615, 3858                                                                                                                                                                                                                                                                  | \pdfescapestring . . . . . 12341                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@addtoks 10097, 10116, 10122, 10131, 10138, 10142, 10144, 10146, 10148, 10150, 10158, 10167, 10171, 10173, 10175, 10178, 10187, 10191, 10193, 10195, 10197, 10199, 10201, 10203, 10205, 10207, 10209, 10211, 10213, 10215, 10217, 10219, 10221, 10222, 10223, 10224, 10225, 10226, 10227, 10228, 10229, 10230, 10231, 10236 | \pdfform . . . . . 7816                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@addtoksx 10091, 10101, 10114                                                                                                                                                                                                                                                                                               | \PDFForm@Check . 11367, 11369, 11868, 11869, 12241, 12245, 12360                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@box . . . 10061, 10068, 10070, 10072, 10073, 10076, 10083                                                                                                                                                                                                                                                                  | \PDFForm@List . . . 11279, 11281, 11770, 11771, 12124, 12129, 12467                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@defaulttoks . . . 10028, 10095, 10096, 10106                                                                                                                                                                                                                                                                               | \PDFForm@Name . 11660, 11713, 11783, 11864, 11993, 12054, 12141, 12233, 12348                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@docset . . . . . 9896                                                                                                                                                                                                                                                                                                      | \PDFForm@Push . . 11304, 11306, 11797, 11798, 12157, 12161, 12388                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@endanchor . 7830, 7873, 7880                                                                                                                                                                                                                                                                                               | \PDFForm@Radio . 11267, 11271, 11749, 11751, 12093, 12105, 12500                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@escapestring . . . . . 7667                                                                                                                                                                                                                                                                                                | \PDFForm@Reset . 11347, 11349, 11846, 11847, 12211, 12216, 12599                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \PDF@FinishDoc 2573, 2574, 2627, 2628, 3578, 3633, 3736, 3737, 3836, 3837, 5260, 5417, 5418, 8133, 8338, 8561, 8992, 9119, 9673, 9897, 10705, 10866                                                                                                                                                                             | \PDFForm@Submit 11323, 11326, 11818, 11820, 12182, 12187, 12567                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | \pdf@linktype 10046, 10050, 10111, 10112                                                                                                                                                                                                                                                                                        | \PDFForm@Text . . 11185, 11187, 11665, 11666, 12002, 12005, 12532                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdfhorigin . . . . . 8257                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdfinfo . . . . . 8136                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdflastform . . . . . 7817                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdflastlink . . . . . 11583                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdflastobj 7725, 7740, 7746, 11622, 11910, 11919, 11929                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdflastxform . 7817, 11545, 11547                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdflinkmargin . . 7812, 7815, 7820                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 | \pdfliteral . . . . . 7796, 7798, 7803                                                                            |

## P

|                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------|
| \P . . . . . 414                                                                                                  |
| \p@ . 2088, 2093, 4832, 4838, 6151, 8408, 8485, 8514, 8544, 9561, 10666, 10938, 11207, 11687, 12028, 13064, 13065 |
| \p@equation . . . . . 6944                                                                                        |
| \PackageError 61, 2475, 3672, 4300, 4553, 4677, 4872, 5019, 5055, 11292, 11340, 11785, 11839, 12143, 12203        |

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \pdfm@box . . . . .                    | 8671, 11964, 11965, 11966, 11997, 12008, 12085, 12109, 12120, 12131, 12151, 12164, 12180, 12189, 12210, 12218, 12236, 12247                                                                                                                                                                                                                                                                                                                                                                                                              |
| \pdfmark . . . . .                     | 5680, 8612, 8621, 8651, 9738, 9758, 9788, 9820, 9837, 9849, 9883, 9920, 9932, 9961, 9970, 10001, 10025, 10244, 10258, 10273, 10285, 10292, 10310, 10335, 10749, 10758, 10789, 11186, 11268, 11280, 11305, 11324, 11348, 11368, 12864                                                                                                                                                                                                                                                                                                     |
| \pdfmark@ . . . . .                    | 10025, 10026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \pdfminorversion . . . . .             | 7685                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \PDFNextPage . . . . .                 | 10256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \PDFNextPage@ . . . . .                | 10256, 10257                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \pdfobj . . . . .                      | 7711, 7726, 7741, 11606, 11877, 11911, 11920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \PDFOpen . . . . .                     | 10284                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \pdfoptionpdfminorversion . . . . .    | 7682                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \pdfoutline . . . . .                  | 12912                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \pdfpageattr . . . . .                 | 8175, 8179, 8180, 8190, 8199, 8203, 8204, 8214, 8222, 8225, 8226, 8236                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \pdfpageheight . . . . .               | 8267, 8276, 8285, 8292                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \pdfpageresources . . . . .            | 7774                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \pdfpagesattr . . . . .                | 8068, 8070, 8072                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| \pdfpagewidth . . . . .                | 8263, 8272, 8282, 8289                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \PDFPreviousPage . . . . .             | 10269                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \PDFPreviousPage@ . . . . .            | 10270, 10272                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \pdfrefform . . . . .                  | 7818                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \pdfrefobj . . . . .                   | 11601, 11602, 11603                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \pdfrefxform . . . . .                 | 7818, 11547                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| \pdfstartlink . . . . .                | 7813, 7814, 7866, 7909, 7940, 7976, 8303, 11666, 11750, 11771, 11798, 11819, 11847, 11869                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \pdfstringdef . . . . .                | 384, 655, 3298, 3304, 3310, 3316, 3321, 3327, 3334, 3340, 3420, 4750, 4755, 4781, 5384, 5464, 5466, 5903, 6803, 12356, 12696                                                                                                                                                                                                                                                                                                                                                                                                             |
| \pdfstringdefDisableCommands . . . . . | 741, 780, 5263, 5379                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \pdfstringdefPostHook . . . . .        | 651, 774                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \pdfstringdefPreHook . . . . .         | 511, 774, 786, 788, 5378, 5388                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| \pdfstringdefWarn . . . . .            | 417, 418, 506, 791, 1532, 1537, 1556, 1560                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \pdfTeXrevision . . . . .              | 8024, 8032, 8043                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| \pdfTeXversion . . . . .               | 8019, 8021, 8024, 8027, 8030, 8031, 8035, 8041, 8042, 11600                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| \pdfvorigin . . . . .                  | 8258                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \pdfxform . . . . .                    | 7816, 11543                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| \peh . . . . .                         | 15550                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \penalty . . . . .                     | 1667, 2201, 4153, 6651, 6674                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \phantom . . . . .                     | 467                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \phantomsection . . . . .              | 3579, 5267, 6843, 12632, 12684, 13006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \Preamble . . . . .                    | 10967                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \PrerenderUnicode . . . . .            | 3289                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \process@me . . . . .                  | 5358, 5370, 5371, 8067, 8076                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \ProcessKeyvalOptions . . . . .        | 3619                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \protect . . . . .                     | 1665, 4225, 6447, 6518, 6582, 6597, 6613, 6729, 6736, 6737, 6881, 6912, 7187, 7239, 7368, 7388, 7394, 7405, 7519, 8349, 8439, 9190, 9265, 10604, 10877, 12702, 12936, 13064, 13065                                                                                                                                                                                                                                                                                                                                                       |
| \protected@edef . . . . .              | 4260, 5524, 6111, 6131, 7839, 8869, 9314, 9386, 9875                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \protected@write . . . . .             | 2156, 4244, 6709, 7073, 7088, 7096, 7100, 7105, 12701                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \protected@xdef . . . . .              | 6285, 6287, 6384                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| \providecommand . . . . .              | 2173, 2174, 2678, 3057, 3058, 3061, 3062, 3824, 4020, 4021, 4126, 4179, 5554, 5573, 5698, 6547, 6548, 6563, 6641, 7170, 7171, 7287, 7592, 7593, 7594, 7595, 7596, 7597, 7598, 7599, 7600, 7601, 7602, 7603, 7604, 7605, 7606, 7607, 7608, 7609, 7610, 7611, 7674, 7822, 7834, 7835, 8337, 8433, 8434, 8669, 8728, 8729, 8730, 9116, 9235, 9257, 9258, 9259, 9698, 10062, 10063, 10360, 10368, 10369, 10370, 10371, 10443, 10455, 10456, 10457, 10458, 10502, 10543, 10544, 10545, 10546, 10694, 10696, 10697, 10810, 10811, 10858, 11566 |
| \PushButton . . . . .                  | 5074                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \put@me@back . . . . .                 | 4353, 4366, 4376                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Q</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| \qaf . . . . .                         | 15533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \quotedblbase . . . . .                | 13224, 13461, 15050, 15354                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \quotesinglbase . . . . .              | 13234, 13463, 15044, 15356                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>R</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| \r . . . . .                           | 713, 13102, 13114, 13126, 13336, 13401, 13510, 13537, 13556, 13578, 13705, 13769, 14052, 14054, 15014, 15016                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \ra . . . . .                          | 15521                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \raff . . . . .                        | 15543                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \raise . . . . .                       | 2208, 8409, 8486, 8515, 8545, 10087, 10667, 10939                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| \ReadBookmarks . . . . .               | 3618, 3636, 3750, 3924, 4049, 12812, 12842                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \real@setref . . . . .                 | 7365, 7431                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \realfootnote . . . . .                | 6381                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \Ref . . . . .                         | 7447, 7451, 7456                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| \ref . . . . .                         | 500, 3742, 4040, 4392, 5207, 5208, 5279, 5280, 6346, 6353, 7466, 10959                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \ref@one . . . . .                     | 4201, 4202                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \rEfLiNK . . . . .                     | 10960, 10961                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| \refstepcounter . . . . .              | 5768, 5775, 5976, 5996, 6023, 6047, 6055, 6510                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| \rem@ptetc . . . . .                   | 9810, 9812                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \renewcommand . . . . .                | 2148, 6489, 6989, 12728                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \RequirePackage . . . . .              | 22, 232, 233, 234, 235, 236, 237, 238, 239, 807, 1078, 1079, 1569, 2142, 2528, 3608, 3724, 3725, 3992, 4036, 4054, 4171, 4395, 5249, 5398, 5614, 7614, 9117, 10863, 12738                                                                                                                                                                                                                                                                                                                                                                |
| \RerunFileCheck . . . . .              | 12740                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \Reset . . . . .                       | 5083                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \reset@font . . . . .                  | 6657, 6680, 7369, 7389, 7406, 7520                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| \revtex@checking . . . . .             | 6634                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \Rightarrow . . . . .                  | 7321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \rlap . . . . .                        | 7797, 8837                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \rm . . . . .                          | 455                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \rmfamily . . . . .                    | 445                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \Roman . . . . .                       | 5520                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \roman . . . . .                       | 5521                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \romannumeral . . . . .                | 798, 799                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \rule . . . . .                        | 6330                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>S</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| \sad . . . . .                         | 15525                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \sbox . . . . .                        | 3285, 5103, 10062, 10070, 11542                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| \scr@LT@array . . . . .                | 5995                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \scriptsize . . . . .                  | 463                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \scriptstyle . . . . .                 | 6647                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \scrollmode . . . . .                  | 1584, 1609, 1619, 1632, 1724, 1856                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| \scshape . . . . .                     | 451                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| \section . . . . .                     | 7289                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \sectionautorefname . . . . .          | 2753, 2771, 2789, 2807, 2825, 2843, 2861, 2890, 2919, 2937, 7604                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                             |                                                                                                                                                                                 |                                                                                                                       |                                                                                          |                                                                                 |                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\seen</code> . . . . .                                                | 15523                                                                                                                                                                           | <code>\stockheight</code> . . . . .                                                                                   | 3584, 8291,<br>8292, 9105, 9106, 9244, 9245,<br>10432, 10433                             | <code>\texorpdfstring</code> . . . . .                                          | 767, 5264                                                                                                                                                                                                      |
| <code>\selectfont</code> . . . . .                                          | 431, 4003, 11631                                                                                                                                                                | <code>\stockwidth</code> 8288, 8289, 9104, 9106,<br>9247, 9248, 10431, 10433                                          |                                                                                          | <code>\textacutec</code> . . . . .                                              | 13098, 13110, 13122,<br>13302, 13533, 13552, 13670                                                                                                                                                             |
| <code>\setbox</code> . . . . .                                              | 1668,<br>1674, 1680, 3085, 3091, 4925,<br>5406, 6177, 7787, 8329, 8400,<br>8471, 8501, 8531, 8810, 8827,<br>10658, 10926, 11997, 12085,<br>12120, 12151, 12180, 12210,<br>12236 | <code>\stop@hyper</code> . . . . .                                                                                    | 5230                                                                                     | <code>\textacutedbl</code> . . . . .                                            | 14202                                                                                                                                                                                                          |
| <code>\setkeys</code> . . . . .                                             | 2567, 2658, 3275, 3600,<br>3646, 3857, 3973, 4823, 7694,<br>10031, 11158, 11398, 11411,<br>11460, 11503, 11524, 11598,<br>11939                                                 | <code>\StringEncodingConvertTest</code> 631,<br>640                                                                   |                                                                                          | <code>\textaleph</code> . . . . .                                               | 15168                                                                                                                                                                                                          |
| <code>\setlength</code> . . . . .                                           | 368, 369, 2205,<br>8257, 8258, 8263, 8267, 8272,<br>8276, 8282, 8285, 8289, 8292,<br>9238, 9241, 9245, 9248, 9561,<br>12954, 13029                                              | <code>\strip@period</code> . . . . .                                                                                  | 2161                                                                                     | <code>\textAlpha</code> . . . . .                                               | 1000, 14222, 14238                                                                                                                                                                                             |
| <code>\setpdfinkmargin</code> 3468, 3469, 7812                              |                                                                                                                                                                                 | <code>\strip@prefix</code> 62, 2154, 5360, 5863,<br>6114, 12860, 12868, 12883                                         |                                                                                          | <code>\textalpha</code> . . . . .                                               | 1000, 14291, 14301                                                                                                                                                                                             |
| <code>\settowidth</code> . . . . .                                          | 11204, 11684, 12025                                                                                                                                                             | <code>\strip@pt</code> . . . . .                                                                                      | 373, 380, 3596,<br>8263, 8267, 8272, 8276, 9564,<br>12383, 12495, 12523, 12560,<br>12608 | <code>\textampersand</code> 411, 13169, 13600                                   |                                                                                                                                                                                                                |
| <code>\SetupKeyvalOptions</code> . . . . .                                  | 3609                                                                                                                                                                            | <code>\strip@pt@and@otherjunk</code> . 9757,<br>9780, 9812                                                            |                                                                                          | <code>\textangstrom</code> . . . . .                                            | 15164                                                                                                                                                                                                          |
| <code>\sffamily</code> . . . . .                                            | 446                                                                                                                                                                             | <code>\strutbox</code> . . . . .                                                                                      | 6324                                                                                     | <code>\textasciicircum</code> . . . . .                                         | 13099, 13111,<br>13123, 13183, 13534, 13553,<br>13616                                                                                                                                                          |
| <code>\shadda</code> . . . . .                                              | 15548                                                                                                                                                                           | <code>\sub@label</code> . . . . .                                                                                     | 2148                                                                                     | <code>\textasciidieresis</code> . . . . .                                       | 13101, 13113,<br>13125, 13279, 13536, 13555,<br>13647                                                                                                                                                          |
| <code>\sheen</code> . . . . .                                               | 15524                                                                                                                                                                           | <code>\subeqnarray</code> . . . . .                                                                                   | 6090, 6092                                                                               | <code>\textasciigrave</code> 13097, 13109, 13121,<br>13188, 13532, 13551, 13620 |                                                                                                                                                                                                                |
| <code>\shortciteN</code> . . . . .                                          | 6772                                                                                                                                                                            | <code>\subequations</code> . . . . .                                                                                  | 6128, 6129                                                                               | <code>\textasciimacron</code> . . . . .                                         | 13106, 13118,<br>13130, 13292, 13543, 13562,<br>13660                                                                                                                                                          |
| <code>\SK@</code> . . . . .                                                 | 7578                                                                                                                                                                            | <code>\subfig@oldlabel</code> . . . . .                                                                               | 2150                                                                                     | <code>\textasciitilde</code> . . . . .                                          | 412, 4089, 13198,<br>13631                                                                                                                                                                                     |
| <code>\SK@@ref</code> . . . . .                                             | 7578                                                                                                                                                                            | <code>\Submit</code> . . . . .                                                                                        | 5080                                                                                     | <code>\textasteriskcentered</code> . . . . .                                    | 13608                                                                                                                                                                                                          |
| <code>\SK@ref</code> . . . . .                                              | 7575                                                                                                                                                                            | <code>\SubmitObject</code> . . . . .                                                                                  | 11821                                                                                    | <code>\textbackslash</code> . . . . .                                           | 407, 565, 13181,<br>13614                                                                                                                                                                                      |
| <code>\skip@</code> 1682, 1756, 1757, 1760, 1762,<br>2219, 2225, 2238, 2244 |                                                                                                                                                                                 | <code>\SubmitPObj</code> . . . . .                                                                                    | 11821                                                                                    | <code>\textbaht</code> . . . . .                                                | 14876                                                                                                                                                                                                          |
| <code>\slide@cline</code> 7307, 7320, 7328, 7338,<br>7346                   |                                                                                                                                                                                 | <code>\subparagraphautorefname</code> 2757,<br>2775, 2793, 2811, 2829, 2847,<br>2865, 2898, 2900, 2923, 2941,<br>7608 |                                                                                          | <code>\textbar</code> . . . . .                                                 | 13194, 13627                                                                                                                                                                                                   |
| <code>\Slide@contents</code> . . . . .                                      | 7312                                                                                                                                                                            | <code>\subpdfbookmark</code> . . . . .                                                                                | 12716                                                                                    | <code>\textbardbl</code> . . . . .                                              | 15038                                                                                                                                                                                                          |
| <code>\slide@contents</code> . . . . .                                      | 7305                                                                                                                                                                            | <code>\subsection</code> . . . . .                                                                                    | 10690                                                                                    | <code>\textBeta</code> . . . . .                                                | 1001, 14240                                                                                                                                                                                                    |
| <code>\slide@heading</code> . . . . .                                       | 7183                                                                                                                                                                            | <code>\subsectionautorefname</code> . . . . .                                                                         | 2754,<br>2772, 2790, 2808, 2826, 2844,<br>2862, 2895, 2920, 2938, 7605                   | <code>\textbeta</code> . . . . .                                                | 1001, 13474, 14303                                                                                                                                                                                             |
| <code>\slide@subheading</code> . . . . .                                    | 7236                                                                                                                                                                            | <code>\subsubsectionautorefname</code> 2755,<br>2773, 2791, 2809, 2827, 2845,<br>2863, 2896, 2921, 2939, 7606         |                                                                                          | <code>\textbf</code> . . . . .                                                  | 438                                                                                                                                                                                                            |
| <code>\slide@undottedcline</code> . . . . .                                 | 7298                                                                                                                                                                            | <code>\sukun</code> . . . . .                                                                                         | 15549                                                                                    | <code>\textbigcircle</code> 13550, 13569, 15338                                 |                                                                                                                                                                                                                |
| <code>\slidenumberline</code> 7299, 7307, 7321,<br>7329, 7339, 7347         |                                                                                                                                                                                 | <code>\surd</code> . . . . .                                                                                          | 7329                                                                                     | <code>\textblank</code> . . . . .                                               | 15186                                                                                                                                                                                                          |
| <code>\SliTeX</code> . . . . .                                              | 423                                                                                                                                                                             | <b>T</b>                                                                                                              |                                                                                          | <code>\textbraceleft</code> . . . . .                                           | 405, 13192, 13625                                                                                                                                                                                              |
| <code>\slshape</code> . . . . .                                             | 452                                                                                                                                                                             |                                                                                                                       |                                                                                          | <code>\textbraceright</code> 406, 13196, 13629                                  |                                                                                                                                                                                                                |
| <code>\small</code> . . . . .                                               | 464                                                                                                                                                                             | <code>\T</code> . . . . .                                                                                             | 15513                                                                                    | <code>\textbrokenbar</code> . . . . .                                           | 13275, 13643                                                                                                                                                                                                   |
| <code>\smash</code> . . . . .                                               | 2202                                                                                                                                                                            | <code>\t</code> . . . . .                                                                                             | 13134, 13529, 13548, 13567,<br>13583                                                     | <code>\textbullet</code> . . . . .                                              | 13200, 15056                                                                                                                                                                                                   |
| <code>\spacefactor</code> 6257, 6269, 6409, 6411                            |                                                                                                                                                                                 | <code>\T@pageref</code> . . . . .                                                                                     | 4027, 4042, 7464                                                                         | <code>\textcdot</code> . . . . .                                                | 13473, 15366                                                                                                                                                                                                   |
| <code>\special@paper</code> . . . . .                                       | 3580                                                                                                                                                                            | <code>\T@ref</code> . . . . .                                                                                         | 4022, 4040                                                                               | <code>\textcedilla</code> . . . . .                                             | 13105, 13117, 13129,<br>13310, 13540, 13559, 13679                                                                                                                                                             |
| <code>\SpecialDvipdfmxOutlineOpen</code> . . . . .                          | 2594, 2596, 3879                                                                                                                                                                | <code>\T@temp</code> . . . . .                                                                                        | 6635, 6638                                                                               | <code>\textcelsius</code> . . . . .                                             | 13460, 15148                                                                                                                                                                                                   |
| <code>\splitmaxdepth</code> . . . . .                                       | 6324                                                                                                                                                                            | <code>\Ta</code> . . . . .                                                                                            | 15527                                                                                    | <code>\textcent</code> . . . . .                                                | 13267, 13635                                                                                                                                                                                                   |
| <code>\splittopskip</code> . . . . .                                        | 6323                                                                                                                                                                            | <code>\taa</code> . . . . .                                                                                           | 15514                                                                                    | <code>\textChi</code> . . . . .                                                 | 1050, 14280                                                                                                                                                                                                    |
| <code>\SS</code> . . . . .                                                  | 13459, 15353                                                                                                                                                                    | <code>\tableautorefname</code> . . . . .                                                                              | 2749, 2767,<br>2785, 2803, 2821, 2839, 2857,<br>2887, 2915, 2933, 7600                   | <code>\textchi</code> . . . . .                                                 | 1050, 14345                                                                                                                                                                                                    |
| <code>\ss</code> . . . . .                                                  | 2800, 13389, 13474, 13757                                                                                                                                                       | <code>\tagform@</code> . . . . .                                                                                      | 6943                                                                                     | <code>\textcircled</code> . . . . .                                             | 13531, 13550, 13569,<br>15190, 15192, 15194, 15196,<br>15198, 15200, 15202, 15204,<br>15206, 15208, 15210, 15212,<br>15214, 15216, 15218, 15220,<br>15222, 15224, 15226, 15228,<br>15230, 15232, 15234, 15236, |
| <code>\st@rredfalse</code> . . . . .                                        | 6030, 6039                                                                                                                                                                      | <code>\tatweel</code> . . . . .                                                                                       | 15531                                                                                    |                                                                                 |                                                                                                                                                                                                                |
| <code>\stepcounter</code> . . . . .                                         | 5785, 5923, 6130,<br>6258, 6383, 8853, 12698                                                                                                                                    | <code>\tcheh</code> . . . . .                                                                                         | 15551                                                                                    |                                                                                 |                                                                                                                                                                                                                |
|                                                                             |                                                                                                                                                                                 | <code>\temp@online</code> . . . . .                                                                                   | 6868, 6871                                                                               |                                                                                 |                                                                                                                                                                                                                |
|                                                                             |                                                                                                                                                                                 | <code>\TeX</code> . . . . .                                                                                           | 419, 420, 422, 423, 10970,<br>10972, 10974                                               |                                                                                 |                                                                                                                                                                                                                |

|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15238, 15240, 15242, 15244,<br>15246, 15248, 15250, 15252,<br>15254, 15256, 15258, 15260,<br>15262, 15264, 15266, 15268,<br>15270, 15272, 15274, 15276,<br>15278, 15280, 15282, 15284,<br>15286, 15288, 15290, 15292,<br>15294, 15296, 15298, 15300,<br>15302, 15304, 15306, 15308,<br>15310, 15312, 15314, 15316,<br>15318, 15320, 15322, 15324,<br>15326, 15328, 15330, 15332,<br>15334 | \textfi . . . . . 601, 13238, 15350<br>\TextField . . . . . 5065<br>\textfiveinferior . . . . . 15116<br>\textfivesuperior . . . . . 15084<br>\textfl . . . . . 602, 13240, 15352<br>\textflorin . . . . . 13212, 14088<br>\textflq . . . . . 490, 13467, 15360<br>\textflqq . . . . . 488, 13465, 15358<br>\textfourinferior . . . . . 15114<br>\textfoursuperior . . . . . 15082<br>\textfractionsolidus 13214, 15072<br>\textfrq . . . . . 491, 13468, 15361<br>\textfrqq . . . . . 489, 13466, 15359<br>\textGamma . . . . . 1002, 14242<br>\textgamma . . . . . 1002, 14305<br>\textglq . . . . . 486, 13463, 15356<br>\textglqq . . . . . 484, 13461, 15354<br>\textgravedbl . . . . . 14204<br>\textgreater . . . . . 13179, 13612<br>\textgrq . . . . . 487, 13464, 15357<br>\textgrqq . . . . . 485, 13462, 15355<br>\textGslash . . . . . 14107<br>\textgslash . . . . . 14109<br>\textguarani . . . . . 15146<br>\textHslash . . . . . 13903<br>\texthslash . . . . . 13905<br>\textHT . . . . . 13139, 13586<br>\texthungarumlaut 13153, 13544,<br>13563, 14201, 14202<br>\textinterrobang . . . . . 15070<br>\textIota 1022, 14228, 14254, 14287<br>\textiota 1022, 14297, 14317, 14351<br>\textIotadieresis . . . 14236, 14286<br>\textit . . . . . 440<br>\textKappa . . . . . 1023, 14256<br>\textkappa . . . . . 1023, 14319<br>\textKoppagreek . . . 1030, 14370<br>\textkoppagreek . . . 1030, 14372<br>\textkra . . . . . 13944<br>\textLambda . . . . . 1024, 14258<br>\textlambda . . . . . 1024, 14321<br>\textlangle . . . . . 15182<br>\textlatin . . . . . 473, 5851<br>\textlbrackdbl . . . . . 15346<br>\textleftarrow . . . . . 15170<br>\textless . . . . . 13177, 13610<br>\textLF . . . . . 13141, 13588<br>\textlira . . . . . 15132<br>\textlnot . . . . . 13288, 13656<br>\textlogicalnot . . . 13287, 13469,<br>13655, 15362<br>\textlongs . . . . . 14086, 15018<br>\textlquill . . . . . 15074<br>\textmacronbelow . 13107, 13119,<br>13131, 13186, 13546, 13565,<br>14214<br>\textmarried . . . . . 15342 | \textmd . . . . . 439<br>\textmho . . . . . 15162<br>\textminus . . . . . 13220, 15178<br>\textminussuperior . . . . 15096<br>\textMu . . . . . 1025, 14260<br>\textmu . . . . . 1025, 13304, 13673<br>\textmugreek . . . . . 14323<br>\textmultiply 13373, 13470, 13741,<br>15363<br>\textmusicalnote . . . . . 15340<br>\textnaira . . . . . 15134<br>\textnapostrophe . . . . . 13978<br>\textneg . . . . . 13469, 15362<br>\textnewtie . 13549, 13568, 14210<br>\textnineinferior . . . . . 15124<br>\textninesuperior . . . . . 15092<br>\textnormal . . . . . 434<br>\textnsuperior . . . . . 15104<br>\textNu . . . . . 1026, 14262<br>\textnu . . . . . 1026, 14325<br>\textnumbersign 408, 13163, 13594<br>\textnumeralsigngreek 977, 14218<br>\textnumeralsignlowergreek . 994,<br>1016, 1039, 14220<br>\textnumero . . . . . 15150<br>\textogonek . 13155, 13545, 13564,<br>14197<br>\textohm . . . . . 15160<br>\textOmega . . 1052, 14234, 14284<br>\textomega . . 1052, 14349, 14360<br>\textOmicron . 1028, 14230, 14266<br>\textomicron . 1028, 14329, 14355<br>\textonehalf . . . . . 13320, 13689<br>\textoneinferior . . . . . 15108<br>\textonequarter . . . 13318, 13687<br>\textonesuperior . . 13312, 13681<br>\textopenbullet . . . . . 15336<br>\textordfeminine . . 13283, 13651<br>\textordmasculine . 13314, 13683<br>\textparagraph 414, 13306, 13675<br>\textparenleft . . 607, 608, 13171,<br>13604<br>\textparenleftinferior . . . 15126<br>\textparenleftsuperior . . 15100<br>\textparenright . . 13173, 13606<br>\textparenrightinferior . . 15128<br>\textparenrightsuperior . . 15102<br>\textpercent . . 410, 13167, 13598<br>\textperiodcentered 13308, 13473,<br>13677, 15366<br>\textpertenthousand . . . 15062<br>\textperthousand . . 13222, 15060<br>\textpeseta . . . . . 15136<br>\textpeso . . . . . 15144<br>\textPhi . . . . . 1049, 14278<br>\textphi . . . . . 1049, 14343<br>\textPi . . . . . 1029, 14268 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|                                                           |                                                    |                                                        |                                                             |                                                                                                           |                                                                                                                                                                                          |
|-----------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\textpi</code> . . . . .                            | 1029, 14331                                        | <code>\texttilde</code> . . . . .                      | 3695, 13100, 13112,<br>13124, 13159, 13535, 13554,<br>14199 | <code>\theHsection</code> . . . . .                                                                       | 5732, 5738, 5745,<br>5747, 5751, 5752, 5826                                                                                                                                              |
| <code>\textplusminus</code> . . . . .                     | 13296, 13472,<br>13664, 15365                      | <code>\texttildelow</code> . . . . .                   | 14206                                                       | <code>\theHslide</code> . . . . .                                                                         | 7174                                                                                                                                                                                     |
| <code>\textplussuperior</code> . . . . .                  | 15094                                              | <code>\textttimes</code> . . . . .                     | 13470, 15363                                                | <code>\theHslidesection</code> 7179, 7181, 7217,<br>7221                                                  |                                                                                                                                                                                          |
| <code>\textpm</code> . . . . .                            | 13472, 15365                                       | <code>\textttrademark</code> . . . . .                 | 13236, 15158                                                | <code>\theHslidesubsection</code> . 7180, 7268,<br>7272                                                   |                                                                                                                                                                                          |
| <code>\textPsi</code> . . . . .                           | 1051, 14282                                        | <code>\textTslash</code> . . . . .                     | 14036                                                       | <code>\theHsubequation</code> . . . . .                                                                   | 6105                                                                                                                                                                                     |
| <code>\textpsi</code> . . . . .                           | 1051, 14347                                        | <code>\textttslash</code> . . . . .                    | 14038                                                       | <code>\theHsubparagraph</code> . . . . .                                                                  | 5750                                                                                                                                                                                     |
| <code>\textquestiondown</code> . . . . .                  | 604, 912,<br>13324, 13693                          | <code>\textttt</code> . . . . .                        | 437                                                         | <code>\theHsubsection</code> . . . . .                                                                    | 5747, 5748                                                                                                                                                                               |
| <code>\textquotedbl</code> . . . . .                      | 13161, 13592                                       | <code>\texttwoinferior</code> . . . . .                | 15110                                                       | <code>\theHsubsubsection</code> . . . . .                                                                 | 5748, 5749                                                                                                                                                                               |
| <code>\textquotedblleft</code> . . . . .                  | 13226, 13462,<br>15046, 15355                      | <code>\texttwosuperior</code> . . . . .                | 13298, 13666                                                | <code>\theHtable</code> . . . . .                                                                         | 5740, 5744                                                                                                                                                                               |
| <code>\textquotedblright</code> . . . . .                 | 13228, 15048                                       | <code>\textunderscore</code> . . . . .                 | 413, 4083, 4084,<br>4086, 13185, 13618                      | <code>\theHtheorem</code> . . . . .                                                                       | 5751                                                                                                                                                                                     |
| <code>\textquoteleft</code> 13230, 13464, 15040,<br>15357 |                                                    | <code>\textup</code> . . . . .                         | 443                                                         | <code>\theHthm</code> . . . . .                                                                           | 5752                                                                                                                                                                                     |
| <code>\textquoteright</code> . . . . .                    | 13232, 15042                                       | <code>\textuparrow</code> . . . . .                    | 15172                                                       | <code>\thelisting</code> . . . . .                                                                        | 3061                                                                                                                                                                                     |
| <code>\textquotesingle</code> . . . . .                   | 13602                                              | <code>\textUpsilon</code> . . . . .                    | 1048, 14232, 14276,<br>14289                                | <code>\thelstlisting</code> . . . . .                                                                     | 3057                                                                                                                                                                                     |
| <code>\texttriangle</code> . . . . .                      | 15184                                              | <code>\textupsilon</code> . . . . .                    | 1048, 14341, 14353,<br>14358                                | <code>\thempfn</code> . . . . .                                                                           | 6205, 6286, 6288, 6384,<br>6396                                                                                                                                                          |
| <code>\texttracdbl</code> . . . . .                       | 15348                                              | <code>\textupsilonacute</code> . . . . .               | 14299, 14357                                                | <code>\theoremautorefname</code> . 2759, 2777,<br>2795, 2813, 2831, 2849, 2867,<br>2905, 2925, 2943, 7610 |                                                                                                                                                                                          |
| <code>\textrecipe</code> . . . . .                        | 15154                                              | <code>\textvarsigma</code> . . . . .                   | 14335                                                       | <code>\thepage</code> . . . . .                                                                           | 2159, 4227, 5426, 5449,<br>5903, 5911, 5938, 6660, 6683,<br>6712, 6803, 6881, 6912, 7074,<br>7091, 7097, 7101, 7108, 7371,<br>7391, 7408, 7522                                           |
| <code>\textreferencemark</code> . . . . .                 | 15068                                              | <code>\textvisiblespace</code> . . . . .               | 15188                                                       | <code>\theslideheading</code> . . . . .                                                                   | 7200                                                                                                                                                                                     |
| <code>\textregistered</code> . . . . .                    | 13290, 13658                                       | <code>\textwon</code> . . . . .                        | 15138                                                       | <code>\theslidesection</code> 7188, 7195, 7203,<br>7209, 7211, 7213, 7219, 7229                           |                                                                                                                                                                                          |
| <code>\textRho</code> . . . . .                           | 1045, 14270                                        | <code>\textXi</code> . . . . .                         | 1027, 14264                                                 | <code>\theslidesubheading</code> . . . . .                                                                | 7201, 7252                                                                                                                                                                               |
| <code>\textrho</code> . . . . .                           | 1045, 14333                                        | <code>\textxi</code> . . . . .                         | 1027, 14327                                                 | <code>\theslidesubsection</code> . . . . .                                                                | 7240, 7247,<br>7254, 7260, 7262, 7264, 7270,<br>7280                                                                                                                                     |
| <code>\textrightarrow</code> . . . . .                    | 15174                                              | <code>\textyen</code> . . . . .                        | 13273, 13641                                                | <code>\This@name</code> 5779, 5780, 5797, 5798                                                            |                                                                                                                                                                                          |
| <code>\textring</code> . . . . .                          | 13102, 13114, 13126,<br>13157, 13537, 13556, 14195 | <code>\textzeroinferior</code> . . . . .               | 15106                                                       | <code>\thispdfpagelabel</code> . . . . .                                                                  | 5431                                                                                                                                                                                     |
| <code>\textrm</code> . . . . .                            | 435                                                | <code>\textzerosuperior</code> . . . . .               | 15080                                                       | <code>\ThisShouldNotHappen</code> . . . . .                                                               | 12319                                                                                                                                                                                    |
| <code>\textrquill</code> . . . . .                        | 15076                                              | <code>\textZeta</code> . . . . .                       | 1006, 14248                                                 | <code>\thm@headpunct</code> . . . . .                                                                     | 6150                                                                                                                                                                                     |
| <code>\textSampi</code> . . . . .                         | 1053, 14374                                        | <code>\textzeta</code> . . . . .                       | 1006, 14311                                                 | <code>\thm@headsep</code> . . . . .                                                                       | 6151                                                                                                                                                                                     |
| <code>\textsampi</code> . . . . .                         | 1053, 14376                                        | <code>\TH</code> . . . . .                             | 13387, 13755                                                | <code>\thm@notefont</code> . . . . .                                                                      | 6149                                                                                                                                                                                     |
| <code>\textsc</code> . . . . .                            | 441                                                | <code>\th</code> . . . . .                             | 13455, 13823                                                | <code>\thm@postskip</code> . . . . .                                                                      | 6155                                                                                                                                                                                     |
| <code>\textsection</code> . . . . .                       | 13277, 13645                                       | <code>\thaa</code> . . . . .                           | 15515                                                       | <code>\thm@preskip</code> . . . . .                                                                       | 6154                                                                                                                                                                                     |
| <code>\textservicemark</code> . . . . .                   | 15156                                              | <code>\thebookmark@seq@number</code> 12705             |                                                             | <code>\thm@space@setup</code> . . . . .                                                                   | 6152                                                                                                                                                                                     |
| <code>\textseveninferior</code> . . . . .                 | 15120                                              | <code>\theequation</code> . . . . .                    | 5800, 6050, 6072,<br>6096, 6132                             | <code>\thm@swap</code> . . . . .                                                                          | 6148                                                                                                                                                                                     |
| <code>\textsevensuperior</code> . . . . .                 | 15088                                              | <code>\thefootnote</code> . . . . .                    | 6216, 6403                                                  | <code>\thmheadnl</code> . . . . .                                                                         | 6147                                                                                                                                                                                     |
| <code>\textsf</code> . . . . .                            | 436, 11636, 11639                                  | <code>\theHchapter</code> . . . . .                    | 5742, 5743, 5744,<br>5745, 5827                             | <code>\tiny</code> . . . . .                                                                              | 465                                                                                                                                                                                      |
| <code>\textSigma</code> . . . . .                         | 1046, 14272                                        | <code>\theHenumi</code> . . . . .                      | 5761                                                        | <code>\title</code> . . . . .                                                                             | 5337, 5339                                                                                                                                                                               |
| <code>\textsigma</code> . . . . .                         | 1046, 14337                                        | <code>\theHenumii</code> . . . . .                     | 5762                                                        | <code>\TMP@EnsureCode</code> . . . . .                                                                    | 3934, 3941,<br>3942, 3943, 3944, 3945, 3946,<br>3947, 3948, 3949, 3950, 3951,<br>3952, 3953, 3954, 3955, 3956,<br>3957, 3958, 3959, 3960, 3961,<br>3962, 3963, 3964, 3965, 3966,<br>3967 |
| <code>\textsixinferior</code> . . . . .                   | 15118                                              | <code>\theHenumiii</code> . . . . .                    | 5763                                                        | <code>\tocappendix</code> . . . . .                                                                       | 1421                                                                                                                                                                                     |
| <code>\textsixsuperior</code> . . . . .                   | 15086                                              | <code>\theHenumiv</code> . . . . .                     | 5764                                                        | <code>\tocchapter</code> . . . . .                                                                        | 1420                                                                                                                                                                                     |
| <code>\textsl</code> . . . . .                            | 442                                                | <code>\theHequation</code> . . . . .                   | 5732, 5801, 6051,<br>6073, 6097, 6105, 6132, 6136           | <code>\toclevel@chapter</code> . . . . .                                                                  | 3048                                                                                                                                                                                     |
| <code>\textsterling</code> . . . . .                      | 13269, 13637                                       | <code>\theHfigure</code> . . . . .                     | 5739, 5743                                                  | <code>\toclevel@figure</code> . . . . .                                                                   | 3054                                                                                                                                                                                     |
| <code>\textStigma</code> . . . . .                        | 1005, 14362                                        | <code>\theHHfootnote</code> . . . . .                  | 5765, 5767                                                  |                                                                                                           |                                                                                                                                                                                          |
| <code>\textstigma</code> . . . . .                        | 1005, 14364                                        | <code>\theHHmpfootnote</code> . . . . .                | 5767                                                        |                                                                                                           |                                                                                                                                                                                          |
| <code>\textsurd</code> . . . . .                          | 15180                                              | <code>\theHitem</code> 5755, 5761, 5762, 5763,<br>5764 |                                                             |                                                                                                           |                                                                                                                                                                                          |
| <code>\TextSymbolUnavailable</code> . . . . .             | 13133,<br>13134, 13136                             | <code>\theHlisting</code> . . . . .                    | 3061                                                        |                                                                                                           |                                                                                                                                                                                          |
| <code>\textTau</code> . . . . .                           | 1047, 14274                                        | <code>\theHlstlisting</code> . . . . .                 | 3057                                                        |                                                                                                           |                                                                                                                                                                                          |
| <code>\texttau</code> . . . . .                           | 1047, 14339                                        | <code>\theHmpfootnote</code> . . . . .                 | 5766                                                        |                                                                                                           |                                                                                                                                                                                          |
| <code>\textTheta</code> . . . . .                         | 1008, 14252                                        | <code>\theHparagraph</code> . . . . .                  | 5749, 5750                                                  |                                                                                                           |                                                                                                                                                                                          |
| <code>\texttheta</code> . . . . .                         | 1008, 14315                                        | <code>\theHparentequation</code> . . . . .             | 6131, 6136                                                  |                                                                                                           |                                                                                                                                                                                          |
| <code>\textthreeinferior</code> . . . . .                 | 15112                                              | <code>\theHpart</code> . . . . .                       | 5735                                                        |                                                                                                           |                                                                                                                                                                                          |
| <code>\textthreequarters</code> . . . . .                 | 13322, 13691                                       |                                                        |                                                             |                                                                                                           |                                                                                                                                                                                          |
| <code>\textthreesuperior</code> . . . . .                 | 13300, 13668                                       |                                                        |                                                             |                                                                                                           |                                                                                                                                                                                          |
| <code>\texttie</code> . . . . .                           | 13548, 13567, 14216                                |                                                        |                                                             |                                                                                                           |                                                                                                                                                                                          |

|                          |                                |                                      |                     |                                  |
|--------------------------|--------------------------------|--------------------------------------|---------------------|----------------------------------|
| \toclevel@listing        | 3062                           | 14574, 14764, 14766, 14788,          | \vref@pagenum       | 5985                             |
| \toclevel@lstlisting     | 3058                           | 14790, 14800, 14802                  | \vref@space         | 7454, 7457, 7462                 |
| \toclevel@paragraph      | 3052                           | \u ... 13503, 13541, 13560, 13580,   | \vskip              | 2225, 2226                       |
| \toclevel@part           | 3044, 3046                     | 13831, 13833, 13867, 13869,          | \vss                | 6828                             |
| \toclevel@section        | 3049                           | 13887, 13889, 13917, 13919,          | \vtex@trans@special | 9532, 9534,                      |
| \toclevel@subfigure      | 2173                           | 13920, 13988, 13990, 14048,          |                     | 9537, 9541, 9545, 9549, 9551,    |
| \toclevel@subparagraph   | 3053                           | 14050                                |                     | 9553, 9557, 9563, 9564, 9567     |
| \toclevel@subsection     | 3050                           | \UHORN ... 15382, 15493, 15494,      | \VTeXInitMediaSize  | 9235, 9252                       |
| \toclevel@subsubsection  | 3051                           | 15495, 15496, 15497                  | \VTeXOS             | 9602, 9603, 9604, 9606           |
| \toclevel@subtable       | 2174                           | \uhorn ... 2929, 2936, 15375, 15433, | \VTeXversion        | 5575, 5578, 5581,                |
| \toclevel@table          | 3055                           | 15434, 15435, 15436, 15437           |                     | 9594, 9598                       |
| \tocparagraph            | 1425                           | \UnDef                               | W                   |                                  |
| \tocpart                 | 1419                           | 10960                                | \waw                | 15539                            |
| \tocsection              | 1422                           | \unhbox 6188, 10063, 12008, 12131,   | \wawhamza           | 15508                            |
| \tocsubsection           | 1423                           | 12164, 12189, 12218, 12247           | \wd                 | 8477, 8489, 8506, 8518, 8536,    |
| \tocsubsubsection        | 1424                           | \unhcopy                             |                     | 8548, 11965                      |
| \toks                    | 786,                           | 12109                                | \write              | 5294, 5296, 5689, 5697,          |
|                          | 787, 788, 4264, 4266, 4268,    | \unichar                             |                     | 5909, 5937, 6583, 6598, 6614,    |
|                          | 4272, 4277, 7379, 7380, 7382,  | \Unicode                             |                     | 6624, 6654, 6677, 6703, 6733,    |
|                          | 12957, 12962, 13032, 13037     | \unrestored@protected@xdef           |                     | 11565, 11589, 12835, 12904       |
| \toks@                   | 171, 208, 347, 350,            | 6205,                                | \WriteBookmarks     |                                  |
|                          | 353, 371, 372, 681, 688, 720,  | 6216, 6346, 6353, 6396, 6403         |                     | 3637, 3751, 3903, 3925,          |
|                          | 721, 1093, 1116, 1119, 1121,   | \unskip                              |                     | 12641, 12828, 12850, 12851,      |
|                          | 1592, 1593, 2955, 2956, 2958,  | .. 6143, 6645, 7454, 7458,           |                     | 12893, 12897                     |
|                          | 3448, 3452, 3453, 3461, 5526,  | 7462, 7467                           | \wwwbrowser         | 8434, 8508, 8520                 |
|                          | 5528, 5608, 5610, 5660, 5672,  | \upshape                             | X                   |                                  |
|                          | 5920, 5924, 5961, 5966, 6944,  | 453, 6149                            | \x                  | 21, 25,                          |
|                          | 6945, 7151, 7156, 7158, 7161,  | \Url                                 |                     | 92, 98, 168, 169, 176, 178, 206, |
|                          | 12956, 12962, 13031, 13037     | 4173                                 |                     | 209, 210, 211, 212, 213, 214,    |
| \topmargin               | 6815                           | \url                                 |                     | 215, 216, 217, 218, 219, 220,    |
| \trivlist                | 6146                           | 4172, 4176                           |                     | 221, 222, 223, 224, 225, 226,    |
| \tryhyper@link           | 4202, 4204                     | \url@                                |                     | 227, 228, 370, 375, 683, 686,    |
| \ttfamily                | 447                            | 4176, 4177                           |                     | 690, 695, 727, 796, 802, 1519,   |
| \ttl@b                   | 5972, 5977                     | \use@file                            |                     | 1547, 1956, 1958, 2220, 2230,    |
| \ttl@gobblecontents      | 5981                           | .. 4334, 4336, 4340, 4343            |                     | 2239, 2249, 2300, 2301, 2306,    |
| \ttl@Hy@PatchSaveWrite   | 5955,                          | \usefont                             |                     | 2322, 2962, 2972, 3073, 3074,    |
|                          | 5959                           | 432                                  |                     | 3077, 3078, 3079, 3083, 3086,    |
| \ttl@Hy@refstepcounter   | 5971                           | \usepackage                          |                     | 3092, 3451, 3457, 3460, 3463,    |
| \ttl@Hy@saveanchor       | 5950, 5974                     | 2568                                 |                     | 3584, 3585, 3590, 3591, 3650,    |
| \ttl@Hy@SavedCurrentHref | 5954,                          | \UTFviii@four@octets                 |                     | 3651, 3652, 3655, 3658, 3661,    |
|                          | 5965                           | 2009, 2018                           |                     | 4262, 4273, 4277, 4280, 4413,    |
| \ttl@Hy@steplink         | 5947                           | \UTFviii@three@octets                |                     | 4427, 4452, 4456, 4459, 4469,    |
| \ttl@savewrite           | 5961, 5963                     | 2008                                 |                     | 5359, 5360, 5365, 5921, 5928,    |
| \tw@                     | 12957, 12962, 13032, 13037     | \UTFviii@two@octets                  |                     | 5962, 5969, 5996, 6006, 6008,    |
| \typeout                 | 5, 6, 7,                       | 2007                                 |                     | 6021, 7158, 7159, 7381, 7384,    |
|                          | 19, 26, 27, 36, 131, 155, 158, | V                                    |                     | 7419, 7420, 7421, 7423, 7425,    |
|                          | 159, 160, 2571, 2625, 3730,    | \v                                   |                     | 7773, 7781, 8052, 8053, 8056,    |
|                          | 3732, 3734, 3834, 3861, 3863,  | ... 13103, 13115, 13127, 13246,      |                     | 8058, 8061, 8678, 8679, 8680,    |
|                          | 4362, 4862, 9204, 9208, 9211,  | 13251, 13259, 13261, 13514,          |                     | 8682, 8683, 8684, 8686, 8687,    |
|                          | 9214, 9217, 9220, 9223, 9226,  | 13538, 13557, 13579, 13851,          |                     | 8688, 8690, 8691, 8692, 8694,    |
|                          | 10861, 11162, 11376, 11379,    | 13853, 13855, 13857, 13879,          |                     | 8695, 8696, 8698, 8699, 8700,    |
|                          | 11382, 11385, 11388, 11391,    | 13881, 13954, 13956, 13974,          |                     | 8702, 8703, 8704, 8706, 8707,    |
|                          | 11393, 11394, 11403, 11540,    | 13976, 14008, 14010, 14024,          |                     | 8709, 8715, 8724, 9702, 9707,    |
|                          | 11935, 13058, 15560            | 14026, 14032, 14034, 14082,          |                     | 9711, 10184, 10185, 11211,       |
| U                        |                                | 14084, 14090, 14092, 14094,          |                     | 11231, 11691, 11711, 12032,      |
| \U                       | 13504, 14409, 14432, 14497,    | 14096, 14097, 14099, 14101,          |                     |                                  |
|                          |                                | 14103, 14105, 14111, 14113,          |                     |                                  |
|                          |                                | 14115, 14117, 14123, 14124,          |                     |                                  |
|                          |                                | 14167, 14169                         |                     |                                  |
|                          |                                | \V@@@footnotetext                    |                     |                                  |
|                          |                                | 6332                                 |                     |                                  |
|                          |                                | \V@@footnotetext                     |                     |                                  |
|                          |                                | 6318                                 |                     |                                  |
|                          |                                | \value                               |                     |                                  |
|                          |                                | 6599, 6625, 6819, 6969, 8854,        |                     |                                  |
|                          |                                | 8859                                 |                     |                                  |
|                          |                                | \vbox                                |                     |                                  |
|                          |                                | 5098, 5099, 5100, 5101, 5406,        |                     |                                  |
|                          |                                | 6813                                 |                     |                                  |
|                          |                                | \vfill                               |                     |                                  |
|                          |                                | 5098, 5099, 5100, 5101               |                     |                                  |
|                          |                                | \voffset                             |                     |                                  |
|                          |                                | 6814                                 |                     |                                  |
|                          |                                | \vpageref                            |                     |                                  |
|                          |                                | 7467                                 |                     |                                  |
|                          |                                | \vphantom                            |                     |                                  |
|                          |                                | 468                                  |                     |                                  |
|                          |                                | \Vr@f                                |                     |                                  |
|                          |                                | 7453                                 |                     |                                  |
|                          |                                | \vr@f                                |                     |                                  |
|                          |                                | 7461                                 |                     |                                  |

12052, 12961, 12963, 13036,  
 13038  
 \XeTeXrevision . . . . . 3871, 8989  
 \XeTeXversion . . . . . 3871, 8989  
 \XR@dURL . . . . . 2180, 2181  
 \XR@addURL . . . . . 2180  
 \XR@ext . . . . .  
 2408, 2409, 4332, 4335, 5573,  
 7674, 8337, 8433, 8669, 9116,  
 10360, 10443, 10502, 10694,  
 10858  
 \XR@URL . . . . . 2185  
 \xspace . . . . . 517, 519  
  
**Y**  
 \y 698, 701, 704, 707, 710, 713, 722,

2302, 2307, 2312, 3079, 3080,  
 3081, 3082, 3653, 3656, 3659,  
 3662, 3664, 3670, 5360, 5368,  
 5994, 5995, 5998, 6006  
 \ya . . . . . 15541  
 \yahamza . . . . . 15510  
  
**Z**  
 \z . . . . . 2304, 2305, 2306  
 \z@ . . . . . 659, 699, 824, 976, 993,  
 1015, 1038, 1249, 1289, 1302,  
 1318, 1333, 1341, 1414, 1668,  
 1674, 1680, 1744, 1748, 1756,  
 1760, 2215, 2234, 2494, 2497,  
 2596, 3085, 3091, 3586, 3879,

5576, 5579, 6177, 6178  
 8261, 8265, 8270, 8274  
 8284, 8288, 8291, 9098  
 9104, 9105, 9593, 9617  
 10073, 10084, 10425,  
 10431, 10432, 11200,  
 11969, 12021, 12369,  
 12403, 12475, 12481,  
 12540, 12546, 12565,  
 12580, 12609, 12614,  
 13000  
 \z@skip . . . . .  
 \za . . . . .  
 \zay . . . . .  
 \ZWNJ . . . . .