

Hypertext marks in L^AT_EX

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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	Workaround for package <code>linguex</code>	27
6.3.2	PD1 encoding	27
6.3.3	PU encoding	28
6.4	Additional user commands	28
6.4.1	<code>\texorpdfstring</code>	28
6.4.2	Hooks for <code>\pdfstringdef</code>	28
6.5	Help macros for expansion	29
6.5.1	<code>\ignorespaces</code>	29
6.5.2	Babel languages	30
6.5.3	CJK bookmarks	35
6.5.4	<code>\@inmathwarn-Patch</code>	36
6.5.5	Unexpandable spaces	37
6.5.6	Marker for commands	38
6.5.7	<code>\hspace fix</code>	38
6.5.8	Fix for AMS classes	38
6.5.9	Reference commands	39
6.5.10	Redefining the defining commands	41
6.5.11	<code>\ifnextchar</code>	42
6.5.12	<code>\@protected@testoptifnextchar</code>	42
6.6	Help macros for postprocessing	43
6.6.1	Generic warning.	43
6.6.2	Protecting spaces	43
6.6.3	Remove grouping braces	44
6.6.4	Catcode check	45
6.6.5	Check for wrong glyphs	48
6.6.6	Replacing tokens	49
6.6.7	Support for package <code>xspace</code>	50
6.6.8	Converting to Unicode	50
6.6.9	Support for UTF-8 input encoding	52

7	Support of other packages	56
7.1	Class memoir	56
7.2	Package subfigure	56
7.3	Package xr and xr-hyper	57
8	Help macros for links	57
9	Options	59
9.1	Help macros	59
9.2	Defining the options	61
10	Options for different drivers	65
11	Options to add extra features	67
12	Language options	68
13	Options to change appearance of links	74
14	Bookmarking	75
15	PDF-specific options	77
15.1	PDF/A	84
15.2	Patch for babel's \texttilde	85
15.2.1	Driver loading	86
15.2.2	Bookmarks	88
16	User hypertext macros	91
17	Underlying basic hypertext macros	95
18	Compatibility with the <i>BT_EX2html</i> package	98
19	Forms creation	98
19.1	Field flags	99
19.1.1	Declarations of field flags	100
19.1.2	Set submit flags	103
19.1.3	Set annot flags in fields	103
19.1.4	Pushbutton field	104
19.1.5	Check box field	104
19.1.6	Radio button field	104
19.1.7	Text fields	105
19.1.8	Choice fields	105
19.2	Choice field	106
19.3	Forms	108
20	Setup	113
21	Low-level utility macros	114
22	Localized nullifying of package	115
23	Package nohyperref	116
24	The Mangling Of Aux and Toc Files	117

25 Title strings	118
26 Page numbers	119
27 Every page	119
27.1 PDF /PageLabels	120
27.1.1 pdfTeX and VTeX	123
27.1.2 xetex	124
27.1.3 pdfmarkbase, dvipdfm, xetex	125
28 Automated L^AT_EX hypertext cross-references	126
29 Package lastpage support	130
30 Package ifthen support	131
31 Package titlesec and titletoc support	132
32 Package varioref support	132
33 Package longtable support	132
34 Equations	133
35 Footnotes	137
36 Float captions	141
37 Bibliographic references	143
37.1 Package harvard	146
37.2 Package chicago	148
38 Page numbers	149
39 Table of contents	149
40 New counters	151
41 AMSL^AT_EX compatibility	151
41.1 \@addtoreset and \numberwithin patches	152
42 Included figures	153
43 hyperindex entries	154
44 Compatibility with foiltex	157
45 Compatibility with seminar slide package	157
46 Configuration files	165
46.1 PS/PDF strings	165
46.2 pdftex	166
46.2.1 Fix for problem with different nesting levels	178
46.3 hypertext	179
46.4 dviwindo	181
46.5 dvipdfm/xetex dvi to PDF converter	185

46.6	VTeX typesetting system	193
46.7	Fix for Adobe bug number 466320	205
46.8	Direct pdfmark support	206
46.9	Rokicki's dvips	217
46.10	VTeX's vtexpdfmark driver	219
46.11	Textures	221
46.12	dvipsone	225
46.13	TeX4ht	228
47	Driver-specific form support	230
47.1	pdfmarks	230
47.2	HyperTeX	237
47.3	TeX4ht	237
47.4	pdfTeX	240
47.5	dvipdfm, xetex	246
47.6	Common forms part	254
48	Bookmarks in the PDF file	260
48.1	Bookmarks	260
48.1.1	Rerun warning	262
48.1.2	Driver stuff	263
49	Compatibility with koma-script classes	268
50	Encoding definition files for encodings of PDF strings	269
50.1	PD1 encoding	269
50.2	PU encoding	277
50.2.1	NFSS2 accents	277
50.2.2	Basic Latin: U+0000 to U+007F	279
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	280
50.2.4	Latin Extended-A: U+0080 to U+017F	284
50.2.5	Latin Extended-B: U+0180 to U+024F	289
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	291
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	291
50.2.8	Greek and Coptic: U+0370 to U+03FF	291
50.2.9	Cyrillic: U+0400 to U+04FF	294
50.2.10	Thai: U+0E00 to U+0E7F	304
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	304
50.2.12	General Punctuation: U+2000 to U+206F	307
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	308
50.2.14	Currency Symbols: U+20A0 to U+20CF	309
50.2.15	Letterlike Symbols: U+2100 to U+214F	309
50.2.16	Arrows: U+2190 to U+21FF	310
50.2.17	Mathematical Operators: U+2200 to U+22FF	310
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	310
50.2.19	Control Pictures: U+2400 to U+243F	310
50.2.20	Enclosed Alphanumerics: U+2460 to U+24FF	310
50.2.21	Box Drawing: U+2500 to U+257F	313
50.2.22	Miscellaneous Symbols: U+2600 to U+26FF	313
50.2.23	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	313
50.2.24	Alphabetic Presentation Forms: U+FB00 to U+FB4F	313
50.2.25	Miscellaneous	313
50.2.26	Aliases	313

50.3 PU encoding, additions for VnT _E X	314
50.4 PU encoding, additions for Arabi	316
51 End of file hycheck.tex	318
52 Index	319

3 File hycheck.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 `\cmd_` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

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

```

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

```

\HyC@edef
125 \def\HyC@def#1#{%
126   \HyC@Toks={#1}%

```

```

127 \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

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

```

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

```

`\HyC@checkItem` A single check.

```

138 \def\HyC@checkItem#1{%
139 \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
140 \else
141 \expandafter\expandafter\expandafter\ifx
142 \csname HyC@#1\expandafter\endcsname
143 \csname HyC@org@#1\endcsname
144 \expandafter\HyC@checkOk\csname HyC@#1\endcsname
145 \else
146 \expandafter\HyC@checkFailed
147 \csname HyC@#1\expandafter\endcsname
148 \csname HyC@org@#1\endcsname
149 \fi
150 \fi
151 }

```

`\HyC@string` Some shorthands.

```

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

```

`\HyC@checkOk` The result, if the check succeeds.

```

154 \def\HyC@checkOk#1{%
155 \typeout{\space\space'\HyC@string#1' ok.}%
156 }

```

`\HyC@checkFailed` The result, if the check fails.

```

157 \def\HyC@checkFailed#1#2{%
158 \typeout{\space\space'\HyC@string#1' failed.}%
159 \typeout{\space\space* original: \meaning#2}%
160 \typeout{\space\space* expected: \HyC@meaning#1}%
161 }

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

216 \x\)%
217 \x\[%
218 \x\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{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \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`.

```

240 \ifundefined{AfterBeginDocument}{%
241 \def\AfterBeginDocument{\AtBeginDocument}%
242 }{}%

```

4.3 Switches

```

243 \newif\ifHy@typexml
244 \newif\ifHy@activeanchor
245 \newif\ifHy@backref
246 \newif\ifHy@bookmarks
247 \newif\ifHy@bookmarksnumbered
248 \newif\ifHy@bookmarksopen
249 \newif\ifHy@breaklinks
250 \newif\ifHy@centerwindow
251 \newif\ifHy@CJKbookmarks
252 \newif\ifHy@colorlinks
253 \newif\ifHy@draft
254 \let\Hy@finaltrue\Hy@draftfalse
255 \let\Hy@finalfalse\Hy@drafttrue

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

312 \Hy@plainpagesfalse
313 \Hy@raiselinksfalse
314 \Hy@setpagesizetrue
315 \Hy@texhtfalse
316 \Hy@toolbartrue
317 \Hy@typexmlfalse
318 \Hy@unicodetrue
319 \Hy@usetitlefalse
320 \Hy@verbosefalse
321 \Hy@windowuitrue
322 \Hy@displaydoctitlefalse
323 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

326 \newdimen\@linkdim
327 \let\Hy@driver\@empty
328 \let\MaybeStopEarly\relax
329 \newcount\Hy@linkcounter
330 \newcount\Hy@pagecounter
331 \Hy@linkcounter0
332 \Hy@pagecounter0

```

5.1 Macros for recursions

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

```

333 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
334 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

335 \let\Hy@ReturnEnd\@empty
336 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
337 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

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

```

338 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
339 \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).

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

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

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

Example (T_EX):

```

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

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

```

```

374 }%
375 \else
376 \def\hypercalcbp#1{%
377 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
378 }%
379 \def\hypercalcbpdef{\def}%
380 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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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 `ISOLatin1` 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 $\text{T}_{\text{E}}\text{X}$'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 $\text{T}_{\text{E}}\text{X}$ 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 $\text{T}_{\text{E}}\text{X}$ 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 processed by $\text{T}_{\text{E}}\text{X}$, because the tokens have only catcodes 10 until 12.

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

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

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

```
382 \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.

```
383 \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.

```
384 \edef\0{\string\0}%
385 \edef\1{\string\1}%
386 \edef\2{\string\2}%
387 \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.

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

```
399 \@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).

```
400 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
401 \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.

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

```
414 \def\{\pdfstringdefWarn\\}%
415 \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.

```
416 \def\TeX{\TeX}%
417 \def\LaTeX{\LaTeX}%
418 \def\LaTeXe{\LaTeX2e}%
419 \def\eTeX{e-TeX}%
420 \def\SliTeX{SliTeX}%
421 \def\MF{Metafont}%
422 \def\MP{Metapost}%
```

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

```

423 \let\emph\@firstofone
424 \let\textnormal\@firstofone
425 \let\textrm\@firstofone
426 \let\textsf\@firstofone
427 \let\texttt\@firstofone
428 \let\textbf\@firstofone
429 \let\textmd\@firstofone
430 \let\textit\@firstofone
431 \let\textsc\@firstofone
432 \let\textsl\@firstofone
433 \let\textup\@firstofone
434 \let\normalfont\@empty
435 \let\rmfamily\@empty
436 \let\sffamily\@empty
437 \let\ttfamily\@empty
438 \let\bfseries\@empty
439 \let\mdseries\@empty
440 \let\itshape\@empty
441 \let\scshape\@empty
442 \let\slshape\@empty
443 \let\upshape\@empty
444 \let\em\@empty
445 \let\rm\@empty
446 \let\Huge\@empty
447 \let\LARGE\@empty
448 \let\Large\@empty
449 \let\footnotesize\@empty
450 \let\huge\@empty
451 \let\large\@empty
452 \let\normalsize\@empty
453 \let\scriptsize\@empty
454 \let\small\@empty
455 \let\tiny\@empty
456 \let\mathversion\@gobble
457 \let\phantom\@gobble
458 \let\vphantom\@gobble
459 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

461 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
462 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

463 \let\textlatin\@firstofone
464 \@ifundefined{language@group}{-}{%
465   \csname HyPsd@babel@language@group\endcsname
466 }%
467 \HyPsd@GreekPatch
468 \HyPsd@BabelPatch

```

```

469 \let\@safe@activetrue\relax
470 \let\@safe@activesfalse\relax

  Disable \cyr, used in russianb.ldf.
471 \let\cyr\relax

  Redefine \es@roman, used in spanish.ldf.
472 \let\es@roman\@Roman

```

Package german.

```

473 \let\glqq\textglqq
474 \let\grqq\textgrqq
475 \let\glq\textglq
476 \let\grq\textgrq
477 \let\flqq\textflqq
478 \let\frqq\textfrqq
479 \let\flq\textflq
480 \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}

481 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

482 \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.

```

483 \let\hspace\HyPsd@hspace

```

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

```

484 \let\label\@gobble
485 \let\index\@gobble
486 \let\glossary\@gobble
487 \let\href\@secondoftwo
488 \let\@mkboth\@gobbletwo

```

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

```

489 \let\ref\HyPsd@ref
490 \let\pageref\HyPsd@pageref
491 \let\nameref\HyPsd@nameref
492 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```
493 \let\leavevmode\@empty
494 \let\mbox\@empty
```

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

```
495 \def\halign{\pdfstringdefWarn\halign\@gobble}%
496 \let\ignorespaces\HyPsd@ignorespaces
497 \let\Hy@SectionAnchor\@empty
```

Patch for cjk bookmarks.

```
498 \ifHy@CJKbookmarks
499   \HyPsd@CJKhook
500 \fi
```

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

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

```
501 \Hy@pdfstringtrue
502 \pdfstringdefPreHook
```

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

```
503 \HyPsd@LetUnexpandableSpace\space
504 \HyPsd@LetUnexpandableSpace\ %
505 \HyPsd@LetUnexpandableSpace~%
506 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package `xspace`.

```
507 \@ifundefined{@xspace}{%
508   \let\xspace\HyPsd@ITALCORR
509 }{%
510   \let\xspace\HyPsd@XSPACE
511 }%
512 \let\/\HyPsd@ITALCORR
513 \let\bgroup\/%
514 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
515 \let\discretionary\@gobbletwo
```

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

```
\def\@ifstar#1{\@ifnextchar *{\@firsttwo{#1}}}
```

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

```
516 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
517 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
518 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
519 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package ‘xargs’:

```
520 \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).

```
521 \begingroup
522 \let\GenericError\@gobblefour
523 \let\GenericWarning\@gobbletwo
524 \let\GenericInfo\@gobbletwo
```

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

```
525 \ifx\nofrenchguillemets\@undefined
526 \else
527 \nofrenchguillemets
528 \fi
```

Definition commands and expansion. Redefining the defining commands (see sec. 6.5.10). The original meaning of `\xdef` is saved in `\Hy@temp`.

```
529 \let\Hy@temp\xdef
530 \let\def\HyPsd@DefCommand
531 \let\gdef\HyPsd@DefCommand
532 \let\edef\HyPsd@DefCommand
533 \let\xdef\HyPsd@DefCommand
534 \let\futurelet\HyPsd@LetCommand
535 \let\let\HyPsd@LetCommand
536 \Hy@temp#1{#2}%
537 \endgroup
```

6.2.3 Postprocessing

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

```
538 \ifx#1\@empty
539 \else
```

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

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

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

```
540 \HyPsd@ProtectSpaces#1%
541 \let\HyPsd@String\@empty
542 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
543 \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.

```

544 \let\HyPsd@SPACEOPTI\relax
545 {%
546 \let\HyPsd@String\@empty
547 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
548 \global\let#1\HyPsd@String
549 }%
550 \expandafter\HyPsd@RemoveMask\expandafter
551 |\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.

```

552 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
553 \let\HyPsd@String\@empty
554 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
555 \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.

```
556 \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.

```

557 \ifHy@unicode
558 \expandafter\HyPsd@StringSubst\curname 80\040\endcurname
559 \HyPsd@SPACEOPTI#1%
560 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
```



```

561 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
562 {\HyPsd@SPACEOPTI\80\273}#1%
563 \else
564 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
565 \expandafter\HyPsd@Subst\expandafter{%
566 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
567 \string\273}{\HyPsd@SPACEOPTI\273}#1%
568 \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.

```

569 \ifHy@unicode
570 \HyPsd@StringSubst{\)}{\80\051}#1%
571 \HyPsd@Subst){\80\051}#1%
572 \let\HyPsd@empty\relax
573 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
574 {\HyPsd@empty\80\051}#1%
575 \else
576 \HyPsd@StringSubst{\)}{\051}#1%
577 \HyPsd@Subst){\051}#1%
578 \let\HyPsd@empty\relax
579 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
580 \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`.

```

581 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
582 \@ifundefined{@xspace}{%
583 }{%
584 \let\HyPsd@xspace\relax
585 \expandafter\HyPsd@Subst\expandafter
586 {\HyPsd@XSPACE}\HyPsd@xspace#1%
587 \let\HyPsd@xspace\HyPsd@doxspace
588 }%
589 \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.

```
590 \HyPsd@Subst{---}\textemdash#1%
591 \HyPsd@Subst{--}\textendash#1%
592 % \HyPsd@Subst{fi}\textfi#1%
593 % \HyPsd@Subst{fl}\textfl#1%
594 \HyPsd@Subst{!'}\textexclamdown#1%
595 \HyPsd@Subst{?'}\textquestiondown#1%
```

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

```
596 \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.

```
597 \ifHy@unicode
598 \HyPsd@StringSubst{\textparenleft#1%
599 \HyPsd@Subst{\textparenleft#1%
600 \else
601 \HyPsd@StringSubst\({\050}#1%
602 \HyPsd@Subst({\050}#1%
603 \HyPsd@StringSubst{\050}{\string\{ }#1%
604 \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.

```
605 \ifHy@unicode
606 \edef\HyPsd@SPACEOPTI{\80\040}%
607 \else
608 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
609 \fi
610 \xdef#1{#1\@empty}%
611 \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.

```
612 \endgroup
613 \begingroup
614 \ifHy@unicode
615 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
616 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
617 \@ifundefined{StringEncodingConvertTest}{%
618 }{%
619 \EdefUnescapeString\HyPsd@temp#1%
```

```

620     \ifxetex
621     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
622         {utf16be}{ascii-print}}{%
623         \EdefEscapeString\HyPsd@temp\HyPsd@temp
624         \global\let#1\HyPsd@temp
625         \Hy@unicodedefalse
626     }{%
627     \else
628     \fi
629 }%
630 \fi
631 \fi

```

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

```

632 \pdfstringdefPostHook#1%
633 \endgroup
634 }

```

`\Hy@pdfstringdef`

```

635 \def\Hy@pdfstringdef#1#2{%
636 \pdfstringdef\Hy@gtemp{#2}%
637 \let#1\Hy@gtemp
638 }

```

6.3 Encodings

6.3.1 Workaround for package linguex

```

639 \@ifpackageloaded{linguex}{%
640 \let\HyLinguex@OrgB\b
641 \let\HyLinguex@OrgC\c
642 \let\HyLinguex@OrgD\d
643 \def\HyLinguex@Restore{%
644 \let\b\HyLinguex@OrgB
645 \let\c\HyLinguex@OrgC
646 \let\d\HyLinguex@OrgD
647 }%
648 \AtEndOfPackage{%
649 \pdfstringdefDisableCommands{%
650 \ifundefined{oldb}{\let\b\oldb}%
651 \ifundefined{oldc}{\let\c\oldc}%
652 \ifundefined{oldd}{\let\d\oldd}%
653 }%
654 }%
655 }{%
656 \let\HyLinguex@Restore\relax
657 }%

```

6.3.2 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.

```
658 \ifundefined{T@PD1}{%
659   \input{pd1enc.def}%
660   \HyLinguex@Restore
661 }{}
662 \DeclareFontFamily{PD1}{pdf}{}
663 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
664 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.3 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.

```
665 \def\HyPsd@InitUnicode{%
666   \ifundefined{T@PU}{%
667     \input{puenc.def}%
668     \HyLinguex@Restore
669   }{}%
670   \DeclareFontFamily{PU}{pdf}{}%
671   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
672   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
673   \let\HyPsd@InitUnicode\relax
674 }
```

6.4 Additional user commands

6.4.1 \texorpdfstring

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```
675 \def\texorpdfstring{%
676   \ifHy@pdfstring
677     \expandafter\@secondoftwo
678   \else
679     \expandafter\@firstoftwo
680   \fi
681 }
```

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`.

```
682 \@ifundefined{pdfstringdefPreHook}{%
683   \let\pdfstringdefPreHook\@empty
684 }{}
685 \@ifundefined{pdfstringdefPostHook}{%
686   \let\pdfstringdefPostHook\@gobble
687 }{}
```

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

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

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

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

```
688 \def\pdfstringdefDisableCommands{%
689   \begingroup
690   \makeatletter
691   \HyPsd@DisableCommands
692 }
```

`\HyPsd@DisableCommands`

```
693 \long\def\HyPsd@DisableCommands#1{%
694   \toks0=\expandafter{\pdfstringdefPreHook}%
695   \toks1={#1}%
696   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
697   \endgroup
698 }
```

`\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`.

```
699 \def\pdfstringdefWarn#1{%
700   \expandafter\noexpand\csname<>-string#1\endcsname
701 }
```

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.

```
702 \begingroup
703   \catcode0=12 %
704   \def\x{\endgroup
705     \def\HyPsd@ignorespaces{%
706       \romannumeral\expandafter'\expandafter^^@%
```

```

707 \romannumeral'^^@%
708 }%
709 }%
710 \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`.

```

711 \def\HyPsd@BabelPatch{%
712 \let\HyOrg@languageshorthands\languageshorthands
713 \let\languageshorthands\HyPsd@LanguageShorthands
714 }
715 \RequirePackage{pdftexcmds}[2009/04/10]
716 \begingroup\expandafter\expandafter\expandafter\endgroup
717 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
718 \let\HyPsd@langshort@system@empty
719 \def\HyPsd@LanguageShorthands#1{%
720 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
721 \HyPsd@langshort@system
722 \expandafter\@gobble
723 \else
724 \expandafter\@firstofone
725 \fi
726 {%
727 \HyOrg@languageshorthands{#1}%
728 }%
729 }%
730 \else
731 \def\HyPsd@LanguageShorthands#1{%
732 \ifnum\pdf@strcmp{#1}{system}=\z@
733 \expandafter\@gobble
734 \else
735 \expandafter\@firstofone
736 \fi
737 {%
738 \HyOrg@languageshorthands{#1}%
739 }%
740 }%
741 \fi
742 \def\Hy@temp{%
743 \@ifpackageloaded{babel}{%
744 \@ifpackagelater{babel}{2008/03/16}{%
745 \let\Hy@temp@empty
746 }{%
747 \def\HyPsd@BabelPatch{%
748 \let\HyOrg@languageshorthands\languageshorthands
749 }%
750 }%

```

```

751 }{}%
752 }
753 \Hy@temp
754 \expandafter\AtBeginDocument\expandafter{\Hy@temp}
755 \newif\ifHy@next

  Nothing to do for english.
756 \@ifundefined{danish@sh@}{@sel}{}{}%
757 \def\HyPsd@babel@danish{%
758   \declare@shorthand{danish}{"}{}{}%
759   \declare@shorthand{danish}{"}~{}{}%
760 }%
761 }
762 \@ifundefined{dutch@sh@}{@sel}{}{}%
763 \def\HyPsd@babel@dutch{%
764   \declare@shorthand{dutch}{"}{}{}%
765   \declare@shorthand{dutch}{"}~{}{}%
766 }%
767 }
768 \@ifundefined{finnish@sh@}{@sel}{}{}%
769 \def\HyPsd@babel@finnish{%
770   \declare@shorthand{finnish}{"}{}{}%
771 }%
772 }
773 \@ifundefined{french@sh@}{@sel}{}{}%
774 \def\HyPsd@babel@frenchb{%
775   \def\guill@spacing{ }%
776 }%
777 }
778 \@ifundefined{german@sh@}{@sel}{}{}%
779 \def\HyPsd@babel@german{%
780   \declare@shorthand{german}{"}f{}{}%
781   \declare@shorthand{german}{"}|{}{}%
782   \declare@shorthand{german}{"}~{}{}%
783 }%
784 }
785 \@ifundefined{macedonian@sh@}{@sel}{}{}%
786 \def\HyPsd@babel@macedonian{%
787   \declare@shorthand{macedonian}{"}|{}{}%
788   \declare@shorthand{macedonian}{"}~{}{}%
789 }%
790 }{}
791 \@ifundefined{ngerman@sh@}{@sel}{}{}%
792 \def\HyPsd@babel@ngerman{%
793   \declare@shorthand{ngerman}{"}|{}{}%
794   \declare@shorthand{ngerman}{"}~{}{}%
795 }%
796 }
797 \@ifundefined{portuges@sh@}{@sel}{}{}%
798 \def\HyPsd@babel@portuges{%
799   \declare@shorthand{portuges}{"}|{}{}%
800 }%
801 }
802 \@ifundefined{russian@sh@}{@sel}{}{}%
803 \def\HyPsd@babel@russian{%
804   \declare@shorthand{russian}{"}|{}{}%
805   \declare@shorthand{russian}{"}~{}{}%

```

```

806 }%
807 }
808 \@ifundefined{slovene@sh@@"@sel}{-}{%
809 \def\HyPsd@babel@slovene{%
810 \declare@shorthand{slovene}{-}{-}%
811 }%
812 }

```

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

```

813 \@ifundefined{spanish@sh@>@sel}{-}{%
814 \def\HyPsd@babel@spanish{%
815 \declare@shorthand{spanish}{<<}{\guillemotleft}%
816 \declare@shorthand{spanish}{>>}{\guillemotright}%
817 \declare@shorthand{spanish}{=}{-}%
818 \declare@shorthand{spanish}{~}{-}%
819 \declare@shorthand{spanish}{!}{\textexclamdown}%
820 \declare@shorthand{spanish}{?}{\textquestiondown}%
821 }%
822 }
823 \@ifundefined{swedish@sh@@"@sel}{-}{%
824 \def\HyPsd@babel@swedish{%
825 \declare@shorthand{swedish}{-}{-}%
826 \declare@shorthand{swedish}{~}{-}%
827 }%
828 }
829 \@ifundefined{ukrainian@sh@@"@sel}{-}{%
830 \def\HyPsd@babel@ukrainian{%
831 \declare@shorthand{ukrainian}{-}{-}%
832 \declare@shorthand{ukrainian}{~}{-}%
833 }%
834 }
835 \@ifundefined{usorbian@sh@@"@sel}{-}{%
836 \def\HyPsd@babel@usorbian{%
837 \declare@shorthand{usorbian}{f}{f}%
838 \declare@shorthand{usorbian}{-}{-}%
839 }%
840 }
841 \@ifundefined{greek@sh@\string~@sel}{%
842 \let\HyPsd@GreekPatch\empty
843 }{%
844 \def\HyPsd@GreekPatch{%
845 \let\greeknumeral\HyPsd@greeknumeral
846 \let\Greeknnumeral\HyPsd@Greeknnumeral
847 }%
848 }
849 \def\HyPsd@greeknumeral#1{%
850 \HyPsd@GreekNum\@firstoftwo{#1}%
851 }
852 \def\HyPsd@Greeknnumeral#1{%
853 \HyPsd@GreekNum\@secondoftwo{#1}%
854 }
855 \def\HyPsd@GreekNum#1#2{%
856 \ifHy@unicode
857 \ifnum#2<\@ne
858 \@arabic{#2}%
859 \else
860 \ifnum#2<1000000 %
861 \HyPsd@@GreekNum#1{#2}%

```



```

862     \else
863         \@arabic{#2}%
864     \fi
865 \fi
866 \else
867     \@arabic{#2}%
868 \fi
869 }
870 \def\HyPsd@@GreekNum#1#2{%
871     \ifnum#2<\@m
872         \ifnum#2<10 %
873             \expandafter\HyPsd@GreekNumI
874             \expandafter\@gobble\expandafter#1\number#2%
875         \else
876             \ifnum#2<100 %
877                 \expandafter\HyPsd@GreekNumII
878                 \expandafter\@gobble\expandafter#1\number#2%
879             \else
880                 \expandafter\HyPsd@GreekNumIII
881                 \expandafter\@gobble\expandafter#1\number#2%
882             \fi
883         \fi
884         \ifnum#2>\z@
885             \textnumeralsigngreek
886         \fi
887     \else
888         \ifnum#2<\@M
889             \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
890         \else
891             \ifnum#2<100000 %
892                 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
893             \else
894                 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
895             \fi
896         \fi
897     \fi
898 }
899 \def\HyPsd@GreekNumI#1#2#3{%
900     #1{%
901         \ifnum#3>\z@
902             \textnumeralsignlowergreek
903         \fi
904     }%
905     \expandafter#2%
906     \ifcase#3 %
907         {}{}%
908     \or\textalpha\textAlpha
909     \or\textbeta\textBeta
910     \or\textgamma\textGamma
911     \or\textdelta\textDelta
912     \or\textepsilon\textEpsilon
913     \or\textstigmagreek\textStigmagreek
914     \or\textzeta\textZeta
915     \or\texteta\textEta
916     \or\texttheta\textTheta
917     \else
918         {}{}%

```

```

919 \fi
920 }
921 \def\HyPsd@GreekNumII#1#2#3#4{%
922   #1{%
923     \ifnum#3>\z@
924       \textnumeralsignlowergreek
925       \fi
926     }%
927     \expandafter#2%
928     \ifcase#3 %
929       {}{}%
930       \or\textiota\textIota
931       \or\textkappa\textKappa
932       \or\textlambda\textLambda
933       \or\textmu\textMu
934       \or\textnu\textNu
935       \or\textxi\textXi
936       \or\textomicron\textOmicron
937       \or\textpi\textPi
938       \or\textkoppagreek\textKoppagreek
939     \else
940       {}{}%
941     \fi
942   \HyPsd@GreekNumI#1#2#4%
943 }
944 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
945   #1{%
946     \ifnum#3>\z@
947       \textnumeralsignlowergreek
948       \fi
949     }%
950     \expandafter#2%
951     \ifcase#3 %
952       {}{}%
953       \or\textrho\textRho
954       \or\textsigma\textSigma
955       \or\texttau\textTau
956       \or\textupsilon\textUpsilon
957       \or\textphi\textPhi
958       \or\textchi\textChi
959       \or\textpsi\textPsi
960       \or\textomega\textOmega
961       \or\textsampigreek\textSampigreek
962     \else
963       {}{}%
964     \fi
965   \HyPsd@GreekNumII#1#2#4#5%
966 }
967 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
968   \HyPsd@GreekNumI\@firstofone#1#2%
969   \HyPsd@@GreekNum#1{#3#4#5}%
970 }
971 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
972   \HyPsd@GreekNumII\@firstofone#1#2#3%
973   \HyPsd@@GreekNum#1{#4#5#6}%
974 }
975 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%

```

```

976 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
977 \HyPsd@@GreekNum#1{#5#6#7}%
978 }

```

6.5.3 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 ($\geq 0x40$).

```

979 \begingroup
980 \catcode"7F=\active
981 \toks@{%
982 \let\CJK@ignorespaces\empty
983 \def\CJK@char#1{\@gobbletwo}%
984 \let\CJK@charx\@gobblefour
985 \let\CJK@punctchar\@gobblefour
986 \def\CJK@punctcharx#1{\@gobblefour}%
987 \catcode"7F=\active
988 \def^^7f#1^^7f#2^^7f{%
989 \string #1\HyPsd@DecimalToOctal{#2}%
990 }%
991 % ... ?
992 \ifHy@unicode
993 \def\Hy@cjkpu{\80}%
994 \else
995 \let\Hy@cjkpu\@empty
996 \fi
997 \HyPsd@CJKActiveChars
998 }%
999 \count@=127 %
1000 \@whilenum\count@<255 \do{%
1001 \advance\count@ by 1 %
1002 \lccode'\~=\count@
1003 \lowercase{%
1004 \toks@\expandafter{\the\toks@ ~}%
1005 }%
1006 }%
1007 \toks@\expandafter{\the\toks@ !}%
1008 \xdef\HyPsd@CJKhook{\the\toks@}%
1009 \endgroup

```

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

```

1010 \def\HyPsd@CJKActiveChars#1{%
1011 \ifx#1!%
1012 \let\HyPsd@CJKActiveChars\relax
1013 \else
1014 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1015 \fi
1016 \HyPsd@CJKActiveChars
1017 }

```

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

```

1018 \def\HyPsd@DecimalToOctal#1{%
1019   \ifcase #1 %
1020     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1021     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1022     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1023     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1024     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1025     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1026     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1027     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1028     \or @\or A\or B\or C\or D\or E\or F\or G%
1029     \or H\or I\or J\or K\or L\or M\or N\or O%
1030     \or P\or Q\or R\or S\or T\or U\or V\or W%
1031     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1032     \or \140\or a\or b\or c\or d\or e\or f\or g%
1033     \or h\or i\or j\or k\or l\or m\or n\or o%
1034     \or p\or q\or r\or s\or t\or u\or v\or w%
1035     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1036     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1037     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1038     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1039     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1040     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1041     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1042     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1043     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1044     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1045     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1046     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1047     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1048     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1049     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1050     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1051     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1052   \fi
1053 }

```

6.5.4 `\@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 $\text{\LaTeX} 2_{\epsilon}$ 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 ($\text{\LaTeX} 2_{\epsilon}$ 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\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%

```

```

\expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
\expandafter\ifx\csname ?\string#1\endcsname\relax
\expandafter\def\csname ?\string#1\endcsname{%
\TextSymbolUnavailable#1%
}%
\fi
\global\expandafter\let
\csname\cf@encoding\string#1\expandafter\endcsname
\csname ?\string#1\endcsname
\fi
\csname\cf@encoding\string#1%
\expandafter\endcsname
\else
\noexpand#1%
\fi}
\gdef\TextSymbolUnavailable#1{%
\@latex@error{%
Command \protect#1 unavailable in encoding \cf@encoding%
}\@eha}
\def\@inmathwarn#1{%
\ifmmode
\@latex@warning{Command \protect#1 invalid in math mode}%
\fi}

1054 \def\HyPsd@inmathwarn#1#2{%
1055 \ifx#2\expandafter
1056 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1057 \HyPsd@GLYPHERR
1058 \expandafter\@gobble\string#1%
1059 >%
1060 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1061 \else
1062 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1063 \fi
1064 \else
1065 \expandafter#2%
1066 \fi
1067 }
1068 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1069 \def\HyPsd@EndWithElse#1\else\else}

```

\HyPsd@add@accent

```

1070 \def\HyPsd@add@accent#1#2{%
1071 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1072 #2%
1073 }%

```

6.5.5 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.

```

1074 \def\HyPsd@LetUnexpandableSpace#1{%

```

```

1075 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1076 }

```

\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.

```

1077 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 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.

```

1078 \edef\HyPsd@XSPACE{\string#\string X}
1079 \edef\HyPsd@ITALCORR{\string#\string I}
1080 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```

1081 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

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

```

1082 \def\HyPsd@@hspace#1*#2\END{%
1083   \ifx\#2\%
1084     \HyPsd@hspacetest{#1}%
1085   \else
1086     \expandafter\HyPsd@hspacetest
1087   \fi
1088 }

```

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

```

1089 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}

```

6.5.8 Fix for AMS classes

```

1090 \@ifundefined{tocsection}{%
1091   \let\HyPsd@AMSClassfix\relax
1092 }{%
1093   \def\HyPsd@AMSClassfix{%
1094     \let\tocpart\HyPsd@tocsection
1095     \let\tocchapter\HyPsd@tocsection
1096     \let\tocappendix\HyPsd@tocsection
1097     \let\tocsection\HyPsd@tocsection
1098     \let\tocsubsection\HyPsd@tocsection
1099     \let\tocsubsubsection\HyPsd@tocsection
1100     \let\tocparagraph\HyPsd@tocsection
1101   }%
1102   \def\HyPsd@tocsection#1#2#3{%
1103     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1104     #3%
1105   }%
1106 }

```

6.5.9 Reference commands

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

```
1107 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1108 \def\HyPsd@@ref#1*#2\END{%
1109   \ifx\#2\%
1110     \HyPsd@@@ref{#1}%
1111   \else
1112     \expandafter\HyPsd@@@ref
1113   \fi
1114 }%
```

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

```
1115 \def\HyPsd@@@ref#1{%
1116   \expandafter\ifx\csname r@#1\endcsname\relax
1117     ??%
1118   \else
1119     \expandafter\expandafter\expandafter
1120     \@car\csname r@#1\endcsname\@nil
1121   \fi
1122 }
```

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

```
1123 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1124 \def\HyPsd@@pageref#1*#2\END{%
1125   \ifx\#2\%
1126     \HyPsd@@@pageref{#1}%
1127   \else
1128     \expandafter\HyPsd@@@pageref
1129   \fi
1130 }
```

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

```
1131 \def\HyPsd@@@pageref#1{%
1132   \expandafter\ifx\csname r@#1\endcsname\relax
1133     ??%
1134   \else
1135     \expandafter\expandafter\expandafter\expandafter
1136     \expandafter\expandafter\expandafter\@car
1137     \expandafter\expandafter\expandafter\@gobble
1138     \csname r@#1\endcsname{}\@nil
1139   \fi
1140 }
```

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

```
1141 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1142 \def\HyPsd@@nameref#1*#2\END{%
1143   \ifx\#2\%
1144     \HyPsd@@nameref{#1}%
1145   \else
1146     \expandafter\HyPsd@@nameref
1147   \fi
1148 }
```

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

```
1149 \def\HyPsd@@@nameref#1{%
1150   \expandafter\ifx\csname r@#1\endcsname\relax
1151     ??%
1152   \else
1153     \expandafter\expandafter\expandafter\expandafter
1154     \expandafter\expandafter\expandafter\@car
1155     \expandafter\expandafter\expandafter\@gobbletwo
1156     \csname r@#1\endcsname\}\}\@nil
1157   \fi
1158 }
```

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

```
1159 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1160 \def\HyPsd@@autoref#1*#2\END{%
1161   \ifx\#2\%
1162     \HyPsd@@autoref{#1}%
1163   \else
1164     \expandafter\HyPsd@@autoref
1165   \fi
1166 }
```

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

```
1167 \def\HyPsd@@@autoref#1{%
1168   \expandafter\ifx\csname r@#1\endcsname\relax
1169     ??%
1170   \else
1171     \expandafter\expandafter\expandafter\HyPsd@autorefname
1172     \csname r@#1\endcsname\}\}\}\@nil
1173     \expandafter\expandafter\expandafter
1174     \@car\csname r@#1\endcsname\@nil
1175   \fi
1176 }
```

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

```
1177 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1178   \ifx\#4\%
1179     \else
1180     \HyPsd@@autorefname#4.\@nil
1181   \fi
1182 }
```

`\HyPsd@@autorefname`


```

1183 \def\HyPsd@@autorefname#1.#2\@nil{%
1184   \@ifundefined{#1autorefname}{%
1185     \@ifundefined{#1name}{%
1186       }{%
1187         \csname#1name\endcsname\space
1188       }%
1189     }{%
1190       \csname#1autorefname\endcsname\space
1191     }%
1192 }

```

6.5.10 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 unmatched `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1193 \begingroup
1194   \def\x#1#2{%
1195     \endgroup
1196     \let#1\def
1197     \def\HyPsd@DefCommand##1##2##{%
1198       #1%
1199       \expandafter\noexpand
1200         \csname\expandafter\@gobble\string##1\@empty\endcsname
1201       \@gobble
1202     }%
1203     \let#2\let
1204     \def\HyPsd@@LetCommand##1{%
1205       \expandafter\ifx\csname##1\expandafter\endcsname
1206         \csname iftrue\endcsname

```

```

1207 \pdfstringdefWarn\let
1208 \expandafter\@gobble
1209 \else
1210 \expandafter\ifx\csname##1\expandafter\endcsname
1211 \csname iffalse\endcsname
1212 \pdfstringdefWarn\let
1213 \expandafter\expandafter\expandafter\@gobble
1214 \else
1215 #2%
1216 \expandafter\noexpand
1217 \csname##1\expandafter\expandafter\expandafter\endcsname
1218 \fi
1219 \fi
1220 }%
1221 }%
1222 \expandafter\x\csname <def>-command\expandafter\endcsname
1223 \csname <let>-command\endcsname
1224 \def\HyPsd@LetCommand#1{%
1225 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1226 \expandafter\expandafter\expandafter{%
1227 \expandafter\@gobble\string#1\@empty
1228 }%
1229 }

```

6.5.11 \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).

```

1230 \def\HyPsd@ifnextchar#1{%
1231 \pdfstringdefWarn#1%
1232 \expandafter\@gobbletwo\@gobble
1233 }

```

6.5.12 \@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`.

```

1234 \def\HyPsd@protected@testopt#1{%
1235 \pdfstringdefWarn#1%
1236 \@gobbletwo
1237 }

```

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:

```
1238 \def\HyPsd@Warning#1{%
1239   \begingroup
1240   \def\space{ }%
1241   \Hy@Warning{#1}%
1242   \endgroup
1243 }
```

6.6.2 Protecting spaces

```
1244 \RequirePackage{etexcmds}[2007/09/09]
1245 \ifetex@unexpanded
1246   \expandafter\@secondoftwo
1247 \else
1248   \expandafter\@firstoftwo
1249 \fi
1250 {%
```

`\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`.

```
1251 \def\HyPsd@ProtectSpaces#1{%
1252   \iftrue
1253     \expandafter\HyPsd@@@ProtectSpacesFi
1254     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1255   \fi
1256   }%
```

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

```
1257 \def\HyPsd@@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1258   \fi
1259   \ifx\scrollmode#2\scrollmode
1260     \HyPsd@RemoveMask#1\HyPsd@End#3%
1261   \else
1262     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1263     \expandafter\HyPsd@@@ProtectSpacesFi#3\HyPsd@End#3%
1264   \fi
1265   }%
```

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.

```
1266 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1267   \toks@{\expandafter{#1}%
1268   \xdef#2{\the\toks@}%
1269   }%
1270 }{%
1271   \let\HyPsd@fi\fi
1272   \def\HyPsd@ProtectSpaces#1{%
```

```

1273 \xdef#1{%
1274   \iftrue
1275     \expandafter\HyPsd@@ProtectSpacesFi
1276     \expandafter|\expandafter\@empty#1| %
1277   \HyPsd@fi
1278 }%
1279 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1280 }%
1281 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1282   \fi
1283   \etex@unexpanded{#1}%
1284   \ifx\scrollmode#2\scrollmode
1285   \else
1286     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1287   \HyPsd@fi
1288 }%
1289 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1290   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1291 }%
1292 }

```

6.6.3 Remove grouping braces

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

```

1293 \def\HyPsd@RemoveBraces#1{%
1294   \ifx\scrollmode#1\scrollmode
1295   \else
1296     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1297   \fi
1298 }

```

`\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`.

```

1299 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1300   \fi
1301   \def\Hy@temp@A{#1#2}%
1302   \def\Hy@temp@B{#3}%
1303   \ifx\Hy@temp@A\Hy@temp@B
1304     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1305       \HyPsd@String#1%
1306     }%
1307   \ifx\scrollmode#2\scrollmode
1308   \else
1309     \Hy@ReturnAfterFiFiEnd{%
1310       \HyPsd@RemoveBraces{#2}%
1311     }%
1312   \fi
1313   \else
1314     \def\Hy@temp@A{#1}%

```

```

1315 \HyPsd@AppendItalcorr\HyPsd@String
1316 \ifx\Hy@temp@A\@empty
1317 \Hy@ReturnAfterElseFiFiEnd{%
1318 \HyPsd@RemoveBraces{#2}%
1319 }%
1320 \else
1321 \HyPsd@ProtectSpaces\Hy@temp@A
1322 \HyPsd@AppendItalcorr\Hy@temp@A
1323 \Hy@ReturnAfterFiFiEnd{%
1324 \expandafter\HyPsd@RemoveBraces\expandafter
1325 {\Hy@temp@A#2}%
1326 }%
1327 \fi
1328 \fi
1329 \Hy@ReturnEnd
1330 }

```

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

```

1331 \def\HyPsd@AppendItalcorr#1{%
1332 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
1333 }
1334 \def\HyPsd@@AppendItalcorr#1#2{%
1335 \expandafter\def\expandafter#2\expandafter{#2#1}%
1336 }

```

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).

```

1337 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1338 \global\let\HyPsd@Rest\relax
1339 \ifcat\relax\noexpand#1\relax
1340 \ifx#1\protect
1341 \else
1342 \ifx#1\penalty
1343 \setbox\z@=\hbox{%
1344 \afterassignment\HyPsd@AfterCountRemove
1345 \count@=#2\HyPsd@End
1346 }%
1347 \else
1348 \ifx#1\kern
1349 \setbox\z@=\hbox{%
1350 \afterassignment\HyPsd@AfterDimenRemove
1351 \dimen@=#2\HyPsd@End
1352 }%
1353 \else

```

```

1354     \ifx#1\hskip
1355     \setbox\z@=\hbox{%
1356       \afterassignment\HyPsd@AfterSkipRemove
1357       \skip@=#2\HyPsd@End
1358     }%
1359   \else
1360     \HyPsd@CatcodeWarning{#1}%
1361   \fi
1362 \fi
1363 \fi
1364 \fi
1365 \else
1366   \ifcat#1A% letter
1367     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1368       \HyPsd@String#1%
1369     }%
1370   \else
1371     \ifcat#1 % SPACE
1372       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1373         \HyPsd@String\HyPsd@SPACEOPTI
1374       }%
1375     \else
1376       \ifcat$#1%
1377         \HyPsd@CatcodeWarning{math shift}%
1378       \else
1379         \ifcat&#1%
1380           \HyPsd@CatcodeWarning{alignment tab}%
1381         \else
1382           \ifcat^#1%
1383             \HyPsd@CatcodeWarning{superscript}%
1384           \else
1385             \ifcat_#1%
1386               \HyPsd@CatcodeWarning{subscript}%
1387             \else
1388               \expandafter\def\expandafter\HyPsd@String\expandafter{%
1389                 \HyPsd@String#1%
1390               }%
1391             \fi
1392           \fi
1393         \fi
1394       \fi
1395     \fi
1396   \fi
1397 \fi
1398 \ifx\HyPsd@Rest\relax
1399   \ifx\scrollmode#2\scrollmode
1400   \else
1401     \Hy@ReturnAfterFiFiEnd{%
1402       \HyPsd@CheckCatcodes#2\HyPsd@End
1403     }%
1404   \fi
1405 \else
1406   \ifx\HyPsd@Rest\@empty
1407   \else
1408     \Hy@ReturnAfterFiFiEnd{%
1409       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1410     }%

```

```

1411 \fi
1412 \fi
1413 \Hy@ReturnEnd
1414 }

```

Remove counts, dimens, skips.

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

```

1415 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1416 \gdef\HyPsd@Rest{#1}%
1417 }

```

`\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.

```

1418 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1419 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1420 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1421 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1422 \else
1423 \ifdim\dimen@=\z@
1424 \else
1425 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1426 \fi
1427 \gdef\HyPsd@Rest{#1}%
1428 \fi
1429 }

```

`\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).

```

1430 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1431 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1432 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1433 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1434 \else
1435 \ifdim\skip@=\z@
1436 \else
1437 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1438 \fi
1439 \gdef\HyPsd@Rest{#1}%
1440 \fi
1441 }

```

Catcode warnings.

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

```

1442 \def\HyPsd@CatcodeWarning#1{%
1443 \HyPsd@Warning{%
1444 Token not allowed in a PDF string (%
1445 \ifHy@unicode
1446 Unicode%
1447 \else
1448 PDFDocEncoding%
1449 \fi
1450 ):%

```

```

1451 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1452 }%
1453 }
1454 \begingroup
1455 \catcode'\|=0 %
1456 \catcode'\|=12 %
1457 |gdef|HyPsd@RemoveCmdPrefix#1{%
1458 |expandafter|HyPsd@@RemoveCmdPrefix
1459 |string#1|@empty\<>-|@empty|@empty
1460 }%
1461 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1462 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1463 \def\HyPsd@RemoveSpaceWarning#1{%
1464 \HyPsd@Warning{%
1465 Token not allowed in a PDF string (%
1466 \ifHy@unicode
1467 Unicode%
1468 \else
1469 PDFDocEncoding%
1470 \fi
1471 ):%
1472 \MessageBreak #1\MessageBreak
1473 removed%
1474 }%
1475 }

```

\HyPsd@ReplaceSpaceWarning

```

1476 \def\HyPsd@ReplaceSpaceWarning#1{%
1477 \HyPsd@Warning{%
1478 Token not allowed in a PDF string (%
1479 \ifHy@unicode
1480 Unicode%
1481 \else
1482 PDFDocEncoding%
1483 \fi
1484 ):%
1485 \MessageBreak #1\MessageBreak
1486 replaced by space%
1487 }%
1488 }

```

6.6.5 Check for wrong glyphs

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

```

1489 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1490 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1491 \HyPsd@String#1%
1492 }%
1493 \ifx\|#2\| %
1494 \else
1495 \Hy@ReturnAfterFi{%
1496 \HyPsd@GlyphProcessWarning#2\@empty
1497 }%
1498 \fi

```



```

1499 }
1500 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1501 \HyPsd@@GlyphProcessWarning#1++>%
1502 \HyPsd@GlyphProcess#2\@empty
1503 }
1504 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1505 \ifx\#2\%
1506 \HyPsd@Warning{%
1507 Glyph not defined in %
1508 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1509 removing '@backslashchar#1'%
1510 }%
1511 \else
1512 \HyPsd@Warning{%
1513 Composite letter '@backslashchar#1+#2'\MessageBreak
1514 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1515 \MessageBreak
1516 removing '@backslashchar#1'%
1517 }%
1518 \fi
1519 }

```

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`.

```

1520 \def\HyPsd@spaceopti#1{ % first space
1521 \ifx\HyPsd@spaceopti#1%
1522 \040%
1523 \else
1524 #1%
1525 \fi
1526 }%

```

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.

1527 \def\HyPsd@Subst#1#2#3{%
1528 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1529 \fi
1530 ##1%
1531 \ifx\scrollmode##2\scrollmode
1532 \else
1533 #2%
1534 \HyPsd@@ReplaceFi##2\END
1535 \fi
1536 }%
1537 \xdef#3{%
1538 \iftrue
1539 \expandafter\HyPsd@@ReplaceFi#3#1\END

```

```

1540 \fi
1541 }%
1542 }

```

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

```

1543 \def\HyPsd@StringSubst#1{%
1544 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1545 }

```

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.

```

1546 \def\HyPsd@doxspace#1{%
1547 \ifx#1\relax\else
1548 \ifx#1.\else
1549 \ifx#1:\else
1550 \ifx#1,\else
1551 \ifx#1;\else
1552 \ifx#1!\else
1553 \ifx#1?\else
1554 \ifx#1/\else
1555 \ifx#1-\else
1556 \ifx#1'\else
1557 \HyPsd@SPACEOPTI
1558 \fi
1559 \fi
1560 \fi
1561 \fi
1562 \fi
1563 \fi
1564 \fi
1565 \fi
1566 \fi
1567 \fi
1568 #1%
1569 }%

```

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.

```

1570 \begingroup
1571 \catcode'\|=0 %
1572 \catcode'\=12 %

```

`\HyPsd@ConvertToUnicode`

```

1573 |gdef|HyPsd@ConvertToUnicode#1{%
1574 |xdef#1{%
1575 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1576 }%
1577 |ifx#1|@empty
1578 |else

```

```

1579 |xdef#1{%
1580 \376\377%
1581 #1%
1582 }%
1583 |fi
1584 }%

```

\HyPsd@DoConvert

```

1585 |gdef|HyPsd@DoConvert#1{%
1586 |ifx#1|@empty
1587 |else
1588 |Hy@ReturnAfterFi{%
1589 |ifx#1\%%
1590 \%%
1591 |expandafter|HyPsd@DoEscape
1592 |else
1593 |HyPsd@Char{#1}%
1594 |expandafter|HyPsd@DoConvert
1595 |fi
1596 }%
1597 |fi
1598 }%

```

\HyPsd@DoEscape

```

1599 |gdef|HyPsd@DoEscape#1{%
1600 |ifx#19%
1601 |expandafter|HyPsd@GetTwoBytes
1602 |else
1603 |Hy@ReturnAfterFi{%
1604 |ifx#18%
1605 00%
1606 |expandafter|HyPsd@GetTwoBytes
1607 |else
1608 #1%
1609 |expandafter|HyPsd@GetOneByte
1610 |fi
1611 }%
1612 |fi
1613 }%

```

\HyPsd@GetTwoBytes

```

1614 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1615 #1\#2#3#4%
1616 |HyPsd@DoConvert
1617 }%

```

\HyPsd@GetOneByte

```

1618 |gdef|HyPsd@GetOneByte#1#2{%
1619 #1#2%
1620 |HyPsd@DoConvert
1621 }%
1622 |endgroup

```

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

```

1623 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1624 \xdef#4{#4#1#2}%

```

```

1625 \HyPsd@@ConvertToUnicode#3\END#4%
1626 }

```

\HyPsd@Char

```

1627 \RequirePackage{intcalc}[2007/09/27]
1628 \begingroup
1629 \catcode0=9 %
1630 \catcode'\^=7 %
1631 \catcode'\^^=12 %
1632 \def\x{^^^^0000}%
1633 \expandafter\endgroup
1634 \ifx\x\@empty
1635 \def\HyPsd@Char#1{%
1636 \ifnum'#1<128 %
1637 \@backslashchar 000#1%
1638 \else
1639 \ifnum'#1<65536 %
1640 \expandafter\HyPsd@CharTwoByte\number'#1!%
1641 \else
1642 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1643 \intcalcSub{'#1}{65536}!%
1644 \fi
1645 \fi
1646 }%
1647 \def\HyPsd@CharTwoByte#1!{%
1648 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1649 \IntCalcDiv#1!256!!%
1650 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1651 \IntCalcMod#1!256!!%
1652 }%
1653 \def\HyPsd@CharOctByte#1!{%
1654 \@backslashchar
1655 \IntCalcDiv#1!64!%
1656 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1657 \IntCalcMod#1!8!%
1658 }%
1659 \def\HyPsd@CharSurrogate#1!{%
1660 \@backslashchar 33%
1661 \IntCalcDiv#1!262144!%
1662 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1663 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1664 \@backslashchar 33%
1665 \expandafter\expandafter\expandafter\IntCalcAdd
1666 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1667 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1668 \IntCalcMod#1!256!!%
1669 }%
1670 \else
1671 \def\HyPsd@Char#1{%
1672 \@backslashchar 000#1%
1673 }%
1674 \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 e_T here for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

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

```

1675 \begingroup\expandafter\expandafter\expandafter\endgroup
1676 \expandafter\ifx\csname numexpr\endcsname\relax
1677   \let\HyPsd@UTFviii\relax
1678 \else
1679   \begingroup
1680     \lccode'\~='^f4\relax
1681   \lowercase{\endgroup
1682     \def\HyPsd@UTFviii{%
1683       \let\UTFviii@two@octets\HyPsd@UTFviii@two
1684       \let\UTFviii@three@octets\HyPsd@UTFviii@three
1685       \let\UTFviii@four@octets\HyPsd@UTFviii@four
1686       \ifx~\HyPsd@UTFviii@ccxliv@undef
1687         \let~\HyPsd@UTFviii@ccxliv@def
1688       \fi
1689       \let\unichar\HyPsd@unichar
1690     }%
1691   }%
1692   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1693   \edef\HyPsd@UTFviii@ccxliv@def{%
1694     \noexpand\UTFviii@four@octets\string ^f4%
1695   }%

```

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.

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

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

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

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

$$(5)$$

```

1696 \def\HyPsd@UTFviii@two#1#2{%
1697   \expandafter\HyPsd@UTFviii@@two
1698   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1699   \number'#1\expandafter| %
1700   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
1701   \number'#2 \@nil
1702 }%
1703 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1704   \expandafter\8%
1705   \number\numexpr #1-48\expandafter\relax
1706   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1707   \number\numexpr #3-8*%
1708   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1709   \number\numexpr #4-8*#3\relax
1710 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1711 \def\HyPsd@UTFviii@three#1#2#3{%
1712 \expandafter\HyPsd@UTFviii@@three
1713 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1714 \number'#1\expandafter| %
1715 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
1716 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
1717 \number'#2\expandafter| %
1718 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
1719 \number'#3 \@nil
1720 }%
1721 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1722 \expandafter\9%
1723 \number\dimexpr #1-56\expandafter\relax
1724 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1725 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1726 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1727 \number\dimexpr #6-16\expandafter\relax
1728 \number\dimexpr #7-8*#6\relax
1729 }%

```

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 wwzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1730 \def\HyPsd@UTFviii@four#1#2{%
1731 \expandafter\HyPsd@@UTFviii@four\number
1732 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1733 \expandafter|\number
1734 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1735 }%
1736 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1737 \933\number\dimexpr.25\dimexpr'#1sp\relax\relax
1738 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr'#1sp\endcsname
1739 \ifodd#2 %
1740 \number\dimexpr(#2-1)/2\relax
1741 \else
1742 \number\dimexpr#2/2\relax
1743 \fi
1744 \number\dimexpr\ifodd#2 4+\fi
1745 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1746 \933%

```

```

1747 \expandafter\HyPsd@@@UTFviii@four\number
1748 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1749 }%
1750 \def\HyPsd@@@UTFviii@four#1|#2{%
1751 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1752 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1753 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1754 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1755 }%

```

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

```

1756 \def\HyPsd@unichar#1{%
1757 \ifHy@unicode
1758 \ifnum#1>"10FFFF %
1759 \HyPsd@UnicodeReplacementCharacter % illegal
1760 \else
1761 \ifnum#1>"FFFF %

```

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

```

1762 \expandafter\HyPsd@unichar\expandafter{%
1763 \number\numexpr 55296+%
1764 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1765 \relax\relax\relax
1766 }%

```

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

```

1767 \expandafter\HyPsd@unichar\expandafter{%
1768 \number\numexpr#1-9216%
1769 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1770 \relax\relax\relax
1771 }%
1772 \else
1773 \ifnum#1>"7FF %
1774 \9%
1775 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1776 \number
1777 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1778 }%
1779 \else
1780 \8%
1781 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1782 \fi
1783 \expandafter\HyPsd@unichar@second@byte\expandafter{%
1784 \number
1785 \numexpr#1-256*\number
1786 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1787 }%
1788 \fi
1789 \fi
1790 \else
1791 .% unsupported (Unicode -> PDF Doc Encoding)
1792 \fi
1793 }%
1794 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1795 \def\HyPsd@unichar@first@byte#1{%
1796 \number\dimexpr.015625\dimexpr#1sp\relax\relax
1797 \expandafter\HyPsd@unichar@octtwo\expandafter{%

```

```

1798 \number
1799 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1800 \relax\relax\relax
1801 }%
1802 }%
1803 \def\HyPsd@unichar@second@byte#1{%
1804 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1805 \expandafter\HyPsd@unichar@octtwo\expandafter{%
1806 \number
1807 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1808 \relax\relax\relax
1809 }%
1810 }%
1811 \def\HyPsd@unichar@octtwo#1{%
1812 \number\dimexpr.125\dimexpr#1sp\relax\relax
1813 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1814 \relax\relax\relax
1815 }%
1816 \fi

```

7 Support of other packages

7.1 Class memoir

```

1817 \@ifclassloaded{memoir}{%
1818 \AtEndOfPackage{\RequirePackage{memhfixc}}%
1819 }{}

```

7.2 Package subfigure

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

```

1820 \@ifpackageloaded{subfigure}{%
1821 \@ifundefined{sub@label}{%
1822 \Hy@hypertexnamesfalse
1823 }{%
1824 \renewcommand*{\sub@label}[1]{%
1825 \@bsphack
1826 \subfig@oldlabel{#1}%
1827 \if@filesw
1828 \begingroup
1829 \edef\@currentlabstr{%
1830 \expandafter\strip@prefix\meaning\@currentlabelname
1831 }%
1832 \protected@write\@auxout{}{%
1833 \string\newlabel{sub@#1}{%
1834 {\@nameuse{@@thesub\@capytype}}%
1835 {\thepage}%
1836 }%
1837 \expandafter\strip@period\@currentlabstr
1838 \relax.\relax\@@@%
1839 }%
1840 {\@currentHref}%
1841 }}%
1842 }%
1843 }%
1844 \endgroup
1845 \fi

```



```

1846 \@esphack
1847 }%
1848 \@ifpackagelater{subfigure}{2002/03/26}{\}%
1849 \providecommand*\toclevel@subfigure{1}%
1850 \providecommand*\toclevel@subtable{1}%
1851 }%
1852 }%
1853 }{}

```

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:

```

1854 \@ifundefined{XR@addURL}{\}%
1855 }{}

```

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

```

1856 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
1857 \def\XR@dURL#1#2#3#4#5\\{\%
1858   {#1}{#2}%
1859   \if!#4!%
1860   \else
1861     {#3}{#4}{\XR@URL}%
1862   \fi
1863 }%
1864 }

1865 \def\Hy@true{true}
1866 \def\Hy@false{false}

```

Providing dummy definitions.

```

1867 \let\literalps@out\@gobble
1868 \newcommand\pdfbookmark[3]{}{}
1869 \def\Acrobatmenu#1#2{\leavevmode#2}
1870 \def\Hy@writebookmark#1#2#3#4#5{}%

```

8 Help macros for links

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

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

```

1871 \let\HyperRaiseLinkHook\@empty
1872 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

1873 \def\Hy@raisedlink#1{\%
1874 \ifvmode

```

```

1875   #1%
1876   \else
1877     \penalty\@M
1878     \smash{%
1879       \begingroup
1880         \let\HyperRaiseLinkLength\@tempdima
1881         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1882         \HyperRaiseLinkHook
1883       \expandafter\endgroup
1884       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1885     }%
1886   \fi
1887 }

```

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

```

1888 \def\Hy@SaveLastskip{%
1889   \let\Hy@RestoreLastskip\relax
1890   \ifvmode
1891     \ifdim\lastskip=\z@
1892       \let\Hy@RestoreLastskip\nobreak
1893     \else
1894       \begingroup
1895         \skip@=-\lastskip
1896       \edef\x{%
1897         \endgroup
1898         \def\noexpand\Hy@RestoreLastskip{%
1899           \noexpand\ifvmode
1900             \noexpand\nobreak
1901             \vskip\the\skip@
1902             \vskip\the\lastskip\relax
1903           \noexpand\fi
1904         }%
1905       }%
1906     \x
1907   \fi
1908 \else
1909   \ifhmode
1910     \ifdim\lastskip=\z@
1911       \let\Hy@RestoreLastskip\nobreak
1912     \else
1913       \begingroup
1914         \skip@=-\lastskip
1915       \edef\x{%
1916         \endgroup
1917         \def\noexpand\Hy@RestoreLastskip{%
1918           \noexpand\ifhmode
1919             \noexpand\nobreak
1920             \hskip\the\skip@
1921             \hskip\the\lastskip\relax
1922           \noexpand\fi
1923         }%
1924       }%
1925     \x
1926   \fi
1927 \fi
1928 \fi
1929 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```
1930 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1931 \def\Hy@@boolkey[#1]#2#3{%
1932   \edef\Hy@tempa{#3}%
1933   \lowercase\expandafter{%
1934     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1935   }%
1936   \ifx\Hy@tempa\@empty
1937     \let\Hy@tempa\Hy@true
1938   \fi
1939   \ifx\Hy@tempa\Hy@true
1940     \else
1941       \ifx\Hy@tempa\Hy@false
1942         \else
1943           \let\Hy@tempa\relax
1944         \fi
1945       \fi
1946       \ifx\Hy@tempa\relax
1947         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1948       \else
1949         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1950         \csname Hy@#2\Hy@tempa\endcsname
1951       \fi
1952 }
```

\Hy@WarnOptionValue

```
1953 \def\Hy@WarnOptionValue#1#2#3{%
1954   \Hy@Warning{%
1955     Unexpected value ‘#1’\MessageBreak
1956     of option ‘#2’ instead of\MessageBreak
1957     #3%
1958   }%
1959 }
```

\Hy@DisableOption

```
1960 \def\Hy@DisableOption#1{%
1961   \@ifundefined{KV@Hyp@#1@default}{%
1962     \define@key{Hyp}{#1}%
1963   }{%
1964     \define@key{Hyp}{#1}[]%
1965   }%
1966   {\Hy@WarnOptionDisabled{#1}}%
1967 }
```

\Hy@WarnOptionDisabled

```
1968 \def\Hy@WarnOptionDisabled#1{%
1969   \Hy@Warning{%
1970     Option ‘#1’ has already been used,\MessageBreak
1971     setting the option has no effect%
1972   }%
1973 }
```

`\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`.

```

1974 \def\Hy@CheckOptionValue#1#2#3{%
1975   \begingroup
1976   \edef\x{#1}%
1977   \@onelevel@sanitize\x
1978   \let\y=y%
1979   \def\do##1##2{%
1980     \def\z{##1}%
1981     \@onelevel@sanitize\z
1982     \ifx\x\z
1983       \let\y=n%
1984       \let\do\@gobbletwo
1985     \fi
1986   }%
1987   #3%
1988   \ifx\y y%
1989     \def\do##1##2{%
1990       * '##1'%
1991       \ifx\##2\\\else\space(##2)\fi
1992       \MessageBreak
1993     }%
1994     \Hy@Warning{%
1995       Values of option '#2':\MessageBreak
1996       #3%
1997       * An empty value disables the option.\MessageBreak
1998       Unknown value '\x'%
1999     }%
2000   \fi
2001 \endgroup
2002 }
```

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

```

2003 \def\Hy@DefNameKey#1{%
2004   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2005 }
```

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

```

2006 \def\Hy@@DefNameKey#1#2#3{%
2007   \define@key{Hyp}{#2}{%
2008     \edef#1{##1}%
2009     \ifx#1\@empty
2010       \else
2011         \Hy@CheckOptionValue{##1}{#2}{#3}%
2012       \fi
2013   }%
2014   \let#1\@empty
2015 }
```

`\Hy@UseNameKey`

```

2016 \def\Hy@UseNameKey#1#2{%
2017   \ifx#2\@empty
```

```

2018 \else
2019   /#1/#2%
2020 \fi
2021 }

```

9.2 Defining the options

```

2022 \define@key{Hyp}{implicit}[true]{%
2023   \Hy@boolkey{implicit}{#1}%
2024 }
2025 \define@key{Hyp}{draft}[true]{%
2026   \Hy@boolkey{draft}{#1}%
2027 }
2028 \define@key{Hyp}{final}[true]{%
2029   \Hy@boolkey{final}{#1}%
2030 }
2031 \let\KV@Hyp@nolinks\KV@Hyp@draft
2032 \def\Hy@ObsoletePaperOption#1{%
2033   \Hy@WarningNoLine{%
2034     Option '#1' is no longer used%
2035   }%
2036   \define@key{Hyp}{#1}[true]{}%
2037 }
2038 \def\Hy@temp#1{%
2039   \define@key{Hyp}{#1}[true]{%
2040     \Hy@ObsoletePaperOption{#1}%
2041   }%
2042 }
2043 \Hy@temp{a4paper}
2044 \Hy@temp{a5paper}
2045 \Hy@temp{b5paper}
2046 \Hy@temp{letterpaper}
2047 \Hy@temp{legalpaper}
2048 \Hy@temp{executivepaper}
2049 \define@key{Hyp}{setpagesize}[true]{%
2050   \Hy@boolkey{setpagesize}{#1}%
2051 }
2052 \define@key{Hyp}{debug}[true]{%
2053   \Hy@boolkey{debug}{verbose}{#1}%
2054 }
2055 \define@key{Hyp}{linktopage}[true]{%
2056   \Hy@boolkey{linktopage}{#1}%
2057   \ifHy@linktopage
2058     \let\Hy@linktoc\Hy@linktoc@page
2059   \else
2060     \let\Hy@linktoc\Hy@linktoc@section
2061   \fi
2062 }
2063 \chardef\Hy@linktoc@none=0 %
2064 \chardef\Hy@linktoc@section=1 %
2065 \chardef\Hy@linktoc@page=2 %
2066 \chardef\Hy@linktoc@all=3 %
2067 \ifHy@linktopage
2068   \let\Hy@linktoc\Hy@linktoc@page
2069 \else
2070   \let\Hy@linktoc\Hy@linktoc@section
2071 \fi

```

```

2072 \define@key{Hyp}{linktoc}{%
2073   \@ifundefined{Hy@linktoc@#1}{%
2074     \Hy@Warning{%
2075       Unexpected value ‘#1’ of\MessageBreak
2076       option ‘linktoc’ instead of ‘none’,\MessageBreak
2077       ‘section’, ‘page’ or ‘all’%
2078     }%
2079   }{%
2080     \expandafter\let\expandafter\Hy@linktoc
2081     \csname Hy@linktoc@#1\endcsname
2082   }%
2083 }
2084 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2085 \let\XR@ext\relax
2086 \define@key{Hyp}{verbose}[true]{%
2087   \Hy@boolkey{verbose}{#1}%
2088 }
2089 \define@key{Hyp}{typexml}[true]{%
2090   \Hy@boolkey{typexml}{#1}%
2091 }

```

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.

```

2092 \define@key{Hyp}{raiselinks}[true]{%
2093   \Hy@boolkey{raiselinks}{#1}%
2094 }

```

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

```

2095 \def\Hy@setbreaklinks#1{%
2096   \csname breaklinks#1\endcsname
2097 }
2098 \def\Hy@breaklinks@unsupported{%
2099   \ifx\Hy@setbreaklinks\@gobble
2100     \ifHy@breaklinks
2101       \Hy@WarningNoLine{%
2102         You have enabled option ‘breaklinks’.\MessageBreak
2103         But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2104         Expect trouble with the link areas of broken links%
2105       }%
2106     \fi
2107   \fi
2108 }
2109 \define@key{Hyp}{breaklinks}[true]{%
2110   \Hy@boolkey{breaklinks}{#1}%
2111   \let\Hy@setbreaklinks\@gobble
2112 }

```

Determines whether an automatic anchor is put on each page

```

2113 \define@key{Hyp}{pageanchor}[true]{%
2114   \Hy@boolkey{pageanchor}{#1}%
2115 }

```

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.

```

2116 \define@key{Hyp}{plainpages}[true]{%
2117   \Hy@boolkey{plainpages}{#1}%
2118 }

```

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

```
2119 \define@key{Hyp}{naturalnames}[true]{%
2120   \Hy@boolkey{naturalnames}{#1}%
2121 }
```

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

```
2122 \define@key{Hyp}{hypertexnames}[true]{%
2123   \Hy@boolkey{hypertexnames}{#1}%
2124 }
```

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

```
2125 \define@key{Hyp}{nesting}[true]{%
2126   \Hy@boolkey{nesting}{#1}%
2127 }

2128 \define@key{Hyp}{unicode}[true]{%
2129   \Hy@boolkey{unicode}{#1}%
2130   \ifHy@unicode
2131     \def\HyPsd@pdfencoding{unicode}%
2132   \else
2133     \def\HyPsd@pdfencoding{pdfdoc}%
2134   \fi
2135   \HyPsd@LoadUnicode
2136 }
2137 \def\HyPsd@LoadUnicode{%
2138   \@ifundefined{T@PU}{%
2139     \input{puenc.def}%
2140     \HyLinguex@Restore
2141   }{}%
2142   \DeclareFontFamily{PU}{pdf}{}%
2143   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2144   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2145   \global\let\HyPsd@LoadUnicode\relax
2146 }
2147 \AtBeginDocument{%
2148   \ifx\HyPsd@LoadUnicode\relax
2149   \else
2150     \def\HyPsd@LoadUnicode{%
2151       \PackageError{hyperref}{%
2152         Unicode support for bookmarks is not available.\MessageBreak
2153         Activate unicode support by using one of the options\MessageBreak
2154         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2155         in the preamble%
2156       }{\@ehc
2157         \global\let\HyPsd@LoadUnicode\relax
2158         \global\Hy@unicodedefalse
2159         \global\let\Hy@unicodetrue\Hy@unicodedefalse
2160       }%
2161     \fi
2162 }

2163 \define@key{Hyp}{pdfencoding}{%
2164   \edef\HyPsd@temp{#1}%
2165   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2166     \let\HyPsd@pdfencoding\HyPsd@temp
2167     \Hy@unicodedefalse
2168   \else
2169     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
```

```

2170         \z@
2171     \else
2172         \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2173             \z@
2174         \else
2175             \@ne
2176         \fi
2177     \fi
2178     \let\HyPsd@pdfencoding\HyPsd@temp
2179     \hypersetup{unicode}%
2180     \ifHy@unicode
2181         \def\HyPsd@pdfencoding{#1}%
2182         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2183             \HyPsd@LoadStringEnc
2184         \fi
2185     \else
2186         \Hy@Warning{Cannot switch to unicode bookmarks}%
2187         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2188     \fi
2189 \else
2190     \@onelevel@sanitize\HyPsd@temp
2191     \Hy@Warning{%
2192         Values of option 'pdfencoding':\MessageBreak
2193         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2194         Ignoring unknown value '\HyPsd@temp'%
2195     }%
2196 \fi
2197 \fi
2198 }
2199 \def\HyPsd@pdfencoding@auto{auto}
2200 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2201 \def\HyPsd@pdfencoding@unicode{unicode}
2202 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2203 \def\HyPsd@LoadStringEnc{%
2204     \RequirePackage{stringenc}[2009/12/15]%
2205     \let\HyPsd@LoadStringEnc\relax
2206 }
2207 \AtBeginDocument{%
2208     \ifpackageloaded{stringenc}{%
2209         \let\HyPsd@LoadStringEnc\relax
2210     }{%
2211         \def\HyPsd@LoadStringEnc{%
2212             \Hy@WarningNoLine{%
2213                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2214                 in the preamble or load the package there%
2215             }%
2216         }%
2217     }%
2218 }
2219 \newif\ifHy@setpdfversion
2220 \define@key{Hyp}{pdfversion}{%
2221     \@ifundefined{Hy@pdfversion@#1}{%
2222         \PackageWarning{hyperref}{%
2223             Unsupported PDF version '#1'.\MessageBreak
2224             Valid values: 1.2 until 1.9%
2225         }%
2226     }{%

```



```

2227 \Hy@setpdfversiontrue
2228 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2229 }%
2230 }
2231 \@namedef{Hy@pdfversion@1.2}{2}%
2232 \@namedef{Hy@pdfversion@1.3}{3}%
2233 \@namedef{Hy@pdfversion@1.4}{4}%
2234 \@namedef{Hy@pdfversion@1.5}{5}%
2235 \@namedef{Hy@pdfversion@1.6}{6}%
2236 \@namedef{Hy@pdfversion@1.7}{7}%
2237 \@namedef{Hy@pdfversion@1.8}{8}%
2238 \@namedef{Hy@pdfversion@1.9}{9}%
2239 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2240 \define@key{Hyp}{hyperref}[true]{}
2241 \define@key{Hyp}{tex4ht}[true]{%
2242   \Hy@texhttrue
2243   \setkeys{Hyp}{colorlinks=true}%
2244   \def\BeforeTeXIVht{\usepackage{color}}}%
2245   \def\Hy@driver{htex4ht}%
2246   \def\MaybeStopEarly{%
2247     \typeout{Hyperref stopped early}%
2248     \AfterBeginDocument{%
2249       \PDF@FinishDoc
2250       \gdef\PDF@FinishDoc{}%
2251     }%
2252   \endinput
2253 }%
2254 }
2255 \define@key{Hyp}{pdftex}[true]{%
2256   \def\Hy@driver{hpdftex}%
2257 }
2258 \define@key{Hyp}{nativepdf}[true]{%
2259   \def\Hy@driver{hdvips}%
2260 }
2261 \define@key{Hyp}{dvipdfm}[true]{%
2262   \def\Hy@driver{hdvipdfm}%
2263 }
2264 \define@key{Hyp}{dvipdfmx}[true]{%
2265   \def\Hy@driver{hdvipdfm}%
2266 }
2267 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2268   \expandafter\ifx\csname if#1\expandafter\endcsname
2269     \csname iftrue\endcsname
2270     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2271   \else
2272     \chardef\SpecialDvipdfmxOutlineOpen\z@
2273   \fi
2274 }
2275 \define@key{Hyp}{xetex}[true]{%
2276   \def\Hy@driver{hxetex}%
2277 }
2278 \define@key{Hyp}{pdfmark}[true]{%
2279   \def\Hy@driver{hdvips}%
2280 }

```

```

2281 \define@key{Hyp}{dvips}[true]{%
2282   \def\Hy@driver{hdvips}%
2283 }
2284 \define@key{Hyp}{hypertex}[true]{%
2285   \def\Hy@driver{hypertex}%
2286 }
2287 \let\Hy@MaybeStopNow\relax
2288 \define@key{Hyp}{vtex}[true]{%
2289   \begingroup\expandafter\expandafter\expandafter\endgroup
2290   \expandafter\ifx\csname OpMode\endcsname\relax
2291     \@latex@error{Non-VTeX processor}{}%
2292     \global\let\Hy@MaybeStopNow\endinput
2293   \endinput
2294   \else
2295     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2296       \def\Hy@driver{hvtex}%
2297     \else
2298       \ifnum\OpMode=10\relax
2299         \def\Hy@driver{hvtexhtm}%
2300         \def\MaybeStopEarly{%
2301           \typeout{Hyperref stopped early}%
2302           \AfterBeginDocument{%
2303             \PDF@FinishDoc
2304             \gdef\PDF@FinishDoc{}}%
2305           }%
2306         \endinput
2307       }%
2308     \else
2309       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2310       \global\let\Hy@MaybeStopNow\endinput
2311     \endinput
2312   \fi
2313 \fi
2314 \fi
2315 }
2316 \define@key{Hyp}{vtexpdfmark}[true]{%
2317   \begingroup\expandafter\expandafter\expandafter\endgroup
2318   \expandafter\ifx\csname OpMode\endcsname\relax
2319     \@latex@error{Non-VTeX processor}{}%
2320     \let\Hy@MaybeStopNow\endinput
2321   \endinput
2322   \else
2323     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2324       \def\Hy@driver{hvtexmrk}%
2325     \else
2326       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2327       \let\Hy@MaybeStopNow\endinput
2328     \endinput
2329   \fi
2330 \fi
2331 }
2332 \define@key{Hyp}{dviwindo}[true]{%
2333   \def\Hy@driver{hdviwind}%
2334   \setkeys{Hyp}{colorlinks}%
2335   \PassOptionsToPackage{dviwindo}{color}%
2336 }
2337 \define@key{Hyp}{dvipsone}[true]{%

```

```

2338 \def\Hy@driver{hdvipson}%
2339 }
2340 \define@key{Hyp}{textures}[true]{%
2341 \def\Hy@driver{htexture}%
2342 }
2343 \define@key{Hyp}{latex2html}[true]{%
2344 \AtBeginDocument{\@@@latextohtmlX}%
2345 }

```

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

```

2346 \define@key{Hyp}{ps2pdf}[true]{%
2347 \def\Hy@driver{hdvips}%
2348 \providecommand*\@pdfborder{0 0 1}%
2349 }

```

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.

```

2350 \define@key{Hyp}{hyperfigures}[true]{%
2351 \Hy@boolkey[hyperfigures]{figures}{#1}%
2352 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2353 \define@key{Hyp}{hyperfootnotes}[true]{%
2354 \Hy@boolkey[hyperfootnotes]{#1}%
2355 }

```

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

```

2356 \def\back@none{none}
2357 \def\back@section{section}
2358 \def\back@page{page}
2359 \def\back@slide{slide}
2360 \define@key{Hyp}{backref}[section]{%
2361 \lowercase{\def\Hy@tempa{#1}}}%
2362 \ifx\Hy@tempa\@empty
2363 \let\Hy@tempa\back@section
2364 \fi
2365 \ifx\Hy@tempa\Hy@false
2366 \let\Hy@tempa\back@none
2367 \fi
2368 \ifx\Hy@tempa\back@slide
2369 \let\Hy@tempa\back@section
2370 \fi
2371 \ifx\Hy@tempa\back@page
2372 \PassOptionsToPackage{hyperpageref}{backref}%
2373 \Hy@backreftrue
2374 \else
2375 \ifx\Hy@tempa\back@section
2376 \PassOptionsToPackage{hyperref}{backref}%
2377 \Hy@backreftrue
2378 \else
2379 \ifx\Hy@tempa\back@none
2380 \Hy@backreffalse
2381 \else
2382 \Hy@WarnOptionValue{#1}{backref}{%
2383 'section', 'slide', 'page', 'none',\MessageBreak
2384 or 'false'}%

```

```

2385 \fi
2386 \fi
2387 \fi
2388 }
2389 \define@key{Hyp}{pagebackref}[true]{%
2390 \edef\Hy@tempa{#1}%
2391 \lowercase\expandafter{%
2392 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2393 }%
2394 \ifx\Hy@tempa\@empty
2395 \let\Hy@tempa\Hy@true
2396 \fi
2397 \ifx\Hy@tempa\Hy@true
2398 \PassOptionsToPackage{hyperpageref}{backref}%
2399 \Hy@backreftrue
2400 \else
2401 \ifx\Hy@tempa\Hy@false
2402 \Hy@backreffalse
2403 \else
2404 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2405 \fi
2406 \fi
2407 }

```

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

```

2408 \define@key{Hyp}{hyperindex}[true]{%
2409 \Hy@boolkey{hyperindex}{#1}%
2410 }

```

Configuration of encap char.

```

2411 \define@key{Hyp}{encap}[|]{%
2412 \def\HyInd@EncapChar{#1}%
2413 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2414 \def\HyLang@afrikaans{%
2415 \def\equationautorefname{Vergelyking}%
2416 \def\footnoteautorefname{Voetnota}%
2417 \def\itemautorefname{Item}%
2418 \def\figureautorefname{Figuur}%
2419 \def\tableautorefname{Tabel}%
2420 \def\partautorefname{Deel}%
2421 \def\appendixautorefname{Bylae}%
2422 \def\chapterautorefname{Hoofstuk}%
2423 \def\sectionautorefname{Afdeling}%
2424 \def\subsectionautorefname{Subafdeling}%
2425 \def\subsubsectionautorefname{Subsubafdeling}%
2426 \def\paragraphautorefname{Paragraaf}%
2427 \def\subparagraphautorefname{Subparagraaf}%
2428 \def\FancyVerbLineautorefname{Lyn}%
2429 \def\theoremautorefname{Teorema}%
2430 \def\pageautorefname{Bladsy}%
2431 }
2432 \def\HyLang@english{%

```

```

2433 \def\equationautorefname{Equation}%
2434 \def\footnoteautorefname{footnote}%
2435 \def\itemautorefname{item}%
2436 \def\figureautorefname{Figure}%
2437 \def\tableautorefname{Table}%
2438 \def\partautorefname{Part}%
2439 \def\appendixautorefname{Appendix}%
2440 \def\chapterautorefname{chapter}%
2441 \def\sectionautorefname{section}%
2442 \def\subsectionautorefname{subsection}%
2443 \def\subsubsectionautorefname{subsubsection}%
2444 \def\paragraphautorefname{paragraph}%
2445 \def\subparagraphautorefname{subparagraph}%
2446 \def\FancyVerbLineautorefname{line}%
2447 \def\theoremautorefname{Theorem}%
2448 \def\pageautorefname{page}%
2449 }
2450 \def\HyLang@french{%
2451 \def\equationautorefname{'Equation}%
2452 \def\footnoteautorefname{note}%
2453 \def\itemautorefname{item}%
2454 \def\figureautorefname{Figure}%
2455 \def\tableautorefname{Tableau}%
2456 \def\partautorefname{Partie}%
2457 \def\appendixautorefname{Appendice}%
2458 \def\chapterautorefname{chapitre}%
2459 \def\sectionautorefname{section}%
2460 \def\subsectionautorefname{sous-section}%
2461 \def\subsubsectionautorefname{sous-sous-section}%
2462 \def\paragraphautorefname{paragraphe}%
2463 \def\subparagraphautorefname{sous-paragraphe}%
2464 \def\FancyVerbLineautorefname{ligne}%
2465 \def\theoremautorefname{Th\'eor\'eme}%
2466 \def\pageautorefname{page}%
2467 }
2468 \def\HyLang@german{%
2469 \def\equationautorefname{Gleichung}%
2470 \def\footnoteautorefname{Fu\ss note}%
2471 \def\itemautorefname{Punkt}%
2472 \def\figureautorefname{Abbildung}%
2473 \def\tableautorefname{Tabelle}%
2474 \def\partautorefname{Teil}%
2475 \def\appendixautorefname{Anhang}%
2476 \def\chapterautorefname{Kapitel}%
2477 \def\sectionautorefname{Abschnitt}%
2478 \def\subsectionautorefname{Unterabschnitt}%
2479 \def\subsubsectionautorefname{Unterunterabschnitt}%
2480 \def\paragraphautorefname{Absatz}%
2481 \def\subparagraphautorefname{Unterabsatz}%
2482 \def\FancyVerbLineautorefname{Zeile}%
2483 \def\theoremautorefname{Theorem}%
2484 \def\pageautorefname{Seite}%
2485 }
2486 \def\HyLang@italian{%
2487 \def\equationautorefname{Equazione}%
2488 \def\footnoteautorefname{nota}%
2489 \def\itemautorefname{punto}%

```

```

2490 \def\figureautorefname{Figura}%
2491 \def\tableautorefname{Tabella}%
2492 \def\partautorefname{Parte}%
2493 \def\appendixautorefname{Appendice}%
2494 \def\chapterautorefname{Capitolo}%
2495 \def\sectionautorefname{sezione}%
2496 \def\subsectionautorefname{sottosezione}%
2497 \def\subsubsectionautorefname{sottosottosezione}%
2498 \def\paragraphautorefname{paragrafo}%
2499 \def\subparagraphautorefname{sottoparagrafo}%
2500 \def\FancyVerbLineautorefname{linea}%
2501 \def\theoremautorefname{Teorema}%
2502 \def\pageautorefname{Pag.\@}%
2503 }
2504 \def\HyLang@magyar{%
2505 \def\equationautorefname{Egyenlet}%
2506 \def\footnoteautorefname{l'abjegyzet}%
2507 \def\itemautorefname{Elem}%
2508 \def\figureautorefname{'Abra}%
2509 \def\tableautorefname{T'abl'azat}%
2510 \def\partautorefname{R'esz}%
2511 \def\appendixautorefname{F"uggel'ek}%
2512 \def\chapterautorefname{fejezet}%
2513 \def\sectionautorefname{szakasz}%
2514 \def\subsectionautorefname{alszakasz}%
2515 \def\subsubsectionautorefname{alalszakasz}%
2516 \def\paragraphautorefname{bekezd'es}%
2517 \def\subparagraphautorefname{albekezd'es}%
2518 \def\FancyVerbLineautorefname{sor}%
2519 \def\theoremautorefname{T'etel}%
2520 \def\pageautorefname{oldal}%
2521 }
2522 \def\HyLang@portuges{%
2523 \def\equationautorefname{Equa\c c\~ao}%
2524 \def\footnoteautorefname{Nota de rodap'e}%
2525 \def\itemautorefname{Item}%
2526 \def\figureautorefname{Figura}%
2527 \def\tableautorefname{Tabela}%
2528 \def\partautorefname{Parte}%
2529 \def\appendixautorefname{Ap\^endice}%
2530 \def\chapterautorefname{Cap\itulo}%
2531 \def\sectionautorefname{Se\c c\~ao}%
2532 \def\subsectionautorefname{Subse\c c\~ao}%
2533 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2534 \def\paragraphautorefname{par'agrafo}%
2535 \def\subparagraphautorefname{subpar'agrafo}%
2536 \def\FancyVerbLineautorefname{linha}%
2537 \def\theoremautorefname{Teorema}%
2538 \def\pageautorefname{P'agina}%
2539 }

```

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.

2540 \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?

```
2541 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%
```

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

```
2542 % \def\equationautorefname{%
```

2543 % \cyr\cyrv\cyrery\cyr\cyrzh\cyre\cyrn\cyri\cyre

2544 % }%

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

```
2545 \def\footnoteautorefname{%
```

```
2546 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

2547 }%

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}”

2548 % \def\footnoteautorefname{%

2549 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %

2550 % \cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre

2551 % }%

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

2552 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%

2553 % \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.

```
2554 \def\itemautorefname{\cyr\cyrp.}%
```

2555 % \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.

```
2556 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
2557 \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.

```
2558 \def\partautorefname{\cyr\cyrch.}%
```

```
2559 \def\chapterautorefname{\cyr\cyrg\cyrl}%
```

```
2560 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
2561 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
```

2562 % \def\appendixautorefname{%

2563 % \cyr\cyrp\cyrr\cyri\cyr\cyro\cyrzh\cyre\cyrn\cyri\cyre

2564 % }%

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.

```
2565 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2566 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
2567 \def\paragraphautorefname{\cyr\cyrp.}%
2568 \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.

```
2569 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2570 % \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.

```
2571 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2572 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2573 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2574 % \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 . . .

```
2575 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2576 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2577 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2578 \def\pageautorefname{\cyr\cyrs.}%
2579 }
```

```
2580 \def\HyLang@spanish{%
2581 \def\equationautorefname{Ecuaci'on}%
2582 \def\footnoteautorefname{Nota a pie de p'agina}%
2583 \def\itemautorefname{Elemento}%
2584 \def\figureautorefname{Figura}%
2585 \def\tableautorefname{Tabla}%
2586 \def\partautorefname{Parte}%
2587 \def\appendixautorefname{Ap'endice}%
2588 \def\chapterautorefname{Cap'itulo}%
2589 \def\sectionautorefname{Secci'on}%
2590 \def\subsectionautorefname{Subsecci'on}%
2591 \def\subsubsectionautorefname{Subsubsecci'on}%
2592 \def\paragraphautorefname{P'arrafo}%
2593 \def\subparagraphautorefname{Subp'arrafo}%
2594 \def\FancyVerbLineautorefname{L'inea}%
```



```

2595 \def\theoremautorefname{Teorema}%
2596 \def\pageautorefname{P\'agina}%
2597 }
2598 \def\HyLang@vietnamese{%
2599 \def\equationautorefname{Ph\uhorn{}}\ohorn{ng tr\'inh}%
2600 \def\footnoteautorefname{Ch\'u th\'ich}%
2601 \def\itemautorefname{m\du{c}}%
2602 \def\figureautorefname{H\'inh}%
2603 \def\tableautorefname{B\h{a}ng}%
2604 \def\partautorefname{Ph\'acircumflex{n}}%
2605 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
2606 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
2607 \def\sectionautorefname{m\du{c}}%
2608 \def\subsectionautorefname{m\du{c}}%
2609 \def\subsubsectionautorefname{m\du{c}}%
2610 \def\paragraphautorefname{\dj{}}\od{a}n}%
2611 \def\subparagraphautorefname{\dj{}}\od{a}n}%
2612 \def\FancyVerbLineautorefname{d\'ong}%
2613 \def\theoremautorefname{DJ}\di{nh l\'y}%
2614 \def\pageautorefname{Trang}%
2615 }

```

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

```

2616 \def\HyLang@addto#1#2{%
2617   #2%
2618   \@temptokena{#2}%
2619   \ifx#1\relax
2620     \let#1\@empty
2621   \fi
2622   \ifx#1\undefined
2623     \edef#1{\the\@temptokena}%
2624   \else
2625     \toks@\expandafter{#1}%
2626     \edef#1{\the\toks@\the\@temptokena}%
2627   \fi
2628   \@temptokena{}\toks@\@temptokena
2629 }
2630 \def\HyLang@DeclareLang#1#2#3{%
2631   \begingroup
2632   \edef\x##1##2{%
2633     \noexpand\ifx##2\relax
2634       \errmessage{No definitions for language #2' found!}%
2635     \noexpand\fi
2636     \endgroup
2637     \noexpand\define@key{Hyp}{#1}[]{}%
2638     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2639     #3%
2640   }%
2641   }%
2642   \expandafter\x\csname extras#1\expandafter\endcsname
2643     \csname HyLang@#2\endcsname
2644 }
2645 \HyLang@DeclareLang{english}{english}{}
2646 \HyLang@DeclareLang{UKenglish}{english}{}
2647 \HyLang@DeclareLang{british}{english}{}
2648 \HyLang@DeclareLang{USenglish}{english}{}

```

```

2649 \HyLang@DeclareLang{american}{english}{}
2650 \HyLang@DeclareLang{german}{german}{}
2651 \HyLang@DeclareLang{austrian}{german}{}
2652 \HyLang@DeclareLang{ngerman}{german}{}
2653 \HyLang@DeclareLang{naustrian}{german}{}
2654 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2655 \HyLang@DeclareLang{brazil}{portuges}{}
2656 \HyLang@DeclareLang{brazilian}{portuges}{}
2657 \HyLang@DeclareLang{portuguese}{portuges}{}
2658 \HyLang@DeclareLang{spanish}{spanish}{}
2659 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2660 \HyLang@DeclareLang{french}{french}{}
2661 \HyLang@DeclareLang{frenchb}{french}{}
2662 \HyLang@DeclareLang{francais}{french}{}
2663 \HyLang@DeclareLang{acadian}{french}{}
2664 \HyLang@DeclareLang{canadien}{french}{}
2665 \HyLang@DeclareLang{italian}{italian}{}
2666 \HyLang@DeclareLang{magyar}{magyar}{}
2667 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2668 \define@key{Hyp}{vietnamese}[]{}%
2669 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2670 \AtEndOfPackage{%
2671 \ifundefined{T@PU}{}{}%
2672 \input{puvnenc.def}%
2673 }%
2674 }%
2675 }
2676 \define@key{Hyp}{vietnam}[]{}%
2677 \HyLang@addto\extravietnam\HyLang@vietnamese
2678 \AtEndOfPackage{%
2679 \ifundefined{T@PU}{}{}%
2680 \input{puvnenc.def}%
2681 }%
2682 }%
2683 }

```

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

```

2684 \define@key{Hyp}{arabic}[]{}%
2685 \AtEndOfPackage{%
2686 \ifundefined{T@PU}{}{}%
2687 \input{puarenc.def}%
2688 }%
2689 }%
2690 }

```

13 Options to change appearance of links

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

```

2691 \define@key{Hyp}{colorlinks}[true]{}%
2692 \Hy@boolkey{colorlinks}{#1}%
2693 }
2694 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2695 \Hy@boolkey{ocgcolorlinks}{#1}%
2696 }
2697 \AtBeginDocument{%

```

```

2698 \begingroup
2699 \ifundefined{OBJ@OCG@view}{%
2700   \ifHy@ocgcolorlinks
2701     \Hy@Warning{%
2702       Driver does not support ‘ocgcolorlinks’,\MessageBreak
2703       using ‘colorlinks’ instead%
2704     }%
2705   \fi
2706 }{}%
2707 \endgroup
2708 }
2709 \define@key{Hyp}{frenchlinks}[true]{%
2710   \Hy@boolkey{frenchlinks}{#1}%
2711 }

```

14 Bookmarking

```

2712 \begingroup\expandafter\expandafter\expandafter\endgroup
2713 \expandafter\ifx\csname chapter\endcsname\relax
2714   \def\toclevel@part{0}%
2715 \else
2716   \def\toclevel@part{-1}%
2717 \fi
2718 \def\toclevel@chapter{0}
2719 \def\toclevel@section{1}
2720 \def\toclevel@subsection{2}
2721 \def\toclevel@subsubsection{3}
2722 \def\toclevel@paragraph{4}
2723 \def\toclevel@subparagraph{5}
2724 \def\toclevel@figure{0}
2725 \def\toclevel@table{0}
2726 \ifpackageloaded{listings}{%
2727   \providecommand*\theHlstlisting{\thelstlisting}%
2728   \providecommand*\toclevel@lstlisting{0}%
2729 }{}
2730 \ifpackageloaded{listing}{%
2731   \providecommand*\theHlisting{\thelisting}%
2732   \providecommand*\toclevel@listing{0}%
2733 }{}
2734 \define@key{Hyp}{bookmarks}[true]{%
2735   \Hy@boolkey{bookmarks}{#1}%
2736 }
2737 \define@key{Hyp}{bookmarksopen}[true]{%
2738   \Hy@boolkey{bookmarksopen}{#1}%
2739 }

```

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.

```

2740 \let\Hy@bookmarksdepth\c@tocdepth
2741 \define@key{Hyp}{bookmarksdepth}[]{}%
2742 \begingroup
2743   \edef\x{#1}%
2744   \ifx\x\empty
2745     \global\let\Hy@bookmarksdepth\c@tocdepth
2746   \else
2747     \@ifundefined{toclevel@x}{%
2748       \@onelevel@sanitize\x
2749       \edef\y{\expandafter\@car\x\@nil}%
2750       \ifcase 0\expandafter\ifx\y-1\fi
2751         \expandafter\ifnum\expandafter'\y>47 %
2752           \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2753       \Hy@Warning{Unknown document division name (\x)}%
2754     \else
2755       \setbox\z@=\hbox{%
2756         \count@=\x
2757         \xdef\Hy@bookmarksdepth{\the\count@}%
2758       }%
2759     \fi
2760   }{%
2761     \setbox\z@=\hbox{%
2762       \count@=\csname toclevel@x\endcsname
2763       \xdef\Hy@bookmarksdepth{\the\count@}%
2764     }%
2765   }%
2766 \fi
2767 \endgroup
2768 }

```

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

```

2769 \define@key{Hyp}{bookmarksopenlevel}{}%
2770 \def\@bookmarksopenlevel{#1}%
2771 }
2772 \def\@bookmarksopenlevel{\maxdimen}
2773 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2774 \define@key{Hyp}{bookmarkstype}{}%
2775 \def\Hy@bookmarkstype{#1}%
2776 }
2777 \def\Hy@bookmarkstype{toc}

```

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

```

2778 \define@key{Hyp}{bookmarksnumbered}[true]{}%
2779 \Hy@boolkey{bookmarksnumbered}{#1}%
2780 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2781 \define@key{Hyp}{CJKbookmarks}[true]{}%
2782 \Hy@boolkey{CJKbookmarks}{#1}%
2783 }
2784 \def\Hy@temp#1{%
2785   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2786 }
2787 \def\Hy@@temp#1#2#3{%
2788   \define@key{Hyp}{#2color}{}%
2789   \HyColor@HyperrefColor{##1}#1%
2790 }%

```

```

2791 \def#1{#3}%
2792 }
2793 \Hy@temp{link}{red}
2794 \Hy@temp{anchor}{black}
2795 \Hy@temp{cite}{green}
2796 \Hy@temp{file}{cyan}
2797 \Hy@temp{url}{magenta}
2798 \Hy@temp{menu}{red}
2799 \Hy@temp{run}{\@filecolor}
2800 \define@key{Hyp}{pagecolor}{%
2801 \Hy@WarningPageColor
2802 }
2803 \def\Hy@WarningPageColor{%
2804 \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2805 \global\let\Hy@WarningPageColor\relax
2806 }

2807 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2808 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2809 \let\@baseurl\@empty
2810 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2811 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2812 \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.

```

2813 \let\@pdfpagetransition\relax
2814 \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.

```

2815 \let\@pdfpageduration\relax
2816 \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.

```

2817 \newif\ifHy@useHidKey
2818 \Hy@useHidKeyfalse
2819 \define@key{Hyp}{pdfpagehidden}{true}{%
2820 \Hy@boolkey{pdfpagehidden}{#1}%
2821 \ifHy@pdfpagehidden
2822 \global\Hy@useHidKeytrue
2823 \fi
2824 }

```

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).

```

2825 \def\Hy@ColorList{cite,file,link,menu,run,url}
2826 \@for\Hy@temp:=\Hy@ColorList\do{%
2827   \edef\Hy@temp{%
2828     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2829       \noexpand\HyColor@HyperrefBorderColor
2830       {##1}%
2831       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2832       {hyperref}%
2833       {\Hy@temp bordercolor}%
2834     }%
2835   }%
2836   \Hy@temp
2837 }
2838 \define@key{Hyp}{pagebordercolor}{%
2839   \Hy@WarningPageBorderColor
2840 }
2841 \def\Hy@WarningPageBorderColor{%
2842   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2843   \global\let\Hy@WarningPageBorderColor\relax
2844 }

2845 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2846 \Hy@DefNameKey{pdfhighlight}{%
2847   \do{/I}{Invert}%
2848   \do{/N}{None}%
2849   \do{/O}{Outline}%
2850   \do{/P}{Push}%
2851 }
2852 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2853 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2854 \def\Hy@setpdfborder{%
2855   \ifx\@pdfborder\@empty
2856     \else
2857       /Border[\@pdfborder]%
2858     \fi
2859   \ifx\@pdfborderstyle\@empty
2860     \else
2861       /BS<<\@pdfborderstyle>>%
2862     \fi
2863 }
2864 \Hy@DefNameKey{pdfpagemode}{%
2865   \do{UseNone}{}%
2866   \do{UseOutlines}{}%
2867   \do{UseThumbs}{}%
2868   \do{FullScreen}{}%
2869   \do{UseOC}{PDF 1.5}%
2870   \do{UseAttachments}{PDF 1.6}%
2871 }
2872 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2873   \do{UseNone}{}%
2874   \do{UseOutlines}{}%
2875   \do{UseThumbs}{}%
2876   \do{FullScreen}{}%
2877   \do{UseOC}{PDF 1.5}%
2878   \do{UseAttachments}{PDF 1.6}%
2879 }

```

```

2880 \Hy@DefNameKey{pdfdirection}{%
2881 \do{L2R}{Left to right}%
2882 \do{R2L}{Right to left}%
2883 }
2884 \Hy@DefNameKey{pdfviewarea}{%
2885 \do{MediaBox}{}%
2886 \do{CropBox}{}%
2887 \do{BleedBox}{}%
2888 \do{TrimBox}{}%
2889 \do{ArtBox}{}%
2890 }
2891 \Hy@DefNameKey{pdfviewclip}{%
2892 \do{MediaBox}{}%
2893 \do{CropBox}{}%
2894 \do{BleedBox}{}%
2895 \do{TrimBox}{}%
2896 \do{ArtBox}{}%
2897 }
2898 \Hy@DefNameKey{pdfprintarea}{%
2899 \do{MediaBox}{}%
2900 \do{CropBox}{}%
2901 \do{BleedBox}{}%
2902 \do{TrimBox}{}%
2903 \do{ArtBox}{}%
2904 }
2905 \Hy@DefNameKey{pdfprintclip}{%
2906 \do{MediaBox}{}%
2907 \do{CropBox}{}%
2908 \do{BleedBox}{}%
2909 \do{TrimBox}{}%
2910 \do{ArtBox}{}%
2911 }
2912 \Hy@DefNameKey{pdfprintscaling}{%
2913 \do{AppDefault}{}%
2914 \do{None}{}%
2915 }
2916 \Hy@DefNameKey{pdfduplex}{%
2917 \do{Simplex}{}%
2918 \do{DuplexFlipShortEdge}{}%
2919 \do{DuplexFlipLongEdge}{}%
2920 }
2921 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2922 \do{true}{}%
2923 \do{false}{}%
2924 }
2925 \define@key{Hyp}{pdfprintpagerange}{%
2926 \def\@pdfprintpagerange{#1}%
2927 }
2928 \Hy@DefNameKey{pdfnumcopies}{%
2929 \do{2}{two copies}%
2930 \do{3}{three copies}%
2931 \do{4}{four copies}%
2932 \do{5}{five copies}%
2933 }
2934 \define@key{Hyp}{pdfusetitle}[true]{%
2935 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2936 }

```

```

2937 \def\HyXeTeX@CheckUnicode{%
2938   \ifxetex
2939     \ifHy@unicode
2940   \else
2941     \Hy@WarningNoLine{%
2942       XeTeX driver only supports unicode.\MessageBreak
2943       Enabling option 'unicode'%
2944     }%
2945     \setkeys{Hyp}{unicode}%
2946   \fi
2947 \else
2948   \let\HyXeTeX@CheckUnicode\relax
2949 \fi
2950 }
2951 \define@key{Hyp}{pdftitle}{%
2952   \HyXeTeX@CheckUnicode
2953   \pdfstringdef\@pdftitle{#1}%
2954 }
2955 \define@key{Hyp}{pdfauthor}{%
2956   \HyXeTeX@CheckUnicode
2957   \pdfstringdef\@pdfauthor{#1}%
2958 }
2959 \define@key{Hyp}{pdfproducer}{%
2960   \HyXeTeX@CheckUnicode
2961   \pdfstringdef\@pdfproducer{#1}%
2962 }
2963 \define@key{Hyp}{pdfcreator}{%
2964   \HyXeTeX@CheckUnicode
2965   \pdfstringdef\@pdfcreator{#1}%
2966 }
2967 \define@key{Hyp}{pdfcreationdate}{%
2968   \begingroup
2969     \Hy@unicodedefalse
2970     \pdfstringdef\@pdfcreationdate{#1}%
2971   \endgroup
2972 }
2973 \define@key{Hyp}{pdfmoddate}{%
2974   \begingroup
2975     \Hy@unicodedefalse
2976     \pdfstringdef\@pdfmoddate{#1}%
2977   \endgroup
2978 }
2979 \define@key{Hyp}{pdfsubject}{%
2980   \HyXeTeX@CheckUnicode
2981   \pdfstringdef\@pdfsubject{#1}%
2982 }
2983 \define@key{Hyp}{pdfkeywords}{%
2984   \HyXeTeX@CheckUnicode
2985   \pdfstringdef\@pdfkeywords{#1}%
2986 }
2987 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
2988 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
2989 \let\setpdfinkmargin\@gobble
2990 \def\calculate@pdfview#1 #2\{%
2991   \def\@pdfview{#1}%
2992   \ifx\@#2\%
2993     \def\@pdfviewparams{-32768}%

```



```

2994 \else
2995   \def\@pdfviewparams{ #2}%
2996 \fi
2997 }
2998 \begingroup\expandafter\expandafter\expandafter\endgroup
2999 \expandafter\ifx\csname numexpr\endcsname\relax
3000   \def\Hy@number#1{%
3001     \expandafter\@firstofone\expandafter{\number#1}%
3002   }%
3003 \else
3004   \def\Hy@number#1{%
3005     \the\numexpr#1\relax
3006   }%
3007 \fi
3008 \define@key{Hyp}{pdfstartpage}{%
3009   \ifx\#1\%
3010     \def\@pdfstartpage{}%
3011   \else
3012     \edef\@pdfstartpage{\Hy@number{#1}}%
3013   \fi
3014 }%
3015 \define@key{Hyp}{pdfstartview}{%
3016   \ifx\#1\%
3017     \def\@pdfstartview{}%
3018   \else
3019     \hypercalcbpdef\@pdfstartview{ /#1 }%
3020   \fi
3021 }
3022 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3023 \define@key{Hyp}{pdftoolbar}[true]{%
3024   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3025 }
3026 \define@key{Hyp}{pdfmenubar}[true]{%
3027   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3028 }
3029 \define@key{Hyp}{pdfwindowui}[true]{%
3030   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3031 }
3032 \define@key{Hyp}{pdffitwindow}[true]{%
3033   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3034 }
3035 \define@key{Hyp}{pdfcenterwindow}[true]{%
3036   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3037 }
3038 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3039   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3040 }
3041 \define@key{Hyp}{pdfa}[true]{%
3042   \Hy@boolkey{pdfa}{#1}%
3043 }
3044 \define@key{Hyp}{pdfnewwindow}[true]{%
3045   \def\Hy@temp{#1}%
3046   \ifx\Hy@temp\@empty
3047     \Hy@newwindowsetfalse
3048   \else
3049     \Hy@newwindowsettrue
3050   \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%

```

```

3051 \fi
3052 }
3053 \def\Hy@SetNewWindow{%
3054 \ifHy@newwindowset
3055 /NewWindow %
3056 \ifHy@newwindow true\else false\fi
3057 \fi
3058 }
3059 \Hy@DefNameKey{pdfpagelayout}{%
3060 \do{SinglePage}{}%
3061 \do{OneColumn}{}%
3062 \do{TwoColumnLeft}{}%
3063 \do{TwoColumnRight}{}%
3064 \do{TwoPageLeft}{PDF 1.5}%
3065 \do{TwoPageRight}{PDF 1.5}%
3066 }
3067 \define@key{Hyp}{pdflang}{%
3068 \def\@pdflang{#1}%
3069 }
3070 \define@key{Hyp}{pdfpagelabels}[true]{%
3071 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3072 }
3073 \define@key{Hyp}{pdfescapeform}[true]{%
3074 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3075 }

```

Default values:

```

3076 \def\@linkbordercolor{1 0 0}
3077 \def\@urlbordercolor{0 1 1}
3078 \def\@menubordercolor{1 0 0}
3079 \def\@filebordercolor{0 .5 .5}
3080 \def\@runbordercolor{0 .7 .7}
3081 \def\@citebordercolor{0 1 0}
3082 \def\@pdfhighlight{/I}
3083 \def\@pdftitle{}
3084 \def\@pdfauthor{}
3085 \let\@pdfproducer\relax
3086 \def\@pdfcreator{LaTeX with hyperref package}
3087 \def\@pdfcreationdate{}
3088 \def\@pdfmoddate{}
3089 \def\@pdfsubject{}
3090 \def\@pdfkeywords{}
3091 \def\@pdfpagescrop{}
3092 \def\@pdfstartview{/Fit }
3093 \def\@pdfstartpage{1}
3094 \def\@pdfprintpagerange{}
3095 \def\@pdflang{}
3096 \let\PDF@SetupDoc\@empty
3097 \let\PDF@FinishDoc\@empty
3098 \let\phantomsection\@empty
3099 \let\special@paper\@empty
3100 \def\HyperDestNameFilter#1{#1}
3101 \AtBeginDocument{%
3102 \begingroup
3103 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3104 \dimen@=\x\relax
3105 \ifdim\dimen@>\z@
3106 \else

```

```

3107 \dimen@=11in\relax
3108 \Hy@WarningNoLine{%
3109   Height of page (\expandafter\string\x) %
3110   is invalid (\the\x),\MessageBreak
3111   using 11in%
3112 }%
3113 \fi
3114 \dimen@=0.99626401\dimen@
3115 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3116 \endgroup
3117 }
3118 \def\HyInd@EncapChar{\|}
3119 \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.

```

3120 \let\hyper@normalise\ExecuteOptions
3121 \let\ExecuteOptions\hypersetup
3122 \Hy@RestoreCatcodes
3123 \InputIfFileExists{hyperref.cfg}{-}{-}
3124 \Hy@SetCatcodes
3125 \let\ExecuteOptions\hyper@normalise
3126 \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.

```

3127 \RequirePackage{kvoptions}[2009/04/10]

```

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

```

3128 \ifpackageloaded{tex4ht}{-%
3129   \@ifpackagewith{hyperref}{tex4ht}{-}{-%
3130     \PassOptionsToPackage{tex4ht}{hyperref}%
3131   }%
3132 }{-}

3133 \let\ReadBookmarks\relax
3134 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3135 \AtBeginDocument{%
3136   \ifHy@draft
3137     \let\hyper@@anchor\@gobble
3138     \gdef\hyper@link#1#2#3{#3}%
3139     \let\hyper@anchorstart\@gobble
3140     \let\hyper@anchorend\@empty
3141     \let\hyper@linkstart\@gobbletwo
3142     \let\hyper@linkend\@empty
3143     \def\hyper@linkurl#1#2{#1}%
3144     \def\hyper@linkfile#1#2#3{#1}%
3145     \def\hyper@link@{#1}#2#3{#1}%
3146     \def\Acrobatmenu#1#2{\leavevmode#2}%
3147     \let\PDF@SetupDoc\@empty
3148     \let\PDF@FinishDoc\@empty
3149     \let\@fifthoffive\@secondoftwo
3150     \let\@secondoffive\@secondoftwo

```

```

3151 \let\ReadBookmarks\relax
3152 \let\WriteBookmarks\relax
3153 \Hy@WarningNoLine{ draft mode on}%
3154 \fi
3155 \Hy@DisableOption{draft}%
3156 \Hy@DisableOption{nolinks}%
3157 \Hy@DisableOption{final}%
3158 }

```

15.1 PDF/A

```

3159 \Hy@DisableOption{pdfa}
3160 \ifHy@pdfa
3161 \setkeys{Hyp}{pdfversion=1.4}%
3162 \def\Hy@Acrobatmenu#1#2{%
3163 \leavevmode
3164 \begingroup
3165 \edef\x{#1}%
3166 \@onelevel@sanitize\x
3167 \ifx\x\Hy@NextPage
3168 \let\y=Y%
3169 \else
3170 \ifx\x\Hy@PrevPage
3171 \let\y=Y%
3172 \else
3173 \ifx\x\Hy@FirstPage
3174 \let\y=Y%
3175 \else
3176 \ifx\x\Hy@LastPage
3177 \let\y=Y%
3178 \else
3179 \let\y=N%
3180 \fi
3181 \fi
3182 \fi
3183 \fi
3184 \expandafter\endgroup
3185 \ifx\y Y%
3186 \else
3187 \PackageError{hyperref}{%
3188 PDF/A: Named action ‘#1’ is not permitted%
3189 }\@ehc
3190 {#2}%
3191 \expandafter\@gobble
3192 \fi
3193 }%
3194 \def\Hy@temp#1{%
3195 \expandafter\def\csname Hy@#1\endcsname{#1}%
3196 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3197 }%
3198 \Hy@temp{NextPage}%
3199 \Hy@temp{PrevPage}%
3200 \Hy@temp{FirstPage}%
3201 \Hy@temp{LastPage}%
3202 \else
3203 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3204 \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.

```
3205 \Hy@nextfalse
3206 \ifundefined{spanish@sh@}{"@sel}{-}{\Hy@nexttrue}
3207 \ifundefined{galician@sh@}{"@sel}{-}{\Hy@nexttrue}
3208 \ifundefined{estonian@sh@}{"@sel}{-}{\Hy@nexttrue}
3209 \ifHy@next
3210   \let\texttilde\~%
3211 \fi

3212 \ifHy@figures
3213   \Hy@Info{Hyper figures ON}%
3214 \else
3215   \Hy@Info{Hyper figures OFF}%
3216 \fi

3217 \ifHy@nesting
3218   \Hy@Info{Link nesting ON}%
3219 \else
3220   \Hy@Info{Link nesting OFF}%
3221 \fi

3222 \ifHy@hyperindex
3223   \Hy@Info{Hyper index ON}%
3224 \else
3225   \Hy@Info{Hyper index OFF}%
3226 \fi

3227 \ifHy@plainpages
3228   \Hy@Info{Plain pages ON}%
3229 \else
3230   \Hy@Info{Plain pages OFF}%
3231 \fi

3232 \ifHy@backref
3233   \Hy@Info{Backreferencing ON}%
3234 \else
3235   \Hy@Info{Backreferencing OFF}%
3236 \fi

3237 \ifHy@typexml
3238   \AtEndOfPackage{%
3239     \RequirePackage{color}%
3240     \RequirePackage{nameref}%
3241   }%
3242 \fi

3243 \Hy@DisableOption{typexml}
3244 \ifHy@implicit
3245   \typeout{Implicit mode ON; LaTeX internals redefined}%
3246 \else
3247   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3248   \def\MaybeStopEarly{%
3249     \typeout{Hyperref stopped early}%
3250     \AfterBeginDocument{%
3251       \PDF@FinishDoc
3252       \gdef\PDF@FinishDoc{}%
3253     }%
3254   \endinput
3255 }%
3256 \AtBeginDocument{%
3257   \let\autoref\ref
```

```

3258 \let\autopageref\pageref
3259 \ifx\@pdfpagemode\@empty
3260 \gdef\@pdfpagemode{UseNone}%
3261 \fi
3262 \global\Hy@backreffalse
3263 }%
3264 \AtEndOfPackage{%
3265 \global\let\ReadBookmarks\relax
3266 \global\let\WriteBookmarks\relax
3267 }%
3268 \fi
3269 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

3270 \AtEndOfPackage{%
3271 \ifpackageloaded{tex4ht}{%
3272 \def\Hy@driver{htex4ht}%
3273 \Hy@texhttrue
3274 }{}%

```

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.

```

3275 \ifx\Hy@driver\@empty
3276 \else
3277 \def\Hy@temp{hpdfTeX}%
3278 \ifpdf
3279 \ifx\Hy@driver\Hy@temp
3280 \else
3281 \Hy@WarningNoLine{%
3282 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3283 pdfTeX is running in PDF mode.\MessageBreak
3284 Forcing driver ‘\Hy@temp.def’%
3285 }%
3286 \let\Hy@driver\Hy@temp
3287 \fi
3288 \else
3289 \ifx\Hy@driver\Hy@temp
3290 \Hy@WarningNoLine{%
3291 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3292 pdfTeX is not running in PDF mode.\MessageBreak
3293 Using default driver%
3294 }%
3295 \let\Hy@driver\@empty
3296 \fi
3297 \fi
3298 \fi
3299 \ifx\Hy@driver\@empty
3300 \else
3301 \def\Hy@temp{hXetex}%
3302 \ifxetex
3303 \ifx\Hy@driver\Hy@temp
3304 \else
3305 \Hy@WarningNoLine{%
3306 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3307 XeTeX is running.\MessageBreak
3308 Forcing driver ‘\Hy@temp.def’ for XeTeX%
3309 }%

```

```

3310     \let\Hy@driver\Hy@temp
3311     \fi
3312 \fi
3313 \fi
3314 \ifx\Hy@driver\@empty
3315 \else
3316   \def\Hy@temp{hvtexhtm}%
3317   \ifvtexhtml
3318     \ifx\Hy@driver\Hy@temp
3319     \else
3320       \Hy@WarningNoLine{%
3321         Wrong driver '\Hy@driver.def';\MessageBreak
3322         VTeX is running in HTML mode.\MessageBreak
3323         Forcing driver '\Hy@temp.def'%
3324       }%
3325     \let\Hy@driver\Hy@temp
3326   \fi
3327 \else
3328   \ifx\Hy@driver\Hy@temp
3329     \Hy@WarningNoLine{%
3330       Wrong driver '\Hy@driver.def';\MessageBreak
3331       VTeX is not running in HTML mode.\MessageBreak
3332       Using default driver%
3333     }%
3334   \let\Hy@driver\@empty
3335 \fi
3336 \fi
3337 \fi

```

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

```

3338 \ifx\Hy@driver\@empty
3339   \providecommand*{\Hy@defaultdriver}{hypertex}%
3340   \ifpdf
3341     \def\Hy@driver{hpdfTeX}%
3342   \else
3343     \ifxetex
3344       \def\Hy@driver{hxetex}%
3345     \else
3346       \ifvtexhtml
3347         \def\Hy@driver{hvtexhtm}%
3348       \def\MaybeStopEarly{%
3349         \typeout{Hyperref stopped early}%
3350         \AfterBeginDocument{%
3351           \PDF@FinishDoc
3352           \gdef\PDF@FinishDoc{}%
3353         }%
3354       \endinput
3355     }%
3356   \else
3357     \ifvtexpdf
3358       \def\Hy@driver{hvtex}%
3359     \else
3360       \ifvtexps
3361         \def\Hy@driver{hvtex}%
3362       \else
3363         \let\Hy@driver\Hy@defaultdriver
3364       \fi
3365     \fi

```

```

3366     \fi
3367   \fi
3368 \fi
3369 \ifx\Hy@driver\Hy@defaultdriver
3370   \def\Hy@temp{hdvwind}%
3371   \ifx\Hy@temp\Hy@driver
3372     \setkeys{Hyp}{colorlinks}%
3373     \PassOptionsToPackage{dviwindo}{color}%
3374   \fi
3375 \fi
3376 \typeout{*hyperref using default driver \Hy@driver*}%
3377 \else
3378   \typeout{*hyperref using driver \Hy@driver*}%
3379 \fi
3380 \input{\Hy@driver.def}%
3381 \let\@unprocessedoptions\relax
3382 \Hy@RestoreCatcodes
3383 }

```

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.

```

3384 \newif\ifHy@DvipdfmxOutlineOpen
3385 \ifxetex
3386   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3387   \else
3388     \Hy@DvipdfmxOutlineOpenttrue
3389   \fi
3390 \fi
3391 \begingroup\expandafter\expandafter\expandafter\endgroup
3392 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3393 \else
3394   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3395     \Hy@DvipdfmxOutlineOpenttrue
3396   \fi
3397 \fi
3398 \Hy@DisableOption{tex4ht}
3399 \Hy@DisableOption{pdftex}
3400 \Hy@DisableOption{nativepdf}
3401 \Hy@DisableOption{dvipdfm}
3402 \Hy@DisableOption{dvipdfmx}
3403 \Hy@DisableOption{dvipdfmx-outline-open}
3404 \Hy@DisableOption{pdfmark}
3405 \Hy@DisableOption{dvips}
3406 \Hy@DisableOption{hypertex}
3407 \Hy@DisableOption{vtex}
3408 \Hy@DisableOption{vtxpdfmark}
3409 \Hy@DisableOption{dviwindo}
3410 \Hy@DisableOption{dvipsone}
3411 \Hy@DisableOption{textures}
3412 \Hy@DisableOption{latex2html}
3413 \Hy@DisableOption{ps2pdf}
3414 \Hy@DisableOption{xetex}
3415 \AtEndOfPackage{%
3416   \Hy@DisableOption{pdfversion}%
3417 }

```

15.2.2 Bookmarks


```

3418 \def\WriteBookmarks{0}
3419 \def\@bookmarkopenstatus#1{%
3420   \ifHy@bookmarksopen

```

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

```

3421   \ifnum#1<\expandafter\@firstofone\expandafter
3422     {\number\@bookmarkopenlevel} % explicit space
3423   \else
3424     -%
3425   \fi
3426 \else
3427   -%
3428 \fi
3429 }
3430 \ifHy@bookmarks
3431   \Hy@Info{Bookmarks ON}%
3432   \ifx\@pdfpagemode\@empty
3433     \def\@pdfpagemode{UseOutlines}%
3434   \fi
3435 \else
3436   \def\@bookmarkopenstatus#1{%
3437     \Hy@Info{Bookmarks OFF}%
3438     \AtEndOfPackage{%
3439       \global\let\ReadBookmarks\relax
3440       \global\let\WriteBookmarks\relax
3441     }%
3442     \ifx\@pdfpagemode\@empty
3443       \def\@pdfpagemode{UseNone}%
3444     \fi
3445   \fi
3446 \Hy@DisableOption{bookmarks}

```

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

```

3447 \def\Hy@CatcodeWrapper#1{%
3448   \def\Hy@EndWrap{%
3449     \def\TMP@EnsureCode##1##2{%
3450       \edef\Hy@EndWrap{%
3451         \Hy@EndWrap
3452         \catcode##1 \the\catcode##1\relax
3453       }%
3454       \catcode##1 ##2\relax
3455     }%
3456     \TMP@EnsureCode{10}{12}% ^^J
3457     \TMP@EnsureCode{33}{12}% !
3458     \TMP@EnsureCode{34}{12}% "
3459     \TMP@EnsureCode{36}{3}% $ (math)
3460     \TMP@EnsureCode{38}{4}% & (alignment)
3461     \TMP@EnsureCode{39}{12}% '
3462     \TMP@EnsureCode{40}{12}% (
3463     \TMP@EnsureCode{41}{12}% )
3464     \TMP@EnsureCode{42}{12}% *
3465     \TMP@EnsureCode{43}{12}% +
3466     \TMP@EnsureCode{44}{12}% ,
3467     \TMP@EnsureCode{45}{12}% -
3468     \TMP@EnsureCode{46}{12}% .
3469     \TMP@EnsureCode{47}{12}% /
3470     \TMP@EnsureCode{58}{12}% :
3471     \TMP@EnsureCode{59}{12}% ;

```

```

3472 \TMP@EnsureCode{60}{12}% <
3473 \TMP@EnsureCode{61}{12}% =
3474 \TMP@EnsureCode{62}{12}% >
3475 \TMP@EnsureCode{63}{12}% ?
3476 \TMP@EnsureCode{91}{12}% [
3477 \TMP@EnsureCode{93}{12}% ]
3478 \TMP@EnsureCode{94}{7}% ^ (superscript)
3479 \TMP@EnsureCode{95}{8}% _ (subscript)
3480 \TMP@EnsureCode{96}{12}% '
3481 \TMP@EnsureCode{124}{12}% |
3482 \TMP@EnsureCode{126}{13}% ~ (active)
3483 #1\relax
3484 \Hy@endWrap
3485 }

```

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

```

3486 \AtBeginDocument{%
3487   \ifHy@ocgcolorlinks
3488     \setkeys{Hyp}{colorlinks}%
3489     \ifHy@pdfa
3490       \Hy@Warning{%
3491         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3492         using 'colorlinks' instead of 'ocgcolorlinks'%
3493       }%
3494       \Hy@ocgcolorlinksfalse
3495     \fi
3496   \fi
3497   \ifHy@ocgcolorlinks
3498   \else
3499     \Hy@DisableOption{ocgcolorlinks}%
3500   \fi
3501   \ifHy@colorlinks
3502     \def\@pdfborder{0 0 0}%
3503     \let\@pdfborderstyle\@empty
3504     \ifHy@typexml
3505     \else
3506       \Hy@CatcodeWrapper{%
3507         \RequirePackage{color}%
3508       }%
3509     \fi
3510     \def\Hy@colorlink#1{%
3511       \begingroup
3512       \HyColor@UseColor#1%
3513     }%
3514     \def\Hy@endcolorlink{\endgroup}%
3515     \Hy@Info{Link coloring ON}%
3516   \else
3517     \ifHy@frenchlinks
3518       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3519       \def\Hy@endcolorlink{\endgroup}%
3520       \Hy@Info{French linking ON}%
3521     \else

```

for grouping consistency:

```

3522     \def\Hy@colorlink#1{\begingroup}%
3523     \def\Hy@endcolorlink{\endgroup}%
3524     \Hy@Info{Link coloring OFF}%
3525   \fi

```

```

3526 \fi
3527 \Hy@DisableOption{colorlinks}%
3528 \Hy@DisableOption{frenchlinks}%
3529 \ifHy@texht
3530 \long\def\@firstoffive#1#2#3#4#5{#1}%
3531 \long\def\@secondoffive#1#2#3#4#5{#2}%
3532 \long\def\@thirdoffive#1#2#3#4#5{#3}%
3533 \long\def\@fourthoffive#1#2#3#4#5{#4}%
3534 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3535 \providecommand*\@safe@activetrue{}%
3536 \providecommand*\@safe@activesfalse{}%
3537 \def\T@ref#1{%
3538   \Hy@safe@activetrue
3539   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3540   \Hy@safe@activesfalse
3541 }%
3542 \def\T@pageref#1{%
3543   \Hy@safe@activetrue
3544   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3545   \Hy@safe@activesfalse
3546 }%
3547 \else
3548   \ifHy@typexml
3549   \else
3550     \Hy@CatcodeWrapper{%
3551       \RequirePackage{nameref}%
3552     }%
3553   \fi
3554 \fi
3555 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3556 \DeclareRobustCommand\pageref{%
3557   \@ifstar\@pagerefstar\T@pageref
3558 }%
3559 }
3560 \AfterBeginDocument{%
3561   \ifHy@texht
3562   \else
3563     \Hy@CatcodeWrapper{%
3564       \ReadBookmarks
3565     }%
3566   \fi
3567 }
3568 \ifHy@backref
3569   \RequirePackage{backref}%
3570 \else
3571   \let\Hy@backout\@gobble
3572 \fi
3573 \Hy@DisableOption{backref}
3574 \Hy@DisableOption{pagebackref}
3575 \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`.

```

3576 \begingroup
3577 \endlinechar=-1 %
3578 \catcode'\^^A=14 %
3579 \catcode'\^^M\active
3580 \catcode'\%\active
3581 \catcode'\#\active
3582 \catcode'\_\active
3583 \catcode'\$\active
3584 \catcode'\&\active
3585 \gdef\hyper@normalise{^^A
3586   \begingroup
3587   \catcode'\^^M\active
3588   \def^^M{ }^^A
3589   \catcode'\%\active
3590   \let%\@percentchar
3591   \let%\@percentchar
3592   \catcode'\#\active
3593   \def#{\hyper@hash}^^A
3594   \def\#{\hyper@hash}^^A
3595   \@makeother\&^^A
3596   \edef&{\string&}^^A
3597   \edef&{\string&}^^A
3598   \edef\textunderscore{\string_}^^A
3599   \let\_ \textunderscore
3600   \catcode'\_\active
3601   \let\_ \textunderscore
3602   \let~\hyper@tilde
3603   \let~\hyper@tilde
3604   \let\textasciitilde\hyper@tilde
3605   \let\\ \@backslashchar
3606   \edef${\string$}^^A
3607   \Hy@safe@activetrue
3608   \hyper@n@rmalise
3609 }^^A
3610 \catcode'\#=6 ^^A
3611 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3612 \gdef\hyper@n@rmalise#1#2{^^A
3613   \def\Hy@tempa{#2}^^A
3614   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3615     \Hy@ReturnAfterElseFi{^^A
3616       \hyper@@normalise{#1}^^A
3617     }^^A
3618   \else
3619     \Hy@ReturnAfterFi{^^A
3620       \hyper@@normalise{#1}{#2}^^A
3621     }^^A
3622   \fi
3623 }^^A
3624 \gdef\hyper@@normalise#1#2{^^A
3625   \edef\Hy@tempa{^^A
3626     \endgroup
3627     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3628   }^^A
3629   \Hy@tempa
3630 }^^A

```

```

3631 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
3632   #1^^A
3633   \ifx\limits#2\limits
3634   \else
3635     \Hy@ReturnAfterFi{^^A
3636     \Hy@RemovePercentCr #2\@nil
3637   }^^A
3638   \fi
3639 }^^A
3640 \endgroup
3641 \providecommand*{hyper@chars}{%
3642   \let\#\hyper@hash
3643   \let\%\@percentchar
3644   \Hy@safe@activetrue
3645 }

3646 \def\hyperlink#1#2{%
3647   \hyper@@link{#1}{#2}%
3648 }

3649 \DeclareRobustCommand*{\href}{%
3650   \@ifnextchar\bgrouph\Hy@href{\hyper@normalise\href@}%
3651 }
3652 \def\Hy@href#{%
3653   \hyper@normalise\href@
3654 }
3655 \begingroup
3656   \catcode'\$=6 %
3657   \catcode'\#=12 %
3658   \gdef\href$1{\expandafter\href@split$1##\\}%
3659   \gdef\href@split$1#$2##$3\\{%
3660     \hyper@@link{$1}{$2}%
3661   }%
3662 \endgroup

```

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

```

3663 \RequirePackage{url}
3664 \let\HyOrg@url\url
3665 \def\Hurl{\begingroup \Url}
3666 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
3667 \def\nolinkurl@#1{\Hurl{#1}}
3668 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
3669 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3670 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
3671 \providecommand\hyper@image[2]{#2}

3672 \def\hypertarget#1#2{%
3673   \ifHy@nesting
3674     \hyper@@anchor{#1}{#2}%
3675   \else
3676     \hyper@@anchor{#1}{\relax}#2%
3677   \fi
3678 }

```

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

`\hyperdef`, it is the name of a \LaTeX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3679 \DeclareRobustCommand*{\hyperref}{%
3680   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3681 }
3682 \def\Hy@babelnormalise#1[#2]{%
3683   \begingroup
3684   \Hy@safe@activetrue
3685   \edef\Hy@tempa{%
3686     \endgroup
3687     \noexpand#1[#2]}%
3688   }%
3689   \Hy@tempa
3690 }
3691 \def\@hyperref{\hyper@normalise\@hyperref}
3692 \def\@hyperref#1#2#3{%
3693   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3694   \expandafter\tryhyper@link\ref@one\{#1}%
3695 }
3696 \def\tryhyper@link#1\#2{%
3697   \hyper@@link{#2}{#1}%
3698 }

3699 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3700 \def\@hyperdef#1#2#3{%, category, name, text
3701   \ifx\#1\%
3702     \def\Hy@AnchorName{#2}%
3703   \else
3704     \def\Hy@AnchorName{#1.#2}%
3705   \fi
3706   \ifHy@nesting
3707     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3708   \else
3709     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#3}%
3710   \fi
3711 }

```

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

```

3712 \def\label@hyperref[#1]{%
3713   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3714 }%
3715 \def\label@@hyperref#1#2#3{%
3716   \ifx#1\relax
3717     \protect\G@refundefinedtrue
3718     \@latex@warning{%
3719       Hyper reference ‘#2’ on page \thepage \space undefined%
3720     }%
3721     \hyper@@link{}{??}{#3}%
3722   \else
3723     \hyper@@link{\expandafter\@fifthoffive#1}%
3724     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3725   \fi
3726 }
3727 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3728                               % anchor text
3729   \@bsphack
3730   \ifx\#2\%

```

```

3731 \def\Hy@AnchorName{#3}%
3732 \else
3733 \def\Hy@AnchorName{#2.#3}%
3734 \fi
3735 \if@filesw
3736 \protected@write\@auxout{}\{
3737 \string\newlabel{#1}\{ \} \} \{ \Hy@AnchorName \} \} %
3738 }%
3739 \fi
3740 \@esphack
3741 \ifHy@nesting
3742 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3743 \else
3744 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3745 \fi
3746 }

```

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.

```

3747 \def\hyper@@link{\let\Hy@reserved@a\relax
3748 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
3749 }
3750 \def\hyper@link@[#1]#2#3#4{%
3751 \begingroup
3752 \protected@edef\Hy@tempa{#2}%
3753 \Hy@safe@activetrue
3754 \edef\x{#3}%
3755 \ifx\Hy@tempa\@empty
3756 \toks0{\hyper@link{#1}}%
3757 \else
3758 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3759 \fi
3760 \toks2{%
3761 \Hy@safe@activesfalse
3762 #4%
3763 }%
3764 \edef\Hy@tempa{\the\toks2}%
3765 \edef\x{\endgroup
3766 \ifx\Hy@tempa\@empty
3767 \noexpand\Hy@Warning{Suppressing empty link}%
3768 \else
3769 \the\toks0 \{ \x \} \the\toks2}%
3770 \fi
3771 }%
3772 \x
3773 }

```

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.

```

3774 \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.

```
3775 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%  
3776 }
```

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

```
3777 \def\@pdftempwordfile{file}%  
3778 \def\@pdftempwordrun{run}%  
3779 \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:

```
3780 \ifx\#6\%  
3781 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%  
3782 \else  
3783 \ifx\#4\%  
3784 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%  
3785 \else
```

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

```
3786 \def\@pdftempa{#4}%  
3787 \ifx\@pdftempa\@pdftempwordfile  
3788 \expandafter\@hyper@linkfile#7\{#3}{#2}%  
3789 \else
```

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

```
3790 \ifx\@pdftempa\@pdftempwordrun  
3791 \ifHy@pdfa  
3792 \PackageError{hyperref}{%  
3793 PDF/A: Launch action is prohibited%  
3794 }\@ehc  
3795 \begingroup  
3796 \leavevmode  
3797 #2%  
3798 \endgroup  
3799 \else  
3800 \expandafter\@hyper@launch#7\{#3}{#2}%  
3801 \fi  
3802 \else
```

otherwise its a URL

```
3803 \hyper@linkurl{#3}{#7\ifx\#2\%  
3804 \fi  
3805 \fi  
3806 \fi  
3807 \fi  
3808 }
```


By default, turn run: into file:

```

3809 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3810 \hyper@linkurl{#2}{%
3811 \Hy@linkfileprefix
3812 #1%
3813 \ifx\#3\%
3814 \else
3815 \hyper@hash
3816 #3%
3817 \fi
3818 }%
3819 }

```

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

```

3820 \def\@hyper@linkfile file:#1\#2#3{%
3821 %file url,link string, name
3822 \filename@parse{#1}%
3823 \ifx\filename@ext\relax
3824 \edef\filename@ext{XR@ext}%
3825 \fi
3826 \def\use@file{\filename@area\filename@base.\filename@ext}%
3827 \ifx\filename@extXR@ext
3828 \hyper@linkfile{#2}{\use@file}{#3}%
3829 \else
3830 \ifx\@baseurl\@empty
3831 \hyper@linkurl{#2}{%
3832 \Hy@linkfileprefix\use@file\ifx\#3\%
3833 }%
3834 \else
3835 \hyper@linkurl{#2}{\use@file\ifx\#3\%
3836 \fi
3837 \fi
3838 }

```

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.

```

3839 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3840 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3841 \ifx\#1\%
3842 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3843 \else
3844 \def\anchor@spot{#2#3}%
3845 \let\put@me@back\@empty
3846 \ifx\relax#2\relax
3847 \else
3848 \ifHy@nesting
3849 \else
3850 \ifcat a\noexpand#2\relax
3851 \else
3852 \ifcat 0\noexpand#2 \relax
3853 \else

```

```

3854 %      \typeout{Anchor start is not alphanumeric %
3855 %      on input line\the\inputlineno%
3856 %      }%
3857      \let\anchor@spot\@empty
3858      \def\put@me@back{##2##3}%
3859      \fi
3860      \fi
3861      \fi
3862      \fi
3863      \ifHy@activeanchor
3864      \anchor@spot
3865      \else
3866      \hyper@anchor{##1}%
3867      \fi
3868      \expandafter\put@me@back
3869      \fi
3870      \let\anchor@spot\@empty
3871 }

```

18 Compatibility with the *L^AT_EX2html* package

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

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

```

3872 \let\htmladding\hyperimage
3873 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3874 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3875 \def\htmlref#1#2{% anchor text, label
3876   \label@hyperref[{#2}]{#1}%
3877 }

```

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

```

3878 \def\@@latextohtmlX{%
3879   \let\hyperref\hyperref
3880   \def\hyperref###1##2###3##4{% anchor text for HTML
3881     % text to print before label in print
3882     % label
3883     % post-label text in print
3884     ##2\ref{##4}##3%
3885   }%
3886 }

```

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.

```
3887 \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
3888 \def\HyField@NewFlag#1#2{%
3889 \lowercase{\HyField@NewOption{#2}}%
3890 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3891 }
```

```
\HyField@NewFlagOnly
3892 \def\HyField@NewFlagOnly#1#2{%
3893 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3894 }
```

```
\HyField@NewOption #1: option name
3895 \def\HyField@NewOption#1{%
3896 \expandafter\newif\csname ifFld@#1\endcsname
3897 \define@key{Field}{#1}[true]{%
3898 \lowercase{\Field@boolkey{##1}}{#1}%
3899 }%
3900 }
```

\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
3901 \def\HyField@NewBitsetFlag#1#2#3#4{%
3902 \begingroup
3903 \count@=#4\relax
3904 \advance\count@\m@ne
3905 \def\x##1{%
3906 \endgroup
3907 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3908 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3909 \expandafter\edef\csname HyField@#3@##1\endcsname{%
3910 (\number#4) #2%
3911 }%
3912 \else
3913 \expandafter\edef\csname HyField@#3@##1\endcsname{%
3914 \csname HyField@#3@##1\endcsname
3915 /#2%
3916 }%
3917 \fi
3918 }%
3919 \expandafter\x\expandafter{\the\count@}%
3920 }
```

```

\HyField@UseFlag The bit set is HyField@#1
3921 \def\HyField@UseFlag#1#2{%
3922 \lowercase{\HyField@@UseFlag{#2}}{#1}%
3923 }

\HyField@@UseFlag
3924 \def\HyField@@UseFlag#1#2{%
3925 \bitsetSetValue{HyField@#2}{%
3926 \csname HyField@#2@#1\endcsname
3927 }{%
3928 \csname ifFld@#1\endcsname 1\else 0\fi
3929 }%
3930 }

\HyField@SetFlag The bit set is HyField@#1
3931 \def\HyField@SetFlag#1#2{%
3932 \lowercase{\HyField@@SetFlag{#2}}{#1}%
3933 }

\HyField@@SetFlag
3934 \def\HyField@@SetFlag#1#2{%
3935 \bitsetSetValue{HyField@#2}{%
3936 \csname HyField@#2@#1\endcsname
3937 }{1}%
3938 }

\HyField@PrintFlags
3939 \def\HyField@PrintFlags#1#2{%
3940 \ifHy@verbose
3941 \begingroup
3942 \let\Hy@temp\@empty
3943 \let\MessageBreak\relax
3944 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3945 \bitsetGetSetBitList{HyField@#1}\do{%
3946 \edef\Hy@temp{%
3947 \Hy@temp
3948 \csname HyField@#1@\x\endcsname\MessageBreak
3949 }%
3950 }%
3951 \edef\x{\endgroup
3952 \noexpand\Hy@Info{%
3953 Field flags: %
3954 \expandafter\ifx\@car#1\@nil S\else/\fi
3955 #1 %
3956 \bitsetGetDec{HyField@#1} %
3957 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3958 \Hy@temp
3959 for #2%
3960 }%
3961 }\x
3962 \fi
3963 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3964 \HyField@NewFlag{Ff}{ReadOnly}{1}
3965 \HyField@NewFlag{Ff}{Required}{2}
3966 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3967 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3968 \HyField@NewFlag{Ff}{Radio}{16}
3969 \HyField@NewFlag{Ff}{Pushbutton}{17}
3970 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3971 \HyField@NewFlag{Ff}{Multiline}{13}
3972 \HyField@NewFlag{Ff}{Password}{14}
3973 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3974 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3975 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3976 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3977 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3978 \HyField@NewFlag{Ff}{Combo}{18}
3979 \HyField@NewFlag{Ff}{Edit}{19}
3980 \HyField@NewFlag{Ff}{Sort}{20}
3981 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3982 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3983 \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.

```

3984 \newif\ifFld@popdown
3985 \define@key{Field}{popdown}[true]{%
3986   \lowercase{\Field@boolkey{#1}}{popdown}%
3987 }

```

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.

```

3988 \HyField@NewFlag{F}{Invisible}{1}
3989 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3990 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3991 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3992 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3993 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3994 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3995 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3996 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3997 \ifHy@pdfa
3998   \def\HyField@PDFAFlagWarning#1#2{%
3999     \Hy@Warning{%
4000       PDF/A: Annotation flag ‘#1’ must\MessageBreak
4001       be set to ‘#2’%
4002     }%
4003   }%
4004   \Fld@invisiblefalse
4005   \def\Fld@invisibletrue{%

```

```

4006 \HyField@PDFAFIagWarning{invisible}{false}%
4007 }%
4008 \Fld@hiddenfalse
4009 \def\Fld@hiddenttrue{%
4010 \HyField@PDFAFIagWarning{hidden}{false}%
4011 }%
4012 \Fld@printrtrue
4013 \def\Fld@printfalse{%
4014 \HyField@PDFAFIagWarning{print}{true}%
4015 }%
4016 \Fld@nozoomtrue
4017 \def\Fld@nozoomfalse{%
4018 \HyField@PDFAFIagWarning{nozoom}{true}%
4019 }%
4020 \Fld@norotatetrue
4021 \def\Fld@norotatefalse{%
4022 \HyField@PDFAFIagWarning{norotate}{true}%
4023 }%
4024 \Fld@noviewfalse
4025 \def\Fld@noviewtrue{%
4026 \HyField@PDFAFIagWarning{noview}{false}%
4027 }%
4028 \fi

```

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

```

4029 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4030 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4031 \HyField@NewFlag{Submit}{GetMethod}{4}
4032 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4033 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4034 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4035 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4036 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4037 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4038 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4039 \HyField@NewFlag{Submit}{ExclFKey}{12}
4040 \HyField@NewFlag{Submit}{EmbedForm}{14}

4041 \define@key{Field}{export}{%
4042 \lowercase{\def\Hy@temp{#1}}%
4043 \@ifundefined{Fld@export@\Hy@temp}{%
4044 \@onelevel@sanitize\Hy@temp
4045 \PackageError{hyperref}{%
4046 Unknown export format '\Hy@temp'.\MessageBreak
4047 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4048 }\@ehc
4049 }{%
4050 \let\Fld@export\Hy@temp
4051 }%
4052 }
4053 \def\Fld@export{fdf}
4054 \@namedef{Fld@export@fdf}{0}%
4055 \@namedef{Fld@export@html}{1}%
4056 \@namedef{Fld@export@xfdf}{2}%
4057 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```
4058 \def\HyField@FlagsSubmit{%
4059   \bitsetReset{HyField@Submit}%
4060   \ifcase\@nameuse{Fld@export@\Fld@export} %
4061     % FDF
4062     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4063     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4064     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4065     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4066     \HyField@UseFlag{Submit}{CanonicalFormat}%
4067     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4068     \HyField@UseFlag{Submit}{ExclFKey}%
4069     \HyField@UseFlag{Submit}{EmbedForm}%
4070   \or % HTML
4071     \HyField@SetFlag{Submit}{ExportFormat}%
4072     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4073     \HyField@UseFlag{Submit}{GetMethod}%
4074     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4075     \HyField@UseFlag{Submit}{CanonicalFormat}%
4076   \or % XFDF
4077     \HyField@SetFlag{Submit}{XFDF}%
4078     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4079     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4080     \HyField@UseFlag{Submit}{CanonicalFormat}%
4081   \or % PDF
4082     \HyField@SetFlag{Submit}{SubmitPDF}%
4083     \HyField@UseFlag{Submit}{GetMethod}%
4084   \fi
4085   \HyField@PrintFlags{Submit}{submit button field}%
4086   \bitsetIsEmpty{HyField@Submit}{%
4087     \def\Fld@submitflags{%
4088     }{%
4089     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4090     }%
4091 }
```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
4092 \def\HyField@FlagsAnnot#1{%
4093   \bitsetReset{HyField@F}%
4094   \HyField@UseFlag{F}{Invisible}%
4095   \HyField@UseFlag{F}{Hidden}%
4096   \HyField@UseFlag{F}{Print}%
4097   \HyField@UseFlag{F}{NoZoom}%
4098   \HyField@UseFlag{F}{NoRotate}%
4099   \HyField@UseFlag{F}{NoView}%
4100   \HyField@UseFlag{F}{Locked}%
4101   \HyField@UseFlag{F}{ToggleNoView}%
4102   \HyField@UseFlag{F}{LockedContents}%
4103   \HyField@PrintFlags{F}{#1}%
4104   \bitsetIsEmpty{HyField@F}{%
4105     \def\Fld@annotflags{%
4106     }{%
4107     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%

```

```

4108 }%
4109 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4110 \def\HyField@FlagsPushButton{%
4111 \HyField@FlagsAnnot{push button field}%
4112 \bitsetReset{HyField@Ff}%
4113 \HyField@UseFlag{Ff}{ReadOnly}%
4114 \HyField@UseFlag{Ff}{Required}%
4115 \HyField@UseFlag{Ff}{NoExport}%
4116 \HyField@SetFlag{Ff}{Pushbutton}%
4117 \HyField@PrintFlags{Ff}{push button field}%
4118 \bitsetIsEmpty{HyField@Ff}{%
4119 \def\Fld@flags{%
4120 }{%
4121 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4122 }%
4123 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

4124 \def\HyField@FlagsCheckBox{%
4125 \HyField@FlagsAnnot{check box field}%
4126 \bitsetReset{HyField@Ff}%
4127 \HyField@UseFlag{Ff}{ReadOnly}%
4128 \HyField@UseFlag{Ff}{Required}%
4129 \HyField@UseFlag{Ff}{NoExport}%
4130 \HyField@PrintFlags{Ff}{check box field}%
4131 \bitsetIsEmpty{HyField@Ff}{%
4132 \def\Fld@flags{%
4133 }{%
4134 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4135 }%
4136 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4137 \def\HyField@FlagsRadioButton{%
4138 \HyField@FlagsAnnot{radio button field}%
4139 \bitsetReset{HyField@Ff}%
4140 \HyField@UseFlag{Ff}{ReadOnly}%
4141 \HyField@UseFlag{Ff}{Required}%
4142 \HyField@UseFlag{Ff}{NoExport}%
4143 \HyField@UseFlag{Ff}{NoToggleToOff}%
4144 \HyField@SetFlag{Ff}{Radio}%
4145 \HyField@UseFlag{Ff}{RadiosInUnison}%
4146 \HyField@PrintFlags{Ff}{radio button field}%
4147 \bitsetIsEmpty{HyField@Ff}{%
4148 \def\Fld@flags{%
4149 }{%
4150 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4151 }%

```


4152 }

19.1.7 Text fields

\HyField@FlagsText

```
4153 \def\HyField@FlagsText{%
4154   \HyField@FlagsAnnot{text field}%
4155   \bitsetReset{HyField@Ff}%
4156   \HyField@UseFlag{Ff}{ReadOnly}%
4157   \HyField@UseFlag{Ff}{Required}%
4158   \HyField@UseFlag{Ff}{NoExport}%
4159   \HyField@UseFlag{Ff}{Multiline}%
4160   \HyField@UseFlag{Ff}{Password}%
4161   \HyField@UseFlag{Ff}{FileSelect}%
4162   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4163   \HyField@UseFlag{Ff}{DoNotScroll}%
4164   \ifFld@comb
4165     \ifcase0\ifFld@multiline
4166       \else\ifFld@password
4167       \else\ifFld@fileselect
4168       \else 1\fi\fi\fi\relax
4169     \PackageError{hyperref}{%
4170       Field option ‘comb’ cannot used together with\MessageBreak
4171       ‘multiline’, ‘password’, or ‘fileselect’%
4172     }\@ehc
4173   \else
4174     \HyField@UseFlag{Ff}{Comb}%
4175   \fi
4176 \fi
4177 \HyField@UseFlag{Ff}{RichText}%
4178 \HyField@PrintFlags{Ff}{text field}%
4179 \bitsetIsEmpty{HyField@Ff}{%
4180   \def\Fld@flags{%
4181   }{%
4182   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4183 }%
4184 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
4185 \def\HyField@FlagsChoice{%
4186   \HyField@FlagsAnnot{choice field}%
4187   \bitsetReset{HyField@Ff}%
4188   \HyField@UseFlag{Ff}{ReadOnly}%
4189   \HyField@UseFlag{Ff}{Required}%
4190   \HyField@UseFlag{Ff}{NoExport}%
4191   \HyField@UseFlag{Ff}{Combo}%
4192   \ifFld@combo
4193     \HyField@UseFlag{Ff}{Edit}%
4194   \fi
4195   \HyField@UseFlag{Ff}{Sort}%
4196   \HyField@UseFlag{Ff}{MultiSelect}%
4197   \ifFld@combo
4198     \ifFld@edit
4199       \HyField@UseFlag{Ff}{DoNotSpellCheck}%

```

```

4200   \fi
4201   \fi
4202   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4203   \HyField@PrintFlags{Ff}{choice field}%
4204   \bitsetIsEmpty{HyField@Ff}{%
4205     \def\Fld@flags{%
4206     }{%
4207     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4208   }%
4209 }

```

19.2 Choice field

```

4210 \RequirePackage{kvsetkeys}[2007/09/29]

```

`\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`.

```

4211 \def\HyField@PDFChoices#1{%
4212   \begingroup
4213   \gdef\Fld@choices{%
4214   \def\HyTmp@Optlist{%
4215     \let\HyTmp@Optitem\relax
4216     \count@=0 %
4217     \kv@parse{#1}{%
4218       \Hy@pdfstringdef\kv@key\kv@key
4219       \ifx\kv@value\relax
4220         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4221           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4222         \else
4223           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4224         \fi
4225       \else
4226         \Hy@pdfstringdef\kv@value\kv@value
4227         \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4228       \fi
4229     \edef\HyTmp@Optlist{%
4230       \HyTmp@Optlist
4231       \HyTmp@Optitem{\the\count@}{\kv@key}0%
4232     }%
4233     \advance\count@ by 1 %
4234     \@gobbletwo
4235   }%
4236   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4237   \ifFld@multiselect
4238     \HyField@@PDFChoices{DV}\Fld@default
4239     \HyField@@PDFChoices{V}\Fld@value
4240   \else
4241     \ifx\Fld@default\relax
4242     \else
4243       \pdfstringdef\Hy@gtemp\Fld@default
4244       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4245     \fi
4246     \ifx\Fld@value\relax
4247     \else
4248       \pdfstringdef\Hy@gtemp\Fld@value
4249       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%

```

```

4250 \fi
4251 \fi
4252 \endgroup
4253 }

```

\HyField@@PDFChoices

```

4254 \def\HyField@@PDFChoices#1#2{%
4255 \ifx#2\relax
4256 \else
4257 \count@=0 %
4258 \def\HyTmp@optitem##1##2##3{%
4259 \def\HyTmp@key{##2}%
4260 \ifx\HyTmp@key\Hy@gtemp
4261 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4262 \HyTmp@optlist
4263 \HyTmp@optitem{##1}{##2}1%
4264 }%
4265 \let\HyTmp@found=Y%
4266 \else
4267 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4268 \HyTmp@optlist
4269 \HyTmp@optitem{##1}{##2}##3%
4270 }%
4271 \fi
4272 }%
4273 \expandafter\comma@parse\expandafter{#2}{%
4274 \pdfstringdef\Hy@gtemp\comma@entry
4275 \let\HyTmp@found=N %
4276 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4277 \HyTmp@optlist
4278 \ifx\HyTmp@found Y%
4279 \advance\count@ by 1 %
4280 \else
4281 \@onelevel@sanitize\comma@entry
4282 \PackageWarning{hyperref}{%
4283 \string\ChoiceBox: Ignoring value '\comma@entry',%
4284 \MessageBreak
4285 it cannot be found in the choices%
4286 }%
4287 \fi
4288 \@gobble
4289 }%
4290 \def\HyTmp@optitem##1##2##3{%
4291 \ifnum##3=1 %
4292 (##2)%
4293 \fi
4294 }%
4295 \ifcase\count@
4296 \or
4297 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4298 \else
4299 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4300 \ifx#1V%
4301 \def\HyTmp@optitem##1##2##3{%
4302 \ifnum##3=1 %
4303 \@firstofone{ ##1}%
4304 \fi

```

```

4305     }%
4306     \edef\HyTmp@optlist{\HyTmp@optlist}%
4307     \xdef\Fld@choices{%
4308         \Fld@choices
4309         /I[\expandafter\@firstofone\HyTmp@optlist]%
4310     }%
4311     \fi
4312     \fi
4313     \fi
4314 }

```

19.3 Forms

\HyField@SetKeys

```

4315 \def\HyField@SetKeys{%
4316     \setkeys{Field}%
4317 }

4318 \newif\ifFld@checked
4319 \newif\ifFld@disabled
4320 \Fld@checkedfalse
4321 \Fld@disabledfalse
4322 \newcount\Fld@menulength
4323 \newdimen\Fld@Width
4324 \newdimen\Fld@charsize
4325 \Fld@charsize=10\p@
4326 \def\Fld@maxlen{0}
4327 \def\Fld@align{0}
4328 \def\Fld@color{0 0 0 rg}
4329 \def\Fld@bcolor{1 1 1}
4330 \def\Fld@bordercolor{1 0 0}
4331 \def\Fld@bordersep{1\p@}
4332 \def\Fld@borderwidth{1}
4333 \def\Fld@borderstyle{S}
4334 \def\Fld@cbsymbol{4}
4335 \def\Fld@radiosymbol{H}
4336 \def\Fld@rotation{0}
4337 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4338 \def\endForm{\@endForm}
4339 \newif\ifForm@html
4340 \Form@htmlfalse
4341 \def\Form@boolkey#1#2{%
4342     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4343 }
4344 \define@key{Form}{action}{%
4345     \hyper@normalise\Hy@DefFormAction{#1}%
4346 }
4347 \def\Hy@DefFormAction{\def\Form@action}
4348 \def\enc@@html{html}
4349 \define@key{Form}{encoding}{%
4350     \def\Hy@tempa{#1}%
4351     \ifx\Hy@tempa\enc@@html
4352         \Form@htmltrue
4353         \def\Fld@export{html}%
4354     \else
4355         \typeout{hyperref: form 'encoding' key set to #1 %
4356         -- unknown type%

```

```

4357 }%
4358 \Form@htmlfalse
4359 \fi
4360 }
4361 \define@key{Form}{method}{%
4362 \lowercase{\def\Hy@temp{#1}}%
4363 \@ifundefined{Form@method@\Hy@temp}{%
4364 \@onelevel@sanitize\Hy@temp
4365 \PackageError{hyperref}{%
4366 Unknown method '\Hy@temp'.\MessageBreak
4367 Known values are 'post' and 'get'%
4368 }\@ehc
4369 }{%
4370 \let\Form@method\Hy@temp
4371 \ifcase\@nameuse{Form@method@\Hy@temp} %
4372 \Fld@getmethodfalse
4373 \else
4374 \Fld@getmethodtrue
4375 \fi
4376 }%
4377 }
4378 \def\Form@method{}
4379 \@namedef{Form@method@post}{0}
4380 \@namedef{Form@method@get}{1}
4381 \def\Fld@boolkey#1#2{%
4382 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4383 }
4384 \newtoks\Fld@toks
4385 \Fld@toks={ }%
4386 \def\Fld@addtoks#1#2{%
4387 \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4388 \@processme
4389 }
4390 \def\Fld@checkequals#1=#2=#3\{\{%
4391 \def\@currDisplay{#1}%
4392 \ifx\#2\%
4393 \def\@currValue{#1}%
4394 \else
4395 \def\@currValue{#2}%
4396 \fi
4397 }
4398 \define@key{Field}{loc}{%
4399 \def\Fld@loc{#1}%
4400 }
4401 \define@key{Field}{checked}[true]{%
4402 \lowercase{\Field@boolkey{#1}}{checked}%
4403 }
4404 \define@key{Field}{disabled}[true]{%
4405 \lowercase{\Field@boolkey{#1}}{disabled}%
4406 }
4407 \define@key{Field}{accesskey}{%
4408 \Field@addtoks{accesskey}{#1}%
4409 }
4410 \define@key{Field}{tabkey}{%
4411 \Field@addtoks{tabkey}{#1}%
4412 }
4413 \define@key{Field}{name}{%

```

```

4414 \def\Fld@name{#1}%
4415 }
4416 \define@key{Field}{width}{%
4417 \def\Fld@width{#1}%
4418 \Field@Width#1\setbox0=\hbox{m}%
4419 }
4420 \define@key{Field}{maxlen}{%
4421 \def\Fld@maxlen{#1}%
4422 }
4423 \define@key{Field}{menulength}{%
4424 \Fld@menulength=#1\relax
4425 }
4426 \define@key{Field}{height}{%
4427 \def\Fld@height{#1}%
4428 }
4429 \define@key{Field}{charsize}{%
4430 \Fld@charsize#1%
4431 }
4432 \define@key{Field}{borderwidth}{%
4433 \def\Fld@borderwidth{#1}%
4434 }
4435 \define@key{Field}{borderstyle}{%
4436 \def\Fld@borderstyle{#1}%
4437 }
4438 \define@key{Field}{bordersep}{%
4439 \def\Fld@bordersep{#1}%
4440 }
4441 \define@key{Field}{default}{%
4442 \def\Fld@default{#1}%
4443 }
4444 \define@key{Field}{align}{%
4445 \def\Fld@align{#1}%
4446 }
4447 \define@key{Field}{value}{%
4448 \def\Fld@value{#1}%
4449 }
4450 \define@key{Field}{checkboxsymbol}{%
4451 \Fld@DingDef\Fld@cbsymbol{#1}%
4452 }
4453 \define@key{Field}{radiosymbol}{%
4454 \Fld@DingDef\Fld@radiosymbol{#1}%
4455 }
4456 \def\Fld@DingDef#1#2{%
4457 \def\Fld@temp{}%
4458 \Fld@@@DingDef#2\ding{}}\@nil
4459 \let#1\Fld@temp
4460 }
4461 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
4462 \expandafter\def\expandafter\Fld@temp\expandafter{%
4463 \Fld@temp
4464 #1%
4465 }%
4466 \ifx\#3\%
4467 \expandafter\@gobble
4468 \else
4469 \begingroup
4470 \lccode'0=#2\relax

```

```

4471 \lowercase{\endgroup
4472 \expandafter\def\expandafter\Fld@temp\expandafter{%
4473 \Fld@temp
4474 0%
4475 }%
4476 }%
4477 \expandafter\@firstofone
4478 \fi
4479 {%
4480 \Fld@@DingDef#3\@nil
4481 }%
4482 }

4483 \define@key{Field}{rotation}{%
4484 \def\Fld@rotation{#1}%
4485 }

4486 \define@key{Field}{backgroundcolor}{%
4487 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4488 }

4489 \define@key{Field}{bordercolor}{%
4490 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4491 }

4492 \define@key{Field}{color}{%
4493 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4494 }

4495 \def\Fld@onclick@code{}
4496 \def\Fld@format@code{}
4497 \def\Fld@validate@code{}
4498 \def\Fld@calculate@code{}
4499 \def\Fld@keystroke@code{}
4500 \def\Fld@onfocus@code{}
4501 \def\Fld@onblur@code{}
4502 \def\Fld@onmousedown@code{}
4503 \def\Fld@onmouseup@code{}
4504 \def\Fld@onenter@code{}
4505 \def\Fld@onexit@code{}
4506 \def\Hy@temp#1{%
4507 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4508 }

4509 \def\Hy@@temp#1#2{%
4510 \ifHy@pdfa
4511 \define@key{Field}{#2}{%
4512 \PackageError{hyperref}{%
4513 PDF/A: Additional action ‘#2’ is prohibited%
4514 }\@ehc
4515 }%
4516 \else
4517 \define@key{Field}{#2}{%
4518 \def#1{##1}%
4519 }%
4520 \fi
4521 }

4522 \Hy@temp{keystroke}
4523 \Hy@temp{format}
4524 \Hy@temp{validate}
4525 \Hy@temp{calculate}
4526 \Hy@temp{onfocus}

```

```

4527 \Hy@temp{onblur}
4528 \Hy@temp{onenter}
4529 \Hy@temp{onexit}
4530 \def\Hy@temp#1{%
4531   \define@key{Field}{#1}{%
4532     \Field@addtoks{#1}{##1}%
4533   }%
4534 }
4535 \Hy@temp{onselect}
4536 \Hy@temp{onchange}
4537 \Hy@temp{ondblclick}
4538 \Hy@temp{onmousedown}
4539 \Hy@temp{onmouseup}
4540 \Hy@temp{onmouseover}
4541 \Hy@temp{onmousemove}
4542 \Hy@temp{onmouseout}
4543 \Hy@temp{onkeypress}
4544 \Hy@temp{onkeydown}
4545 \Hy@temp{onkeyup}
4546 \ifHy@pdfa
4547   \define@key{Field}{onclick}{%
4548     \PackageError{hyperref}{%
4549       PDF/A: Action ‘onclick’ is prohibited%
4550     }\@ehc
4551   }%
4552 \else
4553   \define@key{Field}{onclick}{%
4554     \def\Fld@onclick@code{#1}%
4555     \Field@addtoks{onclick}{#1}%
4556   }%
4557 \fi

4558 \DeclareRobustCommand\TextField{%
4559   \@ifnextchar[{\@TextField}{\@TextField[]}%
4560 }
4561 \DeclareRobustCommand\ChoiceMenu{%
4562   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4563 }
4564 \DeclareRobustCommand\CheckBox{%
4565   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4566 }
4567 \DeclareRobustCommand\PushButton{%
4568   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4569 }
4570 \DeclareRobustCommand\Gauge{%
4571   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4572 }
4573 \DeclareRobustCommand\Submit{%
4574   \@ifnextchar[{\@Submit}{\@Submit[]}%
4575 }
4576 \DeclareRobustCommand\Reset{%
4577   \@ifnextchar[{\@Reset}{\@Reset[]}%
4578 }
4579 \def\LayoutTextField#1#2{% label, field
4580   #1 #2%
4581 }
4582 \def\LayoutChoiceField#1#2{% label, field
4583   #1 #2%

```



```

4584 }
4585 \def\LayoutCheckField#1#2{% label, field
4586   #1 #2%
4587 }
4588 \def\LayoutPushButtonField#1{% button
4589   #1%
4590 }
4591 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4592 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4593 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4594 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4595 \def\MakeButtonField#1{%
4596   \sbox0{%
4597     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4598   }%
4599   \@tempdima\ht0 %
4600   \advance\@tempdima by \Fld@borderwidth bp %
4601   \advance\@tempdima by \Fld@borderwidth bp %
4602   \ht0\@tempdima
4603   \@tempdima\dp0 %
4604   \advance\@tempdima by \Fld@borderwidth bp %
4605   \advance\@tempdima by \Fld@borderwidth bp %
4606   \dp0\@tempdima
4607   \box0\relax
4608 }
4609 \def\DefaultHeightofSubmit{14pt}
4610 \def\DefaultWidthofSubmit{2cm}
4611 \def\DefaultHeightofReset{14pt}
4612 \def\DefaultWidthofReset{2cm}
4613 \def\DefaultHeightofCheckBox{\baselineskip}
4614 \def\DefaultWidthofCheckBox{\baselineskip}
4615 \def\DefaultHeightofChoiceMenu{\baselineskip}
4616 \def\DefaultWidthofChoiceMenu{\baselineskip}
4617 \def\DefaultHeightofText{\baselineskip}
4618 \def\DefaultHeightofTextMultiline{4\baselineskip}
4619 \def\DefaultWidthofText{3cm}
4620 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4621 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4622 \def\DefaultOptionsofPushButton{print}
4623 \def\DefaultOptionsofCheckBox{print}
4624 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4625 \def\DefaultOptionsofListBox{print}
4626 \def\DefaultOptionsofComboBox{print,edit,sort}
4627 \def\DefaultOptionsofPopdownBox{print}
4628 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4629 \ifHy@figures
4630   \Hy@Info{Hyper figures ON}%
4631 \else
4632   \Hy@Info{Hyper figures OFF}%
4633 \fi
4634 \ifHy@nesting
4635   \Hy@Info{Link nesting ON}%

```

```

4636 \else
4637   \Hy@Info{Link nesting OFF}%
4638 \fi
4639 \ifHy@hyperindex
4640   \Hy@Info{Hyper index ON}%
4641 \else
4642   \Hy@Info{Hyper index OFF}%
4643 \fi
4644 \ifHy@backref
4645   \Hy@Info{backreferencing ON}%
4646 \else
4647   \Hy@Info{backreferencing OFF}%
4648 \fi
4649 \ifHy@colorlinks
4650   \Hy@Info{Link coloring ON}%
4651 \else
4652   \Hy@Info{Link coloring OFF}%
4653 \fi
4654 \ifHy@ocgcolorlinks
4655   \Hy@Info{Link coloring with OCG ON}%
4656 \else
4657   \Hy@Info{Link coloring with OCG OFF}%
4658 \fi
4659 \ifHy@pdfa
4660   \Hy@Info{PDF/A mode ON}%
4661 \else
4662   \Hy@Info{PDF/A mode OFF}%
4663 \fi

```

21 Low-level utility macros

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

```

4664 \edef\hyper@hash{\string#}
4665 \edef\hyper@tilde{\string~}
4666 \edef\hyper@quote{\string"}
4667 \let\@currentHref\@empty
4668 \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.

```

4669 \AfterBeginDocument{%
4670   \Hy@pdfstringtrue
4671   \PDF@SetupDoc
4672   \let\PDF@SetupDoc\@empty
4673   \Hy@DisableOption{pdfpagescrop}%
4674   \Hy@DisableOption{pdfpagemode}%
4675   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4676   \Hy@DisableOption{pdfdirection}%
4677   \Hy@DisableOption{pdfviewarea}%
4678   \Hy@DisableOption{pdfviewclip}%
4679   \Hy@DisableOption{pdfprintarea}%
4680   \Hy@DisableOption{pdfprintclip}%
4681   \Hy@DisableOption{pdfprintscaling}%
4682   \Hy@DisableOption{pdfduplex}%
4683   \Hy@DisableOption{pdfpicktraybypdfsize}%
4684   \Hy@DisableOption{pdfprintpagerange}%
4685   \Hy@DisableOption{pdfnumcopies}%

```

```

4686 \Hy@DisableOption{pdfstartview}%
4687 \Hy@DisableOption{pdfstartpage}%
4688 \Hy@DisableOption{pdftoolbar}%
4689 \Hy@DisableOption{pdfmenubar}%
4690 \Hy@DisableOption{pdfwindowui}%
4691 \Hy@DisableOption{pdfitwindow}%
4692 \Hy@DisableOption{pdfcenterwindow}%
4693 \Hy@DisableOption{pdfdisplaydoctitle}%
4694 \Hy@DisableOption{pdfpagelayout}%
4695 \Hy@DisableOption{pdflang}%
4696 \Hy@DisableOption{baseurl}%
4697 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4698 \Hy@pdfstringfalse
4699 }

```

Ignore star from referencing macros:

```

4700 \let\NoHy@OrgRef\ref
4701 \def\ref{%
4702   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4703 }
4704 \let\NoHy@OrgPageRef\pageref
4705 \def\pageref{%
4706   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4707 }

```

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.

```

4708 \def\NoHyper{%
4709   \def\hyper@link@{##1}##2##3##4{##4}%
4710   \def\hyper@@anchor##1{%
4711     \global\let\hyper@livelink\hyper@link
4712     \gdef\hyper@link##1##2##3{##3}%
4713     \def\hyper@anchorstart##1{%
4714       \let\hyper@anchorend\@empty
4715       \def\hyper@linkstart##1##2{%
4716         \let\hyper@linkend\@empty
4717         \def\hyper@linkurl##1##2{##1}%
4718         \def\hyper@linkfile##1##2##3{##1}%
4719         \def\hyper@link@{##1}##2##3}%
4720         \let\Hy@backout\@gobble
4721       }
4722     \def\stop@hyper{%
4723       \def\hyper@link@{##1}##2##3##4{##4}%
4724       \let\Hy@backout\@gobble
4725       \def\hyper@@anchor##1{%
4726         \def\hyper@link##1##2##3{##3}%
4727         \def\hyper@anchorstart##1{%
4728           \let\hyper@anchorend\@empty
4729           \def\hyper@linkstart##1##2{%
4730             \let\hyper@linkend\@empty
4731             \def\hyper@linkurl##1##2{##1}%
4732             \def\hyper@linkfile##1##2##3{##1}%

```

```

4733 \def\hyper@link@{##1}##2##3}%
4734 }
4735 \def\endNoHyper{%
4736 \global\let\hyper@link\hyper@livelink
4737 }
4738 \</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:

```

4739 \<*nohyperref>
4740 \let\hyper@@anchor\@gobble
4741 \def\hyper@link#1##2##3{##3}%
4742 \let\hyper@anchorstart\@gobble
4743 \let\hyper@anchorend\@empty
4744 \let\hyper@linkstart\@gobbletwo
4745 \let\hyper@linkend\@empty
4746 \def\hyper@linkurl#1##2{##1}%
4747 \def\hyper@linkfile#1##2##3{##1}%
4748 \def\hyper@link@{##1}##2##3}%
4749 \let\PDF@SetupDoc\@empty
4750 \let\PDF@FinishDoc\@empty
4751 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

4752 \def\Acrobatmenu#1##2{\leavevmode##2}
4753 \let\pdfstringdefDisableCommands\@gobbletwo
4754 \let\texorpdfstring\@firstoftwo
4755 \let\pdfbookmark\@undefined
4756 \newcommand\pdfbookmark[3]{}{}
4757 \let\phantomsection\@empty
4758 \let\hypersetup\@gobble
4759 \let\hyperbaseurl\@gobble
4760 \let\href\@gobble
4761 \let\hyperdef\@gobbletwo
4762 \let\hyperlink\@gobble
4763 \let\hypertarget\@gobble
4764 \def\hyperref{%
4765 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4766 }
4767 \long\def\@gobbleopt[#1]{}
4768 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

4769 \let\NoHy@OrgRef\ref
4770 \def\ref{%
4771 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4772 }
4773 \let\NoHy@OrgPageRef\pageref
4774 \def\pageref{%
4775 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef

```

```

4776 }
4777 </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}`

```

4778 <*package>
4779 \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.

```

4780 \if@filesw
4781 \ifHy@typexml
4782 \immediate\closeout\@mainaux
4783 \immediate\openout\@mainaux\jobname.aux\relax
4784 \immediate\write\@auxout{<relaxxml>\relax}%
4785 \fi
4786 \immediate\write\@auxout{%
4787 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4788 \global\let\string\oldcontentsline\string\contentsline^^J%
4789 \gdef\string\contentsline%
4790 \string#1\string#2\string#3\string#4{%
4791 \string\oldcontentsline%
4792 {\string#1}{\string#2}{\string#3}}^^J%
4793 \global\let\string\oldnewlabel\string\newlabel^^J%
4794 \gdef\string\newlabel\string#1\string#2{%
4795 \string\newlabelxx{\string#1}\string#2^^J%
4796 \gdef\string\newlabelxx%
4797 \string#1\string#2\string#3\string#4\string#5\string#6{%
4798 \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.

```

4799 \string\AtEndDocument{%
4800 \let\string\contentsline\string\oldcontentsline^^J%
4801 \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.

```

4802 \string\else^^J%
4803 \global\let\string\hyper@last\relax^^J%
4804 \string\fi^^J%
4805 }%
4806 \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.

```

4807 \ifx\hyper@last\@undefined
4808 \def\@starttoc#1{%
4809 \begingroup

```

```

4810 \makeatletter
4811 \IfFileExists{\jobname.#1}{%
4812   \Hy@WarningNoLine{%
4813     old #1 file detected, not used; run LaTeX again%
4814   }%
4815 }{}%
4816 \if@filesw
4817   \expandafter\newwrite\csname tf@#1\endcsname
4818   \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4819 \fi
4820 \@nobreakfalse
4821 \endgroup
4822 }%
4823 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4824 \fi
4825 }

```

25 Title strings

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

```

4826 \ifHy@usetitle
4827   \let\HyOrg@title\title
4828   \let\HyOrg@author\author
4829   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
4830   \def\Hy@scanopttitle[#1]{%
4831     \gdef\Hy@title{#1}%
4832     \HyOrg@title{#1}%
4833   }%
4834   \def\Hy@scantitle#1{%
4835     \gdef\Hy@title{#1}%
4836     \HyOrg@title{#1}%
4837   }%
4838   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4839   \def\Hy@scanoptauthor[#1]{%
4840     \gdef\Hy@author{#1}%
4841     \HyOrg@author{#1}%
4842   }%
4843   \def\Hy@scanauthor#1{%
4844     \gdef\Hy@author{#1}%
4845     \HyOrg@author{#1}%
4846   }%

```

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.

```

4847 \begingroup
4848   \def\process@me#1\@nil#2{%
4849     \expandafter\let\expandafter\x\csname @#2\endcsname
4850     \edef\y{\expandafter\strip@prefix\meaning\x}%
4851     \def\c##1#1##2\@nil{%
4852       \ifx\##1\%
4853       \else
4854         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4855           \expandafter{\x}%
4856       \fi
4857     }%

```

```

4858 \expandafter\c\y\relax#1\@nil
4859 }%
4860 \expandafter\process@me\string\@latex@\@nil{title}%
4861 \expandafter\process@me\string\@latex@\@nil{author}%
4862 \endgroup
4863 \fi
4864 \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.

```

4865 \def\Hy@UseMaketitleString#1{%
4866 \ifundefined{Hy@#1}{-}{%
4867 \begingroup
4868 \let\Hy@saved@hook\pdfstringdefPreHook
4869 \pdfstringdefDisableCommands{%
4870 \expandafter\let\expandafter\\csname Hy@newline@#1\endcsname
4871 \let\newline\\%
4872 }%
4873 \expandafter\ifx\csname @pdf#1\endcsname\@empty
4874 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4875 \csname Hy@#1\endcsname\@empty
4876 }%
4877 \fi
4878 \global\let\pdfstringdefPreHook\Hy@saved@hook
4879 \endgroup
4880 }%
4881 }
4882 \def\Hy@newline@title#1{ #1}
4883 \def\Hy@newline@author#1{, #1}
4884 \def\Hy@UseMaketitleInfos{%
4885 \Hy@UseMaketitleString{title}%
4886 \Hy@UseMaketitleString{author}%
4887 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4888 \RequirePackage{atbegshi}[2007/09/09]
4889 \def\Hy@EveryPageHook{}
4890 \def\Hy@EveryPageBoxHook{}
4891 \def\Hy@FirstPageHook{}
4892 \AtBeginShipout{%
4893 \Hy@EveryPageHook
4894 \ifx\Hy@EveryPageBoxHook\@empty
4895 \else

```

```

4896 \setbox\AtBeginShipoutBox=\vbox{%
4897 \offinterlineskip
4898 \Hy@EveryPageBoxHook
4899 \box\AtBeginShipoutBox
4900 }%
4901 \fi
4902 }
4903 \AtBeginShipoutFirst{%
4904 \Hy@FirstPageHook
4905 }
4906 \g@addto@macro\Hy@FirstPageHook{%
4907 \PDF@FinishDoc
4908 \gdef\PDF@FinishDoc{}}%
4909 }

```

27.1 PDF /PageLabels

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

```

4910 \ifHy@pagelabels
4911 \begingroup\expandafter\expandafter\expandafter\endgroup
4912 \expandafter\ifx\csname thepage\endcsname\relax
4913 \Hy@pagelabelsfalse
4914 \Hy@WarningNoLine{%
4915 Option 'pdfpagelabels' is turned off\MessageBreak
4916 because \string\thepage\space is undefined%
4917 }%
4918 \csname fi\endcsname
4919 \csname iffalse\expandafter\endcsname
4920 \fi

```

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

```

4921 \def\thispdfpagelabel#1{%
4922 \gdef\HyPL@thisLabel{#1}%
4923 }%
4924 \global\let\HyPL@thisLabel\relax

```

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

```

4925 \def\HyPL@Labels{}%

```

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

```

4926 \newcount\Hy@abspage
4927 \Hy@abspage=0 %

```

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

```

4928 \def\HyPL@LastType{init}%
4929 \def\HyPL@LastNumber{0}%
4930 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L^AT_EX pendants.

```

4931 \def\HyPL@arabic{D}%
4932 \def\HyPL@Roman{R}%
4933 \def\HyPL@roman{r}%
4934 \def\HyPL@Alph{A}%
4935 \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.

```

4936 \def\HyPL@EveryPage{%
4937   \begingroup
4938   \ifx\HyPL@thisLabel\relax
4939     \let\HyPL@page\thepage
4940   \else
4941     \let\HyPL@page\HyPL@thisLabel
4942     \global\let\HyPL@thisLabel\relax
4943   \fi
4944   \let\HyPL@Type\relax
4945   \ifnum\the\c@page>0 %
4946     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4947   \fi
4948   \let\Hy@temp Y%
4949   \ifx\HyPL@Type\HyPL@LastType
4950   \else
4951     \let\Hy@temp N%
4952   \fi
4953   \ifx\HyPL@Type\relax
4954     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4955   \else
4956     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4957   \fi
4958   \ifx\HyPL@Prefix\HyPL@LastPrefix
4959   \else
4960     \let\Hy@temp N%
4961   \fi
4962   \if Y\Hy@temp
4963     \advance\c@page by -1 %
4964     \ifnum\HyPL@LastNumber=\the\c@page\relax
4965     \else
4966       \let\Hy@temp N%
4967     \fi
4968     \Hy@StepCount\c@page
4969   \fi
4970   \if N\Hy@temp
4971     \ifx\HyPL@Type\relax
4972       \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
4973     \else
4974       \HyPL@storePageLabel{%
4975         \ifx\HyPL@Prefix\@empty
4976         \else
4977           /P(\HyPL@Prefix)%
4978         \fi
4979         /S/\csname HyPL\HyPL@Type\endcsname
4980         \ifnum\the\c@page=1 %
4981         \else
4982           \space/St \the\c@page
4983         \fi
4984       }%
4985     \fi
4986   \fi
4987   \xdef\HyPL@LastNumber{\the\c@page}%
4988   \global\let\HyPL@LastType\HyPL@Type
4989   \global\let\HyPL@LastPrefix\HyPL@Prefix
4990 \endgroup

```

```

4991 \Hy@GlobalStepCount\Hy@abspage
4992 }%

```

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

```

4993 \def\HyPL@CheckThePage#1\@nil{%
4994   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4995 }%

```

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

The second check tries to detect `\arabic{page}` at the end of the definition text of `\thepage`.

```

4996 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4997   \def\Hy@tempa{#4}%
4998   \def\Hy@tempb{\csname\endcsname\c@page}%
4999   \ifx\Hy@tempa\Hy@tempb
5000     \expandafter\ifx\csname HyPL#3\endcsname\relax
5001     \else
5002       \def\HyPL@Type{#3}%
5003       \def\HyPL@Prefix{#2}%
5004       \fi
5005     \else
5006       \begingroup
5007         \let\Hy@next\endgroup
5008         \let\HyPL@found\@undefined
5009         \def\arabic{\HyPL@Format{arabic}}%
5010         \def\Roman{\HyPL@Format{Roman}}%
5011         \def\roman{\HyPL@Format{roman}}%
5012         \def\Alph{\HyPL@Format{Alph}}%
5013         \def\alph{\HyPL@Format{alph}}%
5014         \protected@edef\Hy@temp{#1}%
5015         \ifx\HyPL@found\relax
5016           \toks@ \expandafter{\Hy@temp}%
5017           \edef\Hy@next{\endgroup
5018             \noexpand\HyPL@@CheckThePage\the\toks@
5019             \noexpand\HyPL@found\relax\noexpand\@nil
5020           }%
5021         \fi
5022         \Hy@next
5023       \fi
5024     }%

```

`\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`.

```

5025 \def\HyPL@Format#1#2{%
5026   \ifx\HyPL@found\@undefined
5027     \expandafter\ifx\csname c@#2\endcsname\c@page
5028     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5029   \else
5030     \expandafter\noexpand\csname#1\endcsname{#2}%
5031   \fi
5032   \else
5033     \expandafter\noexpand\csname#1\endcsname{#2}%
5034   \fi
5035 }%

```

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

```
5036 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5037   \def\Hy@tempa{#3}%
5038   \def\Hy@tempb{\HyPL@found\relax}%
5039   \ifx\Hy@tempa\Hy@tempb
5040     \def\HyPL@Type{@#2}%
5041     \def\HyPL@Prefix{#1}%
5042   \fi
5043 }%
```

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

```
5044 \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`.

```
5045 \def\HyPL@Useless{0<</S/D>>}%
5046 \@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.

```
5047 \def\HyPL@SetPageLabels{%
5048   \@onelevel@sanitize\HyPL@Labels
5049   \ifx\HyPL@Labels\@empty
5050   \else
5051     \ifx\HyPL@Labels\HyPL@Useless
5052     \else
5053       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5054     \fi
5055   \fi
5056 }%
```

```
5057 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5058 \fi
```

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

```
5059 \Hy@DisableOption{pdfpagelabels}
5060 </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`

```
5061 <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.

```
5062 <*vTeX>
5063 \providecommand*{\XR@ext}{pdf}
5064 \edef\Hy@VTeXversion{%
5065   \ifx\VTeXversion\@undefined
5066     \z@
```

```

5067 \else
5068 \ifx\VTexversion\relax
5069 \z@
5070 \else
5071 \VTexversion
5072 \fi
5073 \fi
5074 }
5075 \begingroup
5076 \ifnum\Hy@VTexversion<660 %
5077 \gdef\Hy@PutCatalog#1{%
5078 \Hy@WarningNoLine{%
5079 VTeX 6.59g or above required for pdfpagelabels%
5080 }%
5081 }%
5082 \else
5083 \gdef\Hy@PutCatalog#1{%
5084 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5085 }%
5086 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5087 \ifx\#2\%
5088 \else
5089 \immediate\special{!pdfpagelabels #2}%
5090 \fi
5091 }%
5092 \fi
5093 \endgroup
5094 </vtex>

5095 <*pdfTeX | vTeX>

```

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

```

5096 \ifHy@pagelabels
5097 \def\HyPL@StorePageLabel#1{%
5098 \toks@\expandafter{\HyPL@Labels}%
5099 \xdef\HyPL@Labels{%
5100 \the\toks@
5101 \the\Hy@abspage<<#1>>%
5102 }%
5103 }%

```

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.

```

5104 \RequirePackage{atveryend}[2009/12/07]%
5105 \AtVeryEndDocument{%
5106 \HyPL@SetPageLabels
5107 }%

5108 \fi
5109 </pdfTeX | vTeX>

```

27.1.2 xetex

```

5110 <*xetex>
5111 \HyPsd@LoadUnicode
5112 \Hy@unicodetrue
5113 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode

```

```

5114 \else
5115 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5116 \fi
5117 \HyPsd@LoadStringEnc
5118 \define@key{Hyp}{unicode}[true]{%
5119 \Hy@boolkey{unicode}{#1}%
5120 \ifHy@unicode
5121 \else
5122 \Hy@Warning{%
5123 XeTeX driver only supports 'unicode=true'.\MessageBreak
5124 Ignoring option setting 'unicode=false'%
5125 }%
5126 \Hy@unicodetrue
5127 \fi
5128 }
5129 \define@key{Hyp}{pdfencoding}{%
5130 \edef\HyPsd@temp{#1}%
5131 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5132 \let\HyPsd@pdfencoding\HyPsd@temp
5133 \else
5134 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5135 \let\HyPsd@pdfencoding\HyPsd@temp
5136 \else
5137 \Hy@Warning{%
5138 XeTeX driver only supports 'pdfencoding=unicode|auto.%
5139 \MessageBreak
5140 Ignoring option setting 'pdfencoding=\HyPsd@temp'%
5141 }%
5142 \fi
5143 \fi
5144 }
5145 \let\HyXeTeX@CheckUnicode\relax
5146 \</xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

5147 \<pdfmarkbase>
5148 \begingroup
5149 \toks@{\expandafter{\Hy@FirstPageHook}}%
5150 \xdef\Hy@FirstPageHook{%
5151 \noexpand\headerps@out{%
5152 systemdict /pdfmark known%
5153 {%
5154 userdict /?pdfmark systemdict /exec get put%
5155 }{%
5156 userdict /?pdfmark systemdict /pop get put %
5157 userdict /pdfmark systemdict /cleartomark get put%
5158 }%
5159 ifelse%
5160 }%
5161 \the\toks@
5162 }%
5163 \endgroup
5164 \</pdfmarkbase>

```

\Hy@PutCatalog

```

5165 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5166 \<pdfmarkbase>
5167 \def\Hy@PutCatalog#1{%

```

```

5168 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5169 }
5170 \pdfmarkbase>

5171 < *pdfmarkbase | dvipdfm | xetex >
5172 \ifHy@pagelabels

```

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

```

5173 \def\HyPL@StorePageLabel#1{%
5174   \if@filesw
5175     \begingroup
5176     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5177     \immediate\write\@mainaux{%
5178       \string\HyPL@Entry{\Hy@tempa}%
5179     }%
5180   \endgroup
5181 \fi
5182 }%

```

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.

```

5183 \AfterBeginDocument{%
5184   \if@filesw
5185     \immediate\write\@mainaux{%
5186       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5187     }%
5188   \fi
5189   \ifx\HyPL@Labels\@empty
5190     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5191   \else
5192     \HyPL@SetPageLabels
5193   \fi
5194   \let\HyPL@Entry\@gobble
5195 }%

```

`\HyPL@Entry`

```

5196 \def\HyPL@Entry#1{%
5197   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5198     \HyPL@Labels
5199     #1%
5200   }%
5201 }%

5202 \fi
5203 < /pdfmarkbase | dvipdfm | xetex >

5204 < *package >

5205 \MaybeStopEarly

```

28 Automated L^AT_EX hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>`

be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever \LaTeX 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

```

5206 \def\Hy@CounterExists#1{%
5207   \begingroup\expandafter\expandafter\expandafter\endgroup
5208   \expandafter\ifx\csname c@#1\endcsname\relax
5209     \expandafter\@gobble
5210   \else
5211     \begingroup\expandafter\expandafter\expandafter\endgroup
5212     \expandafter\ifx\csname the#1\endcsname\relax
5213       \expandafter\expandafter\expandafter\@gobble
5214     \else
5215       \expandafter\expandafter\expandafter\@firstofone
5216     \fi
5217   \fi
5218 }
5219 \Hy@CounterExists{section}{%
5220   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5221 }
5222 \Hy@CounterExists{part}{%
5223   \newcommand\theHpart{\arabic{part}}%
5224 }
5225 \ifundefined{thechapter}{%
5226   \newcommand\theHsection   {\arabic{section}}%
5227   \newcommand\theHfigure    {\arabic{figure}}%
5228   \newcommand\theHtable     {\arabic{table}}%
5229 }{%
5230   \newcommand\theHchapter   {\arabic{chapter}}%
5231   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}%
5232   \newcommand\theHtable     {\theHchapter.\arabic{table}}%
5233   \newcommand\theHsection   {\theHchapter.\arabic{section}}%
5234 }
5235 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5236 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5237 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
5238 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
5239 \newcommand\theHtheorem     {\theHsection.\arabic{theorem}}
5240 \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.

```

5241 \let\H@item\item
5242 \newcounter{Item}
5243 \def\theHItem{\arabic{Item}}
5244 \def\item{%
5245   \@hyper@itemfalse
5246   \if@nmbrrlist\@hyper@itemtrue\fi
5247   \H@item

```

```

5248 }
5249 \newcommand\theHenumi    {\theHItem}
5250 \newcommand\theHenumii   {\theHItem}
5251 \newcommand\theHenumiii  {\theHItem}
5252 \newcommand\theHenumiv   {\theHItem}
5253 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5254 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5255 \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.

```

5256 \let\H@refstepcounter\refstepcounter
5257 \edef\name@of@eq{equation}%
5258 \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.

```

5259 \newif\if@hyper@item
5260 \newif\if@skiphyperref
5261 \@hyper@itemfalse
5262 \@skiphyperreffalse
5263 \def\refstepcounter#1{%
5264   \ifHy@pdfstring
5265   \else
5266     \H@refstepcounter{#1}%
5267     \edef\This@name{#1}%
5268     \ifx\This@name\name@of@slide
5269     \else
5270       \if@skiphyperref
5271       \else
5272         \if@hyper@item
5273         \stepcounter{Item}%
5274         \hyper@refstepcounter{Item}%
5275         \@hyper@itemfalse
5276       \else
5277         \hyper@refstepcounter{#1}%
5278       \fi
5279     \fi
5280   \fi
5281 \fi
5282 }

```

AMS_{La}T_EX 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.

```

5283 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5284 \def\hyper@refstepcounter#1{%
5285   \edef\This@name{#1}%
5286   \ifx\This@name\name@of@eq
5287   \@ifundefined{theHequation}{%
5288     \make@stripped@name{\theequation}%
5289     \let\theHequation\newname
5290   }{}%
5291   \fi

```



```

5292 \@ifundefined{theH#1}{%
5293   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5294 }{}%
5295 \hyper@makecurrent{#1}%
5296 \ifmeasuring@
5297 \else
5298   \Hy@raisedlink{%
5299     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5300   }%
5301 \fi
5302 }

```

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`.

```

5303 \begingroup\expandafter\expandafter\expandafter\endgroup
5304 \expandafter\ifx\csname chapter\endcsname\relax
5305   \def\Hy@chapterstring{section}%
5306 \else
5307   \def\Hy@chapterstring{chapter}%
5308 \fi
5309 \def\Hy@appendixstring{appendix}
5310 \def\Hy@chapapp{\Hy@chapterstring}
5311 \let\HyOrg@appendix\appendix
5312 \def\appendix{%
5313   \@ifundefined{chapter}%
5314     {\gdef\theHsection{\Alph{section}}}%
5315     {\gdef\theHchapter{\Alph{chapter}}}%
5316   \xdef\Hy@chapapp{\Hy@appendixstring}%
5317   \HyOrg@appendix
5318 }

```

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

```

5319 \def\hyper@makecurrent#1{%
5320   \begingroup
5321     \edef\Hy@param{#1}%
5322     \ifx\Hy@param\Hy@chapterstring
5323       \let\Hy@param\Hy@chapapp
5324     \fi
5325     \ifHy@hypertextnames
5326       \let\@number\@firstofone
5327       \@ifundefined{latin@Alph}{-}{%
5328         \ifx\@Alph\greek@Alph
5329           \def\@Alph{Alph\@arabic}%
5330         \fi
5331       }%
5332       \ifx\@Alph\@Alph@bul
5333         \def\@Alph{Alph\@arabic}%
5334       \fi
5335       \ifx\@alph\@alph@bul
5336         \def\@alph{alph\@arabic}%
5337       \fi
5338     \ifHy@naturalnames

```

```

5339 \let\textlatin\@firstofone
5340 \xdef\@currentHlabel{\csname the#1\endcsname}%
5341 \else
5342 \xdef\@currentHlabel{%
5343 \csname
5344 the%
5345 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5346 #1%
5347 \endcsname
5348 }%
5349 \fi
5350 \xdef\@currentHref{%
5351 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5352 }%
5353 \else
5354 \Hy@GlobalStepCount\Hy@linkcounter
5355 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5356 \fi
5357 \endgroup
5358 }

5359 \@ifpackageloaded{fancyvrb}{%
5360 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5361 \def\FV@StepLineNo{%
5362 \FV@SetLineNo
5363 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5364 \FV@StepLineNo
5365 }%
5366 }%
5367 }{-}

```

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 `hypertexnames` 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`

```

5368 \AtBeginDocument{%
5369 \ifclassloaded{revtex4}{%
5370 \@namedef{ver@lastpage.sty}{1994/06/25}%
5371 }{-}%
5372 \@ifpackageloaded{lastpage}{%
5373 \ifHy@pageanchor
5374 \else
5375 \Hy@WarningNoLine{%
5376 The \string\pageref{LastPage} link doesn't work\MessageBreak
5377 with disabled option 'pageanchor'%
5378 }%
5379 \fi
5380 \def\lastpage@putlabel{%
5381 \addtocounter{page}{-1}%

```

```

5382 \if@filesw
5383 \begingroup
5384 \let\@number\@firstofone
5385 \ifHy@pageanchor
5386 \ifHy@hypertextnames
5387 \ifHy@plainpages
5388 \def\Hy@temp{\arabic{page}}}%
5389 \else
5390 \Hy@unicodedefalse
5391 \pdfstringdef\Hy@temp{\thepage}%
5392 \fi
5393 \else
5394 \def\Hy@temp{\the\Hy@pagecounter}%
5395 \fi
5396 \fi
5397 \immediate\write\@auxout{%
5398 \string\newlabel
5399 {LastPage}{\thepage}{\thepage}%
5400 \ifHy@pageanchor page.\Hy@temp\fi}{}}%
5401 }%
5402 \endgroup
5403 \fi
5404 \addtocounter{page}{1}%
5405 }%
5406 \@ifclassloaded{revtex4}{%
5407 \begingroup
5408 \toks@{\expandafter\lastpage@putlabel}%
5409 \edef\x{\endgroup
5410 \def\noexpand\lastpage@putlabel{%
5411 \noexpand\stepcounter{page}%
5412 \the\toks@
5413 \noexpand\addtocounter{page}\noexpand\m@ne
5414 }%
5415 }%
5416 \x
5417 }{}%
5418 }{}%
5419 }
5420 \</package>
5421 \<*check>
5422 \checkpackage{lastpage}[1994/06/25]
5423 \checkcommand\def\lastpage@putlabel{%
5424 \addtocounter{page}{-1}%
5425 \immediate\write\@auxout{%
5426 \string\newlabel{LastPage}{\thepage}{\thepage}}%
5427 }%
5428 \addtocounter{page}{1}%
5429 }
5430 \</check>
5431 \<*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.

```

5432 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
5433 \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:

```

5434 \@ifpackageloaded{titlesec}{%
5435   \def\ttl@Hy@steplink#1{%
5436     \Hy@GlobalStepCount\Hy@linkcounter
5437     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5438     \def\ttl@Hy@saveanchor{%
5439       \Hy@raisedlink{%
5440         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5441       }%
5442     }%
5443   }%
5444   \def\ttl@Hy@refstepcounter#1{%
5445     \let\ttl@b\Hy@raisedlink
5446     \def\Hy@raisedlink##1{%
5447       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5448     }%
5449     \refstepcounter{#1}%
5450     \let\Hy@raisedlink\ttl@b
5451   }%
5452 }{}

```

Package titletoc support:

```

5453 \@ifpackageloaded{titletoc}{%
5454   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5455 }{}

```

32 Package varioref support

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

```

5456 \def\Hy@varioref@undefined{??}{??}{-}{-}}
5457 \@ifpackageloaded{varioref}{%
5458   \def\vref@pagenum#1#2{%
5459     \@ifundefined{r@#2}{%
5460       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5461     }{}%
5462     \edef#1{\getpagerefnumber{#2}}%
5463   }%
5464 }{}

```

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

```

5465 \@ifpackageloaded{longtable}{%
5466   \begingroup
5467   \def\y{\LT@array}%
5468   \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
5469   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5470     \expandafter\endgroup
5471     \expandafter\def\y[##1]##2{%
5472       \H@refstepcounter{#1}%
5473       \hyper@makecurrent{table}%
5474       \let\Hy@LT@currentHlabel\@currentHlabel
5475       \let\Hy@LT@currentHref\@currentHref
5476       #2\@sharp###3#4%
5477     }%
5478   }%
5479   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

5480 \begingroup
5481 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5482   \endgroup
5483   \def\LT@start{%
5484     #1%
5485     \let\@currentHlabel\Hy@LT@currentHlabel
5486     \let\@currentHref\Hy@LT@currentHref
5487     \Hy@raisedlink{%
5488       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5489     }%
5490     \ifvoid\LT@firsthead\copy
5491     #2%
5492   }%
5493 }%
5494 \expandafter\x\LT@start\@nil
5495 }{}

```

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.

```

5496 \let\new@refstepcounter\refstepcounter
5497 \let\H@equation\equation
5498 \let\H@endequation\endequation
5499 \@ifpackageloaded{amsmath}{%
5500   \long\def\Hy@temp{%
5501     \incr@eqnum
5502     \mathdisplay@push
5503     \st@rredfalse \global\@eqnswtrue
5504     \mathdisplay{equation}%
5505   }%
5506   \ifx\Hy@temp\equation
5507     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5508       \csname iftrue\endcsname
5509   \else
5510     \long\def\equation{%

```

```

5511 \mathdisplay@push
5512 \st@rredfalse \global\@eqnswtrue
5513 \mathdisplay{equation}%
5514 \incr@eqnum
5515 }%
5516 \fi
5517 \fi
5518 }{%
5519 \def\equation{%
5520 \let\refstepcounter\H@refstepcounter
5521 \H@equation
5522 \@ifundefined{theHequation}{%
5523 \make@stripped@name{\theequation}%
5524 \let\theHequation\newname
5525 }{}%
5526 \hyper@makecurrent{equation}%
5527 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5528 \let\refstepcounter\new@refstepcounter
5529 }%
5530 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5531 }

```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```

5532 \newif\if@eqnstar
5533 \@eqnstarfalse
5534 \let\H@eqnarray\eqnarray
5535 \let\H@endeqnarray\endeqnarray
5536 \def\eqnarray{%
5537 \let\Hy@reserved@a\relax
5538 \def\@currentHref{}%
5539 \H@eqnarray
5540 \if@eqnstar
5541 \else
5542 \ifx\\\@currentHref\\%
5543 \else
5544 \@ifundefined{theHequation}{%
5545 \make@stripped@name{\theequation}%
5546 \let\theHequation\newname
5547 }{}%
5548 \hyper@makecurrent{equation}%
5549 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5550 \fi
5551 \fi
5552 }
5553 \def\endeqnarray{%
5554 \H@endeqnarray
5555 }

```

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.

```

5556 \@namedef{eqnarray*}{%
5557 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5558 }
5559 \@namedef{endeqnarray*}{%

```

```

5560 \nonumber\endeqnarray\@eqnstarfalse
5561 }

```

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

```

5562 \@ifundefined{subeqnarray}{%
5563   \let\H@subeqnarray\subeqnarray
5564   \let\H@endsubeqnarray\endsubeqnarray
5565   \def\subeqnarray{%
5566     \let\Hy@reserved@a\relax
5567     \H@subeqnarray
5568     \@ifundefined{theHequation}{%
5569       \make@stripped@name{\theequation}%
5570       \let\theHequation\newname
5571     }{}%
5572     \hyper@makecurrent{equation}%
5573     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5574   }%
5575   \def\endsubeqnarray{%
5576     \H@endsubeqnarray
5577   }%
5578   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5579 }

```

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

```

5580 \def\make@stripped@name#1{%
5581   \begingroup
5582   \escapechar\m@ne
5583   \global\let\newname\@empty
5584   \protected@edef\Hy@tempa{#1}%
5585   \edef\@tempb{%
5586     \noexpand\@tfor\noexpand\Hy@tempa:=%
5587     \expandafter\strip@prefix\meaning\Hy@tempa
5588   }%
5589   \@tempb\do{%
5590     \if{\Hy@tempa\else
5591     \if}\Hy@tempa\else
5592       \xdef\newname{\newname\Hy@tempa}%
5593     \fi
5594   }%
5595 }%
5596 \endgroup
5597 }

```

Support for amsmath's subequations:

```

5598 \begingroup\expandafter\expandafter\expandafter\endgroup
5599 \expandafter\ifx\cname subequations\endcname\relax
5600 \else
5601   \let\HyOrg@subequations\subequations
5602   \def\subequations{%
5603     \stepcounter{equation}%
5604     \protected@edef\theHparentequation{%
5605       \@ifundefined{theHequation}\theequation\theHequation
5606     }%
5607     \addtocounter{equation}{-1}%
5608     \HyOrg@subequations
5609     \def\theHequation{\theHparentequation\alph{equation}}%
5610     \ignorespaces
5611   }%

```

5612 \fi

Support for package amsthm (Daniel Müllner):

```
5613 \@ifpackageloaded{amsthm}{%
5614   \def\@thm#1#2#3{%
5615     \ifhmode
5616       \unskip\unskip\par
5617     \fi
5618     \normalfont
5619     \trivlist
5620     \let\thmheadn!\relax
5621     \let\thm@swap\@gobble
5622     \thm@notefont{\fontseries\mddefault\upshape}%
5623     \thm@headpunct{.}% add period after heading
5624     \thm@headsep 5\p@ plus\p@ minus\p@\relax
5625     \thm@space@setup
5626     #1% style overrides
5627     \@topsep \thm@preskip           % used by thm head
5628     \@topsepadd \thm@postskip      % used by \@endparenv
5629     \def\dth@counter{#2}%
5630     \ifx\@empty\dth@counter
5631       \def\@tempa{%
5632         \@oparg{\@begintheorem{#3}{}}{}%
5633       }%
5634     \else
5635       \H@refstepcounter{#2}%
5636       \hyper@makecurrent{#2}%
5637       \def\@tempa{%
5638         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
5639       }%
5640     \fi
5641     \@tempa
5642   }%
5643   \dth@everypar={%
5644     \@minipagefalse
5645     \global\@newlistfalse
5646     \@noprimitfalse
5647     \if@inlabel
5648       \global\@inlabelfalse
5649     \begingroup
5650       \setbox\z@\lastbox
5651       \ifvoid\z@
5652         \kern-\itemindent
5653       \fi
5654     \endgroup
5655     \ifx\@empty\dth@counter
5656     \else
5657       \Hy@raisedlink{%
5658         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5659       }%
5660     \fi
5661     \unhbox\@labels
5662   \fi
5663   \if@nobreak
5664     \@nobreakfalse \clubpenalty\@M
5665   \else
5666     \clubpenalty\@clubpenalty \everypar{}%
5667   \fi
```



```

5668 }%
5669 }{}

```

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.

```

5670 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5671 \ifHy@hyperfootnotes
5672   \newcounter{Hfootnote}%
5673   \let\H@@footnotetext\@footnotetext
5674   \let\H@@footnotemark\@footnotemark
5675   \def\@xfootnotenext[#1]{%
5676     \begingroup
5677       \csname c@\@mpfn\endcsname #1\relax
5678       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5679     \endgroup
5680     \ifx\@footnotetext\@mpfootnotetext
5681       \expandafter\H@@mpfootnotetext
5682     \else
5683       \expandafter\H@@footnotetext
5684     \fi
5685   }%
5686   \def\@xfootnotemark[#1]{%
5687     \begingroup
5688       \c@footnote #1\relax
5689       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5690     \endgroup
5691     \H@@footnotemark
5692   }%
5693   \let\H@@mpfootnotetext\@mpfootnotetext
5694   \long\def\@mpfootnotetext#1{%
5695     \H@@mpfootnotetext{%
5696       \ifHy@nesting
5697         \expandafter\hyper@@anchor\expandafter{%
5698           \Hy@footnote@currentHref
5699         }{#1}%
5700       \else
5701         \Hy@raisedlink{%
5702           \expandafter\hyper@@anchor\expandafter{%
5703             \Hy@footnote@currentHref
5704           }{\relax}%
5705         }#1%
5706       \fi
5707     }%
5708   }%
5709   \long\def\@footnotetext#1{%
5710     \H@@footnotetext{%
5711       \ifHy@nesting
5712         \expandafter\hyper@@anchor\expandafter{%
5713           \Hy@footnote@currentHref
5714         }{#1}%
5715       \else

```

```

5716 \Hy@raisedlink{%
5717 \expandafter\hyper@@@anchor\expandafter{%
5718 \Hy@footnote@currentHref
5719 }{\relax}%
5720 }%
5721 \let\@currentHlabel\Hy@footnote@currentHlabel
5722 \let\@currentHref\Hy@footnote@currentHref
5723 \let\@currentlabelname\@empty
5724 #1%
5725 \fi
5726 }%
5727 }%

```

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.

```

5728 \def\@footnotemark{%
5729 \leavevmode
5730 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5731 \stepcounter{Hfootnote}%
5732 \global\let\Hy@saved@currentHlabel\@currentHlabel
5733 \global\let\Hy@saved@currentHref\@currentHref
5734 \hyper@makecurrent{Hfootnote}%
5735 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5736 \global\let\Hy@footnote@currentHref\@currentHref
5737 \global\let\@currentHlabel\Hy@saved@currentHlabel
5738 \global\let\@currentHref\Hy@saved@currentHref
5739 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5740 \@makefnmark
5741 \hyper@linkend
5742 \ifhmode\spacefactor\@x@sf\fi
5743 \relax
5744 }%

```

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

```

5745 \@ifpackageloaded{longtable}{%
5746 \CheckCommand*{\LT@p@ftntext}[1]{%
5747 \edef\@tempa{%
5748 \the\LT@p@ftn
5749 \noexpand\footnotetext[\the\c@footnote]%
5750 }%
5751 \global\LT@p@ftn\expandafter{\@tempa{#1}}}%
5752 }%
5753 \long\def\LT@p@ftntext#1{%
5754 \edef\@tempa{%
5755 \the\LT@p@ftn
5756 \begingroup
5757 \noexpand\c@footnote=\the\c@footnote\relax
5758 \noexpand\protected@xdef
5759 \noexpand\@thefnmark{\noexpand\thempfn}%
5760 \noexpand\protected@xdef\noexpand\@thefnmark{%
5761 \noexpand\thempfn
5762 }%
5763 \expandafter\expandafter\expandafter\noexpand

```

```

5764 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5765 \expandafter\expandafter\expandafter{%
5766 \expandafter\Hy@footnote@currentHref\expandafter
5767 }\expandafter{\Hy@footnote@currentHlabel}%
5768 }%
5769 \global\LT@p@ftn\expandafter{%
5770 \@tempa{#1}%
5771 \endgroup
5772 }%
5773 }%
5774 \long\def\Hy@LT@footnotetext#1#2#3{%
5775 \H@@@footnotetext{%
5776 \ifHy@nesting
5777 \hyper@@anchor{#1}{#3}%
5778 \else
5779 \Hy@raisedlink{%
5780 \hyper@@anchor{#1}{\relax}%
5781 }%
5782 \def\@currentHlabel{#2}%
5783 \def\@currentHref{#1}%
5784 \let\@currentlabelname\@empty
5785 #3%
5786 \fi
5787 }%
5788 }%
5789 }{}%

```

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

```

5790 \@ifpackageloaded{fancyvrb}{%
5791 \def\V@@@footnotetext{%
5792 \insert\footins\bgroup
5793 \csname reset@font\endcsname
5794 \footnotesize
5795 \interlinepenalty\interfootnotelinepenalty
5796 \splittopskip\footnotesep
5797 \splitmaxdepth\dp\strutbox
5798 \floatingpenalty \@MM
5799 \hsize\columnwidth
5800 \@parboxrestore
5801 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5802 \@makefnmark}%
5803 \rule{\z@}{\footnotesep}%
5804 \bgroup
5805 \aftergroup\V@@@footnotetext
5806 \Hy@raisedlink{%
5807 \expandafter\hyper@@anchor\expandafter{%
5808 \Hy@footnote@currentHref
5809 }\relax}%
5810 }%
5811 \let\@currentHlabel\Hy@footnote@currentHlabel
5812 \let\@currentHref\Hy@footnote@currentHref
5813 \let\@currentlabelname\@empty
5814 \ignorespaces
5815 }%
5816 }{}%

```

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.

```

5817 \let\HyOrg@maketitle\maketitle
5818 \def\maketitle{%
5819   \let\Hy@saved@footnotemark\@footnotemark
5820   \let\Hy@saved@footnotetext\@footnotetext
5821   \let\@footnotemark\H@@footnotemark
5822   \let\@footnotetext\H@@footnotetext
5823   \@ifnextchar[\Hy@maketitle@optarg{% ]
5824     \HyOrg@maketitle
5825     \Hy@maketitle@end
5826   }%
5827 }%
5828 \def\Hy@maketitle@optarg[#1]{%
5829   \HyOrg@maketitle[{#1}]%
5830   \Hy@maketitle@end
5831 }%
5832 \def\Hy@maketitle@end{%
5833   \ifx\@footnotemark\H@@footnotemark
5834     \let\@footnotemark\Hy@saved@footnotemark
5835   \fi
5836   \ifx\@footnotetext\H@@footnotetext
5837     \let\@footnotetext\Hy@saved@footnotetext
5838   \fi
5839 }%

```

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

```

5840 \def\realfootnote{%
5841   \@ifnextchar[\@xfootnote{%
5842     \stepcounter{\@mpfn}%
5843     \protected@xdef\@thefnmark{\thempfn}%
5844     \H@@footnotemark\H@@footnotetext
5845   }%
5846 }%

5847 \fi
5848 \Hy@DisableOption{hyperfootnotes}

5849 \</package>
5850 \< *check>
5851 \checklatex
5852 \checkcommand\def\@xfootnotenext[#1]{%
5853   \begingroup
5854     \csname c@\@mpfn\endcsname #1\relax
5855     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5856   \endgroup
5857   \@footnotetext
5858 }
5859 \checkcommand\def\@xfootnotemark[#1]{%
5860   \begingroup
5861     \c@footnote #1\relax
5862     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5863   \endgroup
5864   \@footnotemark
5865 }
5866 \checkcommand\def\@footnotemark{%
5867   \leavevmode
5868   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5869   \@makefnmark
5870   \ifhmode\spacefactor\@x@sf\fi

```

```

5871 \relax
5872 }
5873 \</check>
5874 \<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.

```

5875 \def\caption{%
5876   \ifx\@captype\@undefined
5877     \@latex@error{\noexpand\caption outside float}\@ehd
5878     \expandafter\@gobble
5879   \else
5880     \H@refstepcounter\@captype
5881     \let\Hy@tempa\@caption
5882     \@ifundefined{float@caption}{%
5883       {%
5884         \expandafter\ifx\csname @float@c@\@captype\endcsname
5885           \float@caption
5886           \let\Hy@tempa\Hy@float@caption
5887         \fi
5888       }%
5889     \expandafter\@firstofone
5890   \fi
5891   {\@dblarg{\Hy@tempa\@captype}}}%
5892 }
5893 \long\def\@caption#1[#2]#3{%
5894   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5895     \csname iftrue\endcsname
5896     \global\let\@currentHref\hc@currentHref
5897   \else
5898     \hyper@makecurrent{\@captype}%
5899   \fi
5900   \@ifundefined{NR@gettitle}{%
5901     \def\@currentlabelname{#2}%
5902   }{%
5903     \NR@gettitle{#2}%
5904   }%
5905   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5906     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5907   }%
5908   \begingroup
5909     \@parboxrestore
5910     \if@minipage
5911       \@setminipage
5912     \fi
5913     \normalsize
5914     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5915       \csname iftrue\endcsname
5916       \global\@capstartfalse
5917       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5918     \else
5919       \@makecaption{\csname fnum@#1\endcsname}{%
5920         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5921     \ifHy@nesting
5922     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
5923     \else
5924     \Hy@raisedlink{%
5925     \expandafter\hyper@@anchor\expandafter{%
5926     \@currentHref
5927     }\relax}%
5928     }%
5929     #3%
5930     \fi
5931     }%
5932     \fi
5933     \par
5934     \endgroup
5935 }

```

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.

```

5936 \let\Hy@float@caption\@caption
5937 \ifpackageloaded{float}{%
5938 \def\Hy@float@caption{%
5939 \ifx\Hy@float@currentHref\@undefined
5940 \hyper@makecurrent{\@cuptype}%
5941 \global\let\Hy@float@currentHref\@currentHref
5942 \else
5943 \let\@currentHref\Hy@float@currentHref
5944 \fi
5945 \float@caption
5946 }%
5947 \let\HyOrg@float@makebox\float@makebox
5948 \renewcommand{\float@makebox}[1]{%
5949 \HyOrg@float@makebox{%
5950 #1\relax
5951 \ifx\Hy@float@currentHref\@undefined
5952 \else
5953 \expandafter\hyper@@anchor\expandafter{%
5954 \Hy@float@currentHref
5955 }\relax}%
5956 \global\let\Hy@float@currentHref\@undefined
5957 \fi
5958 }%
5959 }%
5960 }{}

5961 \</package>
5962 \*check
5963 \checklatex[1999/06/01 - 2000/06/01]
5964 \checkcommand\def\caption{%
5965 \ifx\@cuptype\@undefined
5966 \latexerror{\noexpand\caption outside float}\@ehd
5967 \expandafter\@gobble
5968 \else
5969 \refstepcounter\@cuptype
5970 \expandafter\@firstofone
5971 \fi
5972 {\@dblarg{\caption\@cuptype}}}%
5973 }

```

```

5974 \checkcommand\long\def\@caption#1[#2]#3{%
5975   \par
5976   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
5977     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5978   }%
5979   \begingroup
5980   \@parboxrestore
5981   \if@minipage
5982     \setminipage
5983   \fi
5984   \normalsize
5985   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5986 \endgroup
5987 }
5988 </check>
5989 <*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 *drftcite* may break.

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

```

5990 \def\hyper@natlinkstart#1{%
5991   \Hy@backout{#1}%
5992   \hyper@linkstart{cite}{cite.#1}%
5993   \def\hyper@nat@current{#1}%
5994 }
5995 \def\hyper@natlinkend{%
5996   \hyper@linkend
5997 }
5998 \def\hyper@natlinkbreak#1#2{%
5999   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6000 }
6001 \def\hyper@natanchorstart#1{%
6002   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6003 }
6004 \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.

```

6005 \ifundefined{NAT@parse}{%
6006   \providecommand*\@extra@binfo{}%
6007   \providecommand*\@extra@b@citeb{}%
6008   \def\bibcite#1#2{%
6009     \@newl@bel{b}{#1\@extra@binfo}{%
6010       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6011     }%
6012   }%
6013   \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.”.

```

6014 \let\Hy@bibcite\bibcite
6015 \begingroup
6016 \ifundefined{bbl@cite@choice}{-}{%
6017   \g@addto@macro\bbl@cite@choice{%
6018     \let\bibcite\Hy@bibcite
6019   }%
6020 }%
6021 \endgroup

```

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

```

6022 \providecommand*{\@BIBLABEL}{\@biblabel}%
6023 \def\@bibitem[#1]#2{%
6024   \@skiphyperreftrue
6025   \H@item[%
6026     \ifx\Hy@raisedlink\@empty
6027       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6028       \@BIBLABEL{#1}%
6029       \hyper@anchorend
6030     \else
6031       \Hy@raisedlink{%
6032         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6033       }%
6034       \@BIBLABEL{#1}%
6035     \fi
6036     \hfill
6037   ]%
6038   \@skiphyperreffalse
6039   \if@filesw
6040     \begingroup
6041     \let\protect\noexpand
6042     \immediate\write\@auxout{%
6043       \string\bibcite{#2}{#1}%
6044     }%
6045     \endgroup
6046   \fi
6047   \ignorespaces
6048 }%

```

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

```

6049 \def\@bibitem#1{%
6050   \@skiphyperreftrue\H@item\@skiphyperreffalse
6051   \Hy@raisedlink{%
6052     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6053   }%
6054   \if@filesw
6055     \begingroup
6056     \let\protect\noexpand
6057     \immediate\write\@auxout{%
6058       \string\bibcite{#1}{\the\value{\@listctr}}%
6059     }%
6060     \endgroup
6061   \fi
6062   \ignorespaces
6063 }%
6064 }{}

```



```

6065 </package>
6066 <*check>
6067 \checklatex
6068 \checkcommand\def\@bibitem[#1]#2{%
6069 \item[\@biblabel{#1}\hfill]%
6070 \if@filesw
6071 {%
6072 \let\protect\noexpand
6073 \immediate\write\@auxout{%
6074 \string\bibcite{#2}{#1}%
6075 }%
6076 }%
6077 \fi
6078 \ignorespaces
6079 }
6080 \checkcommand\def\@bibitem#1{%
6081 \item
6082 \if@filesw
6083 \immediate\write\@auxout{%
6084 \string\bibcite{#1}{\the\value{\@listctr}}%
6085 }%
6086 \fi
6087 \ignorespaces
6088 }
6089 </check>
6090 <*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.

```

6091 \ifclassloaded{revtex}{%
6092 \Hy@Info{*** compatibility with revtex **** }%
6093 \def\revtex@checking#1#2{%
6094 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6095 \expandafter\def\csname b@#1\endcsname{#2}%
6096 \@SetMaxRnhefLabel{#1}%
6097 \expandafter\let\csname b@#1\endcsname\T@temp
6098 }%

```

Tanmoy provided this replacement for CITEX. Lord knows what it does. For chapterbib added: extra@b@citeb

```

6099 \ifundefined{CITE}{\def\@CITE{\@cite}}{%
6100 \providecommand*{\@extra@b@citeb}{}%
6101 \def\@CITEX[#1]#2{%
6102 \let\@citea\@empty
6103 \leavevmode
6104 \unskip
6105 $\^{}%
6106 \scriptstyle
6107 \@CITE{%
6108 \@for\@citeb:=#2\do{%
6109 \@citea
6110 \def\@citea{,\penalty\@m\ }%
6111 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6112 \if@filesw
6113 \immediate\write\@auxout{\string\citation{\@citeb}}%
6114 \fi
6115 \ifundefined{b@\@citeb\extra@b@citeb}{%

```

```

6116      \mbox{\reset@font\bfseries ?}%
6117      \G@refundefinedtrue
6118      \@latex@warning{%
6119        Citation '\@citeb' on page \thepage \space undefined%
6120      }%
6121      }{%
6122        {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6123      }%
6124      }%
6125      }{#1}%
6126      }$%
6127      }%

```

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.

```

6128 \def\@citex[#1]#2{%
6129   \let\@citea\@empty
6130   \@cite{%
6131     \@for\@citeb:=#2\do{%
6132       \@citea
6133       \def\@citea{,\penalty\@m\ }%
6134       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6135       \if@filesw
6136         \immediate\write\@auxout{\string\citation{\@citeb}}%
6137       \fi
6138       \@ifundefined{b@\@citeb\@extra@b@citeb}{%
6139         \mbox{\reset@font\bfseries ?}%
6140         \G@refundefinedtrue
6141         \@latex@warning{%
6142           Citation '\@citeb' on page \thepage \space undefined%
6143         }%
6144       }{%
6145         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6146       }%
6147     }%
6148   }{#1}%
6149   }%
6150 }{}

```

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 pdf \TeX , then hyperref is already loaded at the begin of harvard.sty, and the \newcommand macros causes error messages.

```

6151 \@ifpackageloaded{harvard}{%
6152   \AtBeginDocument{%
6153     \Hy@Info{*** compatibility with harvard **** }%
6154     \Hy@raiselinksfalse
6155     \def\harvardcite#1#2#3#4{%
6156       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6157       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6158       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6159       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6160     }%

```

```

6161 \def\HAR@citetoaux#1{%
6162 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6163 \ifHy@backref
6164 \ifx\@empty\@currentlabel
6165 \else
6166 \@bsphack
6167 \if@filesw
6168 \protected@write\@auxout{}{%
6169 \string\@writefile{brf}{%
6170 \string\backcite{#1}{%
6171 {\thepage}{\@currentlabel}{\@currentHref}%
6172 }%
6173 }%
6174 }%
6175 \fi
6176 \@esphack
6177 \fi
6178 \fi
6179 }%
6180 \def\harvarditem{%
6181 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6182 }%
6183 \def\@harvarditem[#1]#2#3#4#5\par{%
6184 \item[]%
6185 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6186 \if@filesw
6187 \begingroup
6188 \def\protect##1{\string ##1\space}%
6189 \ifthenelse{\equal{#1}{\null}}%
6190 {\def\next{{#4}{#2}{#3}}}%
6191 {\def\next{{#4}{#2}{#1}{#3}}}%
6192 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6193 \endgroup
6194 \fi
6195 \protect\hspace*{-\labelwidth}%
6196 \protect\hspace*{-\labelsep}%
6197 \ignorespaces
6198 #5%
6199 \ifHy@backref
6200 \newblock
6201 \backref{\csname br@#4\endcsname}%
6202 \fi
6203 \par
6204 }%

```

\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:

```

6205 \long\def\HAR@checkcitations#1#2#3#4{%
6206 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
6207 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6208 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6209 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6210 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6211 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6212 \else
6213 \@tempwattrue

```

```

6214     \fi
6215     \else
6216     \@tempswatrue
6217     \fi
6218     \else
6219     \@tempswatrue
6220     \fi
6221   }%
6222 }%

6223 }{}

```

37.2 Package chicago

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

```

6224 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6225 \def\citeN{%
6226   \def\@citesep{-1000}%
6227   \def\@cite##1##2{##1}%
6228   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6229   \@citedata@opt
6230 }%

```

`\shortciteN`

```

6231 \def\shortciteN{%
6232   \def\@citesep{-1000}%
6233   \def\@cite##1##2{##1}%
6234   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6235   \@citedata@opt
6236 }%

```

`\@citedata@opt`

```

6237 \def\@citedata@opt{%
6238   \let\@cite@opt\@empty
6239   \@ifnextchar [{%
6240     \@tempswatrue
6241     \@citedatax@opt
6242   }{%
6243     \@tempswafalse
6244     \@citedatax[]%
6245   }%
6246 }%

```

`\@citedatax@opt`

```

6247 \def\@citedatax@opt[#1]{%
6248   \def\@cite@opt{, #1}%
6249   \@citedatax[{#1}]%
6250 }%

6251 }{}

```

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.

```
6252 \def\Hy@EveryPageAnchor{%
6253   \Hy@DistillerDestFix
6254   \ifHy@pageanchor
6255     \ifHy@hypertextnames
6256     \ifHy@plainpages
6257       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6258     \else
6259       \begingroup
6260         \let\@number\@firstofone
6261         \Hy@unicodedefalse
6262         \pdfstringdef\@the@H@page{\thepage}%
6263       \endgroup
6264       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6265     \fi
6266   \else
6267     \Hy@GlobalStepCount\Hy@pagecounter
6268     \def\Hy@TempPageAnchor{%
6269       \hyper@@anchor{page.\the\Hy@pagecounter}%
6270     }%
6271   \fi
6272   \vbox to 0pt{%
6273     \kern\voffset
6274     \kern\topmargin
6275     \kern-1bp\relax
6276     \hbox to 0pt{%
6277       \kern\hoffset
6278       \kern\ifodd\value{page}%
6279         \oddsidemargin
6280       \else
6281         \evensidemargin
6282       \fi
6283       \kern-1bp\relax
6284       \Hy@TempPageAnchor
6285     \hss
6286   }%
6287   \vss
6288 }%
6289 \fi
6290 }
6291 \g@addto@macro\Hy@EveryPageBoxHook{%
6292   \Hy@EveryPageAnchor
6293 }
```

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.

```

6294 \def\addcontentsline#1#2#3{% toc extension, type, tag
6295 \begingroup
6296 \let\label\@gobble
6297 \ifx\@currentHref\@empty
6298 \Hy@Warning{%
6299   No destination for bookmark of \string\addcontentsline,%
6300   \MessageBreak destination is added%
6301 }%
6302 \phantomsection
6303 \fi
6304 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6305 \begingroup
6306 \def\Hy@tempa{#1}%
6307 \ifx\Hy@tempa\Hy@bookmarkstype
6308 \Hy@WarningNoLine{%
6309   bookmark level for unknown #2 defaults to 0%
6310 }%
6311 \else
6312 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6313 \fi
6314 \endgroup
6315 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6316 \fi
6317 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6318 \Hy@writebookmark{\csname the#2\endcsname}%
6319 {#3}%
6320 {\@currentHref}%
6321 {\Hy@toclevel}%
6322 {#1}%
6323 \ifHy@verbose
6324 \def\Hy@tempa{#3}%
6325 \@onelevel@sanitize\Hy@tempa
6326 \typeout{pdfTeX: bookmark at \the\inputlineno: %
6327 {\csname the#2\endcsname}%
6328 {\Hy@tempa}%
6329 {\@currentHref}%
6330 {\Hy@toclevel}%
6331 {#1}%
6332 }%
6333 \fi
6334 \addtocontents{#1}{%
6335 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6336 }%
6337 \endgroup
6338 }
6339 \def\contentsline#1#2#3#4{%
6340 \ifx\#4\%
6341 \csname l@#1\endcsname{#2}{#3}%
6342 \else
6343 \ifcase\Hy@linktoc % none
6344 \csname l@#1\endcsname{#2}{#3}%
6345 \or % section
6346 \csname l@#1\endcsname{%
6347 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6348 }{#3}%
6349 \or % page

```

```

6350 \csname l@#1\endcsname{\#2}}{%
6351 \hyper@linkstart{link}{\#4}{\#3}\hyper@linkend
6352 }%
6353 \else % all
6354 \csname l@#1\endcsname{%
6355 \hyper@linkstart{link}{\#4}{\#2}\hyper@linkend
6356 }{%
6357 \hyper@linkstart{link}{\#4}{\#3}\hyper@linkend
6358 }%
6359 \fi
6360 \fi
6361 }

6362 \end{package}
6363 \check
6364 \checklatex
6365 \checkcommand\def\addcontentsline#1#2#3{%
6366 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6367 }
6368 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6369 \end{check}
6370 \end{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.

```

6371 \let\H@definecounter\@definecounter
6372 \def\@definecounter#1{%
6373 \H@definecounter{#1}%
6374 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6375 }

```

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.

```

6376 \let\H@newctr\@newctr
6377 \def\@newctr#1[#2]{%
6378 \H@newctr#1[#2]}%
6379 \expandafter\def\csname theH#1\endcsname{%
6380 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}}%
6381 }%
6382 }

```

41 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

```

6383 \ifpackageloaded{amsmath}{%
6384 \def\Hy@make@anchor{%
6385 \Hy@GlobalStepCount\Hy@linkcounter
6386 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%

```

```

6387 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6388 }%
6389 \def\Hy@make@df@tag@@#1{%
6390 \gdef\df@tag{%
6391 \maketag@@@{\Hy@make@anchor#1}%
6392 \def\@currentlabel{#1}%
6393 }%
6394 }%
6395 \def\Hy@make@df@tag@@@#1{%
6396 \gdef\df@tag{%
6397 \tagform@{\Hy@make@anchor#1}%
6398 \toks@{\xp{\p@equation{#1}}}%
6399 \edef\@currentlabel{\the\toks@}%
6400 }%
6401 }%
6402 \let\HyOrg@make@df@tag@@\make@df@tag@@
6403 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6404 \let\make@df@tag@@\Hy@make@df@tag@@
6405 \let\make@df@tag@@@\Hy@make@df@tag@@@
6406 }{}

```

Only play with \seteqlebal if we are using pdftex. Other drivers cause problems; requested by Michael Downes (AMS).

```

6407 \ifpackagewith{hyperref}{pdftex}{%
6408 \let\H@seteqlabel\@seteqlabel
6409 \def\@seteqlabel#1{%
6410 \H@seteqlabel{#1}%
6411 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6412 \Hy@raisedlink{%
6413 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6414 }%
6415 }%
6416 }{}

```

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.

```

6417 \let\HyOrg@addtoreset\@addtoreset
6418 \def\@addtoreset#1#2{%
6419 \HyOrg@addtoreset{#1}{#2}%
6420 \expandafter\xdef\csname theH#1\endcsname{%
6421 \expandafter\noexpand
6422 \csname the\@ifundefined{theH#2}{H#2\endcsname
6423 .\noexpand\the\noexpand\value{#1}%
6424 }%
6425 }

```


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

```

6426 </package>
6427 <*check>
6428 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6429 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6430   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6431     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6432       \@addtoreset{#2}{#3}%
6433       \@xp\xdef\csname the#2\endcsname{%
6434         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6435       }%
6436     }%
6437   }%
6438 }%
6439 </check>
6440 <*package>
6441 \@ifpackageloaded{amsmath}{%
6442   \@ifpackagelater{amsmath}{1999/12/14}{%
6443     \renewcommand*{\numberwithin}[3][\arabic]{%
6444       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6445         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6446           \HyOrg@addtoreset{#2}{#3}%
6447           \@xp\xdef\csname the#2\endcsname{%
6448             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6449           }%
6450           \@xp\xdef\csname theH#2\endcsname{%
6451             \@xp\@nx
6452             \csname the\@ifundefined{theH#3}{H#3\endcsname
6453             .\@nx#1{#2}%
6454           }%
6455         }%
6456       }%
6457     }%
6458   }{%
6459     \Hy@WarningNoLine{%
6460       \string\numberwithin\space of package 'amsmath' %
6461       only fixed\MessageBreak
6462       for version 2000/06/06 v2.12 or newer%
6463     }%
6464   }%
6465 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6466 \ifHy@figures
6467   \let\Hy@Gin@setfile\Gin@setfile
6468   \def\Gin@setfile#1#2#3{%
6469     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6470   }%
6471 \fi
6472 \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.

```

6473 \ifHy@hyperindex
6474   \def\HyInd@ParenLeft{()%
6475   \def\HyInd@ParenRight{()%
6476   \def\hyperindexformat#1#2{%
6477     \let\HyOrg@hyperpage\hyperpage
6478     \let\hyperpage\@firstofone
6479     #1{\HyOrg@hyperpage{#2}}%
6480     \let\hyperpage\HyOrg@hyperpage
6481   }%
6482   \Hy@nextfalse
6483   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6484   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6485   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6486   \begingroup
6487     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6488     \lccode'\|/\|=\|\\relax
6489   \lowercase{\endgroup
6490   \ifHy@next
6491     \let\HyInd@org@wrindex\@wrindex
6492     \def\@wrindex#1#2{\HyInd@@@wrindex{#1}#2||\}%
6493     \def\HyInd@@@wrindex#1#2|#3|#4\\\{%
6494       \ifx\\#3\\\%
6495         \HyInd@org@wrindex{#1}{#2|hyperpage}%
6496       \else
6497         \HyInd@@@wrindex{#1}{#2}#3\\\%
6498       \fi
6499     }%
6500     \def\HyInd@@@wrindex#1#2#3#4\\\{%
6501       \def\Hy@temp@A{#3}%
6502       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6503         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6504       \relax
6505       \HyInd@org@wrindex{#1}{%
6506         #2|hyperindexformat{/#3#4}%
6507       }%
6508     \else
6509       \ifx\\#4\\\%
6510         \ifx\Hy@temp@A\HyInd@ParenRight
6511           \HyInd@org@wrindex{#1}{#2|#3}%
6512         \else
6513           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6514         \fi
6515       \else
6516         \HyInd@org@wrindex{#1}{%
6517           #2|#3hyperindexformat{/#4}%

```

```

6518     }%
6519     \fi
6520     \fi
6521     }%
6522 \else
6523 \def\@wrindex#1{\@@wrindex#1||\}%
6524 \def\@@wrindex#1|#2|#3\{\%
6525 \if@filesw
6526 \ifx\|#2\%\%
6527 \protected@write\@indexfile{}\{\%
6528 \string\indexentry{#1|hyperpage}\{thepage}%
6529 \}%
6530 \else
6531 \HyInd@@@wrindex{#1}#2\%\%
6532 \fi
6533 \fi
6534 \endgroup
6535 \@esphack
6536 }%
6537 \def\HyInd@@@wrindex#1#2#3\{\%
6538 \def\Hy@temp@A{#2}%
6539 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6540 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6541 \relax
6542 \protected@write\@indexfile{}\{\%
6543 \string\indexentry{\%
6544 #1|hyperindexformat{/#2#3}%
6545 \}{thepage}%
6546 \}%
6547 \else
6548 \ifx\|#3\%\%
6549 \ifx\Hy@temp@A\HyInd@ParenRight
6550 \protected@write\@indexfile{}\{\%
6551 \string\indexentry{#1|#2}\{thepage}%
6552 \}%
6553 \else
6554 \protected@write\@indexfile{}\{\%
6555 \string\indexentry{#1|#2hyperpage}\{thepage}%
6556 \}%
6557 \fi
6558 \else
6559 \protected@write\@indexfile{}\{\%
6560 \string\indexentry{\%
6561 #1|#2hyperindexformat{/#3}%
6562 \}{thepage}%
6563 \}%
6564 \fi
6565 \fi
6566 }%
6567 \fi
6568 }%
6569 \fi
6570 \Hy@DisableOption{hyperindex}
6571 \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.

```
6572 \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.

```
6573 \def\hyperpage#1{%
6574   \HyInd@hyperpage#1\nohyperpage{}\@nil
6575 }
6576 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6577   \HyInd@@hyperpage{#1}%
6578   #2%
6579   \def\Hy@temp{#3}%
6580   \ifx\Hy@temp\@empty
6581   \else
6582     \Hy@ReturnAfterFi{%
6583       \HyInd@hyperpage#3\@nil
6584     }%
6585   \fi
6586 }
6587 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6588 \def\@hyperpage#1--#2--#3\{\%
6589   \ifx\#2\%
6590     \@commahyperpage{#1}%
6591   \else
6592     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6593   \fi
6594 }
6595 \def\@commahyperpage#1{\@commahyperpage#1, \}
6596 \def\@commahyperpage#1, #2,#3\{\%
6597   \ifx\#2\%
6598     \HyInd@pagelink{#1}%
6599   \else
6600     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6601   \fi
6602 }
```

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

```
6603 \def\HyInd@pagelink#1{%
6604   \begingroup
6605   \toks@={}%
6606   \HyInd@removespaces#1 \@nil
6607   \endgroup
6608 }
6609 \def\HyInd@removespaces#1 #2\@nil{%
6610   \toks@=\expandafter{\the\toks@#1}%
6611   \ifx\#2\%
6612     \edef\x{\the\toks@}%
6613     \ifx\x\@empty
6614     \else
6615       \hyperlink{page.\the\toks@}{\the\toks@}%
6616     \fi
6617   \else
6618     \Hy@ReturnAfterFi{%
6619       \HyInd@removespaces#2\@nil
6620     }%
6621   \fi
6622 }
```

44 Compatibility with foiltex

```
6623 \ifclassloaded{foils}{%
6624   \providecommand*\ext@table{lot}%
6625   \providecommand*\ext@figure{lof}%
6626 }{}
```

45 Compatibility with seminar slide package

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

```
6627 \ifclassloaded{seminar}{%
6628   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6629 }{%
6630   \Hy@seminarslidesfalse
6631 }
6632 \ifpackageloaded{slidesec}{%
6633   \newcommand\theHslidesection {\arabic{slidesection}}%
6634   \newcommand\theHslidesubsection{%
6635     \theHslidesection.\arabic{slidesubsection}}%
6636 }%
6637 \def\slide@heading[#1]#2{%
6638   \H@refstepcounter{slidesection}%
6639   \@addtoreset{slidesubsection}{slidesection}%
6640   \addtocontents{los}{%
6641     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6642     {\@SCTR}{\slideheading.\theslidesection}}%
6643 }%
6644 \def\Hy@tempa{#2}%
6645 \ifx\Hy@tempa\@empty
6646   \else
6647     {%
6648       \edef\@currentlabel{%
6649         \csname p@slidesection\endcsname\theslidesection
6650       }%
6651       \makeslideheading{#2}%
6652     }%
6653   \fi
6654   \gdef\theslideheading{#1}%
6655   \gdef\theslidesubheading{}%
6656   \ifHy@bookmarksnumbered
6657     \def\Hy@slidetitle{\theslidesection\space #1}%
6658   \else
6659     \def\Hy@slidetitle{#1}%
6660   \fi
6661   \ifHy@hypertextnames
6662     \ifHy@naturalnames
6663       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6664       \Hy@writebookmark
6665         {\theslidesection}%
6666         {\Hy@slidetitle}%
6667         {slideheading.\theslidesection}%
6668         {1}%
6669         {toc}%
6670     \else
6671       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6672       \Hy@writebookmark
```

```

6673         {\theslidesection}%
6674         {\Hy@slidetitle}%
6675         {slideheading.\theHslidesection}%
6676         {1}%
6677         {toc}%
6678     \fi
6679 \else
6680     \Hy@GlobalStepCount\Hy@linkcounter
6681     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6682     \Hy@writebookmark
6683     {\theslidesection}%
6684     {\Hy@slidetitle}%
6685     {slideheading.\the\Hy@linkcounter}%
6686     {1}%
6687     {toc}%
6688 \fi
6689 }%
6690 \def\slide@subheading[#1]#2{%
6691     \H@refstepcounter{slidesubsection}%
6692     \addtocontents{los}{%
6693         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6694         {\@SCTR}{slideheading.\theslidesubsection}%
6695     }%
6696     \def\Hy@tempa{#2}%
6697     \ifx\Hy@tempa\@empty
6698     \else
6699     {%
6700         \edef\@currentlabel{%
6701             \csname p@slidesubsection\endcsname\theslidesubsection
6702         }%
6703         \makeslidesubheading{#2}%
6704     }%
6705     \fi
6706     \gdef\theslidesubheading{#1}%
6707     \ifHy@bookmarksnumbered
6708         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6709     \else
6710         \def\Hy@slidetitle{#1}%
6711     \fi
6712     \ifHy@hypertextnames
6713     \ifHy@naturalnames
6714         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6715         \Hy@writebookmark
6716         {\theslidesubsection}%
6717         {\Hy@slidetitle}%
6718         {slideheading.\theslidesubsection}%
6719         {2}%
6720         {toc}%
6721     \else
6722         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6723         \Hy@writebookmark
6724         {\theslidesubsection}%
6725         {\Hy@slidetitle}%
6726         {slideheading.\theHslidesubsection}%
6727         {2}%
6728         {toc}%
6729     \fi

```

```

6730 \else
6731 \Hy@GlobalStepCount\Hy@linkcounter
6732 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6733 \Hy@writebookmark
6734 {\theslidesubsection}%
6735 {\Hy@slidetitle}%
6736 {slideheading.\the\Hy@linkcounter}%
6737 {1}%
6738 {toc}%
6739 \fi
6740 }%
6741 \providecommand*{\listslidenam}{List of Slides}%
6742 \def\listofslides{%
6743 \section*{%
6744 \listslidenam
6745 \@mkboth{%
6746 \expandafter\MakeUppercase\listslidenam
6747 }{%
6748 \expandafter\MakeUppercase\listslidenam
6749 }%
6750 }%
6751 \def\l@slide##1##2##3##4{%
6752 \slide@undottedcline{%
6753 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6754 }{%
6755 }%
6756 \let\l@subslide\l@slide
6757 \@startlos
6758 }%
6759 \def\slide@contents{%
6760 \def\l@slide##1##2##3##4{%
6761 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6762 }%
6763 \let\l@subslide\@gobblefour
6764 \@startlos
6765 }%
6766 \def\Slide@contents{%
6767 \def\l@slide##1##2##3##4{%
6768 \ifcase\lslide@flag
6769 \message{##1 ** \the\c@slidesection}%
6770 \ifnum##1>\c@slidesection
6771 \def\lslide@flag{1}%
6772 {%
6773 \large
6774 \slide@ccline{%
6775 \slidenumberline{$\Rightarrow\bullet$}%
6776 {\hyperlink{##4}{##2}}}%
6777 }{##3}%
6778 }%
6779 \else
6780 {%
6781 \large
6782 \slide@ccline{%
6783 \slidenumberline{$\surd\;\bullet$}%
6784 {\hyperlink{##4}{##2}}}%
6785 }{##3}%
6786 }%

```

```

6787 \fi
6788 \or
6789 \def\lslide@flag{2}%
6790 {%
6791 \large
6792 \slide@cline{%
6793 \slidenumberline{$\bullet$}%
6794 {\hyperlink{##4}{##2}}%
6795 }{##3}%
6796 }%
6797 \or
6798 {%
6799 \large
6800 \slide@cline{%
6801 \slidenumberline{$\bullet$}%
6802 {\hyperlink{##4}{##2}}%
6803 }{##3}%
6804 }%
6805 \fi
6806 }%
6807 \def\l@subslide##1##2##3##4{%
6808 \ifnum\lslide@flag=1 %
6809 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6810 \fi
6811 }%
6812 \def\lslide@flag{0}%
6813 \@startlos
6814 }%
6815 }{}

```

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.)

```

6816 \ifHy@texht
6817 \expandafter\endinput
6818 \fi
6819 \let\real@setref\@setref
6820 \def\@setref#1#2#3{% csname, extract group, refname
6821 \ifx#1\relax
6822 \protect\G@refundefinedtrue
6823 \nfss@text{\reset@font\bfseries ??}%
6824 \@latex@warning{%
6825 Reference ‘#3’ on page \thepage \space undefined%
6826 }%
6827 \else
6828 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6829 \fi
6830 }

```

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

```

6831 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6832 \begingroup
6833 \toks0={\hyper@@link{#5}{#4}}%
6834 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6835 \edef\x{\endgroup
6836 \the\toks0 {\the\toks1 }%
6837 }%

```



```

6838 \x
6839 }
6840 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6841 \ifx#1\relax
6842 \protect\G@refundefinedtrue
6843 \nfss@text{\reset@font\bfseries ??}%
6844 \@latex@warning{%
6845 Reference '#3' on page \thepage \space undefined%
6846 }%
6847 \else
6848 \protect\hyper@@link
6849 {\expandafter\@fifthoffive#1}%
6850 {page.\expandafter\@secondoffive#1}%
6851 {\expandafter\@secondoffive#1}%
6852 \fi
6853 }

6854 \end{package}
6855 \end{check}
6856 \checklatex
6857 \checkcommand\def\@setref#1#2#3{%
6858 \ifx#1\relax
6859 \protect\G@refundefinedtrue
6860 \nfss@text{\reset@font\bfseries ??}%
6861 \@latex@warning{%
6862 Reference '#3' on page \thepage \space undefined%
6863 }%
6864 \else
6865 \expandafter#2#1\null
6866 \fi
6867 }
6868 \end{check}
6869 \end{package}

```

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

```

6870 \def\HyRef@StarSetRef#1{%
6871 \begingroup
6872 \Hy@safe@activetrue
6873 \edef\x{#1}%
6874 \@onelevel@sanitize\x
6875 \edef\x{\endgroup
6876 \noexpand\HyRef@@StarSetRef
6877 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6878 }%
6879 \x
6880 }
6881 \def\HyRef@@StarSetRef#1#2#3{%
6882 \ifx#1\@undefined
6883 \let#1\relax
6884 \fi
6885 \real@setref#1#3{#2}%
6886 }
6887 \def\@refstar#1{%
6888 \HyRef@StarSetRef{#1}\@firstoffive
6889 }
6890 \def\@pagerefstar#1{%
6891 \HyRef@StarSetRef{#1}\@secondoffive

```

```

6892 }
6893 \AtBeginDocument{%
6894   \ifpackageloaded{varioref}{%
6895     \def\@Refstar#1{%
6896       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6897     }%
6898     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6899       \MakeUppercase#1%
6900     }%
6901     \DeclareRobustCommand*\Ref}{%
6902       \ifstar\@Refstar\HyRef@Ref
6903     }%
6904     \def\HyRef@Ref#1{%
6905       \hyperref[{#1}]{\Ref*{#1}}%
6906     }%
6907     \def\Vr@f#1{%
6908       \leavevmode\unskip\vref@space
6909       \hyperref[{#1}]{%
6910         \Ref*{#1}%
6911         \let\vref@space\nobreakspace
6912         \@pageref{\unskip}{#1}%
6913       }%
6914     }%
6915     \def\vr@f#1{%
6916       \leavevmode\unskip\vref@space
6917       \begingroup
6918       \let\T@pageref\@pagerefstar
6919       \hyperref[{#1}]{%
6920         \ref*{#1}%
6921         \vpageref{\unskip}{#1}%
6922       }%
6923       \endgroup
6924     }%
6925   }{}%
6926 }
6927 \DeclareRobustCommand*\autopageref}{%
6928   \ifstar{%
6929     \HyRef@autopagerefname\pageref*%
6930   }\HyRef@autopageref
6931 }
6932 \def\HyRef@autopageref#1{%
6933   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
6934 }
6935 \def\HyRef@autopagerefname{%
6936   \ifundefined{pageautorefname}{%
6937     \ifundefined{pagename}{%
6938       \Hy@Warning{No autoref name for 'page'}%
6939     }{%
6940       \pagename\nobreakspace
6941     }%
6942   }{%
6943     \pageautorefname\nobreakspace
6944   }%
6945 }
6946 \DeclareRobustCommand*\autoref}{%
6947   \ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@{link}}%
6948 }

```

```

6949 \def\HyRef@autoref#1#2{%
6950   \begingroup
6951   \Hy@safe@activetrue
6952   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6953   \endgroup
6954 }
6955 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6956   \HyRef@ShowKeysRef{#2}%
6957   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6958   \edef\HyRef@thisref{%
6959     \expandafter\@fourthoffive#1\@empty\@empty\@empty
6960   }%
6961   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6962   \Hy@safe@activesfalse
6963   #3{%
6964     \expandafter\@fifthoffive#1\@empty\@empty\@empty
6965   }{%
6966     \expandafter\@fourthoffive#1\@empty\@empty\@empty
6967   }{%
6968     \HyRef@currentHtag
6969     \expandafter\@firstoffive#1\@empty\@empty\@empty
6970     \null
6971   }%
6972   \else
6973     \protect\G@refundefinedtrue
6974     \nfss@text{\reset@font\bfseries ??}%
6975     \@latex@warning{%
6976       Reference ‘#2’ on page \thepage\space undefined%
6977     }%
6978   \fi
6979 }
6980 \def\HyRef@testreftype#1.#2\.{%
6981   \@ifundefined{#1autorefname}{%
6982     \@ifundefined{#1name}{%
6983       \HyRef@StripStar#1\*\@nil{#1}%
6984       \@ifundefined{\HyRef@name autorefname}{%
6985         \@ifundefined{\HyRef@name name}{%
6986           \def\HyRef@currentHtag{%
6987             \Hy@Warning{No autoref name for ‘#1’}%
6988           }{%
6989             \edef\HyRef@currentHtag{%
6990               \expandafter\noexpand\csname\HyRef@name name\endcsname
6991               \noexpand~%
6992             }%
6993           }%
6994         }{%
6995           \edef\HyRef@currentHtag{%
6996             \expandafter\noexpand
6997             \csname\HyRef@name autorefname\endcsname
6998             \noexpand~%
6999           }%
7000         }%
7001       }{%
7002         \edef\HyRef@currentHtag{%
7003           \expandafter\noexpand\csname#1name\endcsname
7004           \noexpand~%
7005         }%

```

```

7006 }%
7007 }{%
7008 \edef\HyRef@currentHtag{%
7009 \expandafter\noexpand\csname#1autorefname\endcsname
7010 \noexpand~%
7011 }%
7012 }%
7013 }
7014 \def\HyRef@StripStar#1*\#2\@nil#3{%
7015 \def\HyRef@name{#2}%
7016 \ifx\HyRef@name\HyRef@CaseStar
7017 \def\HyRef@name{#1}%
7018 \else
7019 \def\HyRef@name{#3}%
7020 \fi
7021 }
7022 \def\HyRef@CaseStar{*}%
7023 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7024 \let\HyRef@ShowKeysRef\@gobble
7025 \def\HyRef@ShowKeysInit{%
7026 \begingroup\expandafter\expandafter\expandafter\endgroup
7027 \expandafter\ifx\csname SK@@label\endcsname\relax
7028 \else
7029 \ifx\SK@ref\@empty
7030 \else
7031 \def\HyRef@ShowKeysRef{%
7032 \SK@\SK@@ref
7033 }%
7034 \fi
7035 \fi
7036 }
7037 \@ifpackageloaded{showkeys}{%
7038 \HyRef@ShowKeysInit
7039 }{%
7040 \AtBeginDocument{%
7041 \@ifpackageloaded{showkeys}{%
7042 \HyRef@ShowKeysInit
7043 }{}%
7044 }%
7045 }

```

Defaults for the names that \autoref uses.

```

7046 \providecommand*\AMSautorefname{\equationautorefname}
7047 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7048 \providecommand*\Itemautorefname{\itemautorefname}
7049 \providecommand*\itemautorefname{item}
7050 \providecommand*\equationautorefname{Equation}
7051 \providecommand*\footnoteautorefname{footnote}
7052 \providecommand*\itemautorefname{item}
7053 \providecommand*\figureautorefname{Figure}
7054 \providecommand*\tableautorefname{Table}
7055 \providecommand*\partautorefname{Part}
7056 \providecommand*\appendixautorefname{Appendix}
7057 \providecommand*\chapterautorefname{chapter}

```

```

7058 \providecommand*\sectionautorefname{section}
7059 \providecommand*\subsectionautorefname{subsection}
7060 \providecommand*\subsubsectionautorefname{subsubsection}
7061 \providecommand*\paragraphautorefname{paragraph}
7062 \providecommand*\subparagraphautorefname{subparagraph}
7063 \providecommand*\FancyVerbLineautorefname{line}
7064 \providecommand*\theoremautorefname{Theorem}
7065 \providecommand*\pageautorefname{page}
7066 </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_T_EX offers `\pdfescapestring`.

```

7067 < *pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7068 \RequirePackage{pdfTeXcmds}[2009/04/10]
7069 \begingroup\expandafter\expandafter\expandafter\endgroup
7070 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7071 \begingroup
7072 \catcode'\|=0 %
7073 \@makeother\|%
7074 |@firstofone{|endgroup
7075 |def|Hy@pstringdef#1#2{%
7076 |begingroup
7077 |edef~{|string~}%
7078 |xdef|Hy@gtemp{#2}%
7079 |endgroup
7080 |let#1|Hy@gtemp
7081 |@onelevel@sanitize#1%
7082 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7083 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7084 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7085 }%
7086 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7087 #1%
7088 |ifx|\#2|\%%
7089 |else
7090 \\\%
7091 |Hy@ReturnAfterFi{%
7092 |Hy@ExchangeBackslash#2|@nil
7093 }%
7094 |fi
7095 }%
7096 }%
7097 \def|Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7098 #1%
7099 \ifx\#2\%%
7100 \else
7101 \backslashchar(%

```

```

7102 \Hy@ReturnAfterFi{%
7103 \Hy@ExchangeLeftParenthesis#2\@nil
7104 }%
7105 \fi
7106 }%
7107 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7108 #1%
7109 \ifx\#2\%
7110 \else
7111 \@backslashchar)%
7112 \Hy@ReturnAfterFi{%
7113 \Hy@ExchangeRightParenthesis#2\@nil
7114 }%
7115 \fi
7116 }%
7117 \else
7118 \def\Hy@pstringdef#1#2{%
7119 \begingroup
7120 \edef~{\string~}%
7121 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7122 \endgroup
7123 \let#1\Hy@gtemp
7124 }%
7125 \fi
7126 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

7127 <*pdfTeX>
7128 \providecommand*{\XR@ext}{pdf}
7129 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T_EX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option `pdfversion`.

- pdfT_EX 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT_EX 1.30, 2005-08-081: `\pdfminorversion`

```

7130 \let\Hy@pdfminorversion\relax
7131 \begingroup\expandafter\expandafter\expandafter\endgroup
7132 \expandafter\ifx\cname pdfminorversion\endcsname\relax
7133 \begingroup\expandafter\expandafter\expandafter\endgroup
7134 \expandafter\ifx\cname pdfoptionpdfminorversion\endcsname\relax
7135 \else
7136 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7137 \fi
7138 \else
7139 \def\Hy@pdfminorversion{\pdfminorversion}%
7140 \fi
7141 \ifundefined{Hy@pdfminorversion}{%
7142 \PackageInfo{hyperref}{%
7143 PDF version is not set, because pdfTeX is too old (<1.10a)%
7144 }%
7145 }{%
7146 \ifHy@ocgcolorlinks
7147 \ifnum\Hy@pdfminorversion<5 %

```

```

7148     \setkeys{Hyp}{pdfversion=1.5}%
7149     \fi
7150 \fi
7151 \ifHy@setpdfversion
7152   \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7153   \else
7154     \Hy@pdfminorversion=\Hy@pdfversion\relax
7155   \fi
7156   \PackageInfo{hyperref}{%
7157     \expandafter\string\Hy@pdfminorversion
7158     :=\number\Hy@pdfversion\space
7159   }%
7160 \fi
7161 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7162 }
7163 \Hy@DisableOption{pdfversion}%

7164 \ifHy@ocgcolorlinks
7165   \immediate\pdfobj{%
7166     <<%
7167     /Type/OCG%
7168     /Name(View)%
7169     /Usage<<%
7170     /Print<<%
7171     /PrintState/OFF%
7172     >>%
7173     /View<<%
7174     /ViewState/ON%
7175     >>%
7176     >>%
7177     >>%
7178   }%
7179   \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7180   \immediate\pdfobj{%
7181     <<%
7182     /Type/OCG%
7183     /Name(Print)%
7184     /Usage<<%
7185     /Print<<%
7186     /PrintState/ON%
7187     >>%
7188     /View<<%
7189     /ViewState/OFF%
7190     >>%
7191     >>%
7192     >>%
7193   }%
7194   \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7195   \immediate\pdfobj{%
7196     [%
7197     \OBJ@OCG@view\space\OBJ@OCG@print
7198     ]%
7199   }%
7200   \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7201   \pdfcatalog{%
7202     /OCProperties<<%
7203     /OCGs \OBJ@OCGs
7204     /D<<%

```

```

7205      /OFF[\OBJ@OCG@print]%
7206      /AS[%
7207      <<%
7208          /Event/View%
7209          /OCGs \OBJ@OCGs
7210          /Category[/View]%
7211      >>%
7212      <<%
7213          /Event/Print%
7214          /OCGs \OBJ@OCGs
7215          /Category[/Print]%
7216      >>%
7217      <<%
7218          /Event/Export%
7219          /OCGs \OBJ@OCGs
7220          /Category[/Print]%
7221      >>%
7222      ]%
7223      >>%
7224      >>%
7225  }%
7226  \begingroup
7227      \edef\x{\endgroup
7228          \pdfpageresources{%
7229              /Properties<<%
7230                  /OCView \OBJ@OCG@view
7231                  /OCPrint \OBJ@OCG@print
7232              >>%
7233          }%
7234      }%
7235  \x
7236  \AtBeginDocument{%
7237      \def\Hy@colorlink#1{%
7238          \begingroup
7239              \ifHy@ocgcolorlinks
7240                  \def\Hy@ocgcolor{#1}%
7241                  \setbox0=\color@hbox
7242              \else
7243                  \HyColor@UseColor#1%
7244              \fi
7245          }%
7246      \def\Hy@endcolorlink{%
7247          \ifHy@ocgcolorlinks
7248              \color@endbox
7249              \mbox{%
7250                  \pdfliteral page{/OC/OCPrint BDC}%
7251                  \rlap{\copy0}%
7252                  \pdfliteral page{EMC/OC/OCView BDC}%
7253              \begingroup
7254                  \expandafter\HyColor@UseColor\Hy@ocgcolor
7255                  \box0 %
7256              \endgroup
7257              \pdfliteral page{EMC}%
7258          }%
7259      \fi
7260      \endgroup
7261  }%

```



```

7262 }%
7263 \else
7264 \Hy@DisableOption{ocgcolorlinks}%
7265 \fi

```

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

```

7266 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7267 \ifx\pdfstartlink\@undefined% less than version 14
7268 \let\pdfstartlink\pdfannotlink
7269 \let\pdfinkmargin\@tempdima
7270 \let\pdfxform\pdfform
7271 \let\pdfastxform\pdfastform
7272 \let\pdfrefxform\pdfrefform
7273 \else
7274 \pdfinkmargin1pt %
7275 \fi

```

First set up the default linking

```

7276 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7277 \def\new@pdfink#1{%
7278 \ifHy@verbose
7279 \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7280 \fi
7281 \Hy@SaveLastskip
7282 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7283 \Hy@DestName\Hy@pstringDest\@pdfview
7284 \Hy@RestoreLastskip
7285 }
7286 \let\pdf@endanchor\@empty

```

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

```

7287 \def\Hy@DestName#1#2{%
7288 \pdfdest name{#1}#2\relax
7289 }

```

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.

```

7290 \providecommand*\@pdfborder{0 0 1}
7291 \providecommand*\@pdfborderstyle{}
7292 \def\Hy@undefinedname{UNDEFINED}
7293 \def\find@pdfink#1#2{%
7294 \leavevmode
7295 \protected@edef\Hy@testname{#2}%
7296 \ifx\Hy@testname\@empty
7297 \Hy@Warning{%
7298 Empty destination name,\MessageBreak
7299 using '\Hy@undefinedname'%
7300 }%
7301 \let\Hy@testname\Hy@undefinedname
7302 \else
7303 \Hy@pstringdef\Hy@testname{%
7304 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7305 }%

```

```

7306 \fi
7307 \Hy@StartlinkName{%
7308 \ifHy@pdfa /F 4\fi
7309 \Hy@setpdfborder
7310 \ifx\@pdfhighlight\@empty
7311 \else
7312 /H\@pdfhighlight
7313 \fi
7314 \ifx\CurrentBorderColor\relax
7315 \else
7316 /C[\CurrentBorderColor]%
7317 \fi
7318 }\Hy@testname
7319 \expandafter\Hy@colorlink\csname @#1color\endcsname
7320 }
7321 \def\Hy@StartlinkName#1#2{%
7322 \pdfstartlink attr{#1}goto name{#2}\relax
7323 }
7324 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7325 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7326 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7327 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7328 \def\hyper@linkstart#1#2{%
7329 \@ifundefined{@#1bordercolor}{%
7330 \let\CurrentBorderColor\relax
7331 }{%
7332 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7333 }%
7334 \find@pdflink{#1}{#2}%
7335 }
7336 \def\hyper@linkend{\close@pdflink}
7337 \def\hyper@link#1#2#3{%
7338 \@ifundefined{@#1bordercolor}{%
7339 \let\CurrentBorderColor\relax
7340 }{%
7341 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7342 }%
7343 \find@pdflink{#1}{#2}#3%
7344 \close@pdflink
7345 }
7346 \let\CurrentBorderColor\@linkbordercolor
7347 \def\hyper@linkurl#1#2{%
7348 \begingroup
7349 \Hy@pstringdef\Hy@pstringURI{#2}%
7350 \hyper@chars
7351 \leavevmode
7352 \pdfstartlink
7353 attr{%
7354 \Hy@setpdfborder
7355 \ifx\@pdfhighlight\@empty
7356 \else
7357 /H\@pdfhighlight
7358 \fi
7359 \ifx\@urlbordercolor\relax
7360 \else
7361 /C[\@urlbordercolor]%
7362 \fi

```

```

7363 }%
7364 user{%
7365 /Subtype/Link%
7366 \ifHy@pdfa /F 4\fi
7367 /A<<%
7368 /Type/Action%
7369 /S/URI%
7370 /URI(\Hy@pstringURI)%
7371 >>%
7372 }%
7373 \relax
7374 \Hy@colorlink\@urlcolor#1%
7375 \close@pdflink
7376 \endgroup
7377 }
7378 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7379 \begingroup
7380 \Hy@pstringdef\Hy@pstringF{#2}%
7381 \Hy@pstringdef\Hy@pstringD{#3}%
7382 \leavevmode
7383 \pdfstartlink
7384 attr{%
7385 \Hy@setpdfborder
7386 \ifx\@pdfhighlight\@empty
7387 \else
7388 /H\@pdfhighlight
7389 \fi
7390 \ifx\@filebordercolor\relax
7391 \else
7392 /C[\@filebordercolor]%
7393 \fi
7394 }%
7395 user {%
7396 /Subtype/Link%
7397 \ifHy@pdfa /F 4\fi
7398 /A<<%
7399 /F(\Hy@pstringF)%
7400 /S/GoToR%
7401 \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}

```

```

7402 \ifx\#3\%
7403 /D[0 \pdfstartview]%
7404 \else
7405 /D(\Hy@pstringD)%
7406 \fi
7407 >>%
7408 }%

```

```

7409 \relax
7410 \Hy@colorlink\@filecolor#1%
7411 \close@pdflink
7412 \endgroup
7413 }
7414 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
7415 \begingroup
7416 \Hy@pstringdef\Hy@pstringF{#1}%
7417 \Hy@pstringdef\Hy@pstringP{#3}%
7418 \leavevmode
7419 \pdfstartlink
7420 attr{%
7421 \Hy@setpdfborder
7422 \ifx\@pdfhighlight\@empty
7423 \else
7424 /H\@pdfhighlight
7425 \fi
7426 \ifx\@runbordercolor\relax
7427 \else
7428 /C[\@runbordercolor]%
7429 \fi
7430 }%
7431 user {%
7432 /Subtype/Link%
7433 \ifHy@pdfa /F 4\fi
7434 /A<<%
7435 /F(\Hy@pstringF)%
7436 /S/Launch%
7437 \Hy@SetNewWindow
7438 \ifx\|#3\|%
7439 \else
7440 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7441 \fi
7442 >>%
7443 }%
7444 \relax
7445 \Hy@colorlink\@runcolor#2%
7446 \close@pdflink
7447 \endgroup
7448 }

```

\@pdfproducer

```

7449 \ifx\@pdfproducer\relax
7450 \begingroup\expandafter\expandafter\expandafter\endgroup
7451 \expandafter\ifx\csname luatexversion\endcsname\relax
7452 \def\@pdfproducer{pdfTeX}%
7453 \ifx\eTeXversion\@undefined
7454 \else
7455 \ifx\eTeXversion\relax
7456 \else
7457 \ifnum\eTeXversion>0 %
7458 \def\@pdfproducer{pdfTeX}%
7459 \fi
7460 \fi
7461 \fi
7462 \ifx\pdfTeXversion\@undefined
7463 \else

```

```

7464 \ifnum\pdfTeXversion<100 %
7465 \edef\@pdfproducer{%
7466 \@pdfproducer
7467 \the\pdfTeXversion.\pdfTeXrevision
7468 }%
7469 \else
7470 \ifnum\pdfTeXversion<130 %
7471 \edef\@pdfproducer{%
7472 \@pdfproducer-%
7473 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7474 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7475 \pdfTeXrevision
7476 }%
7477 \else
7478 \ifnum\pdfTeXversion<140 %
7479 \else
7480 \def\@pdfproducer{pdfTeX}%
7481 \fi
7482 \edef\@pdfproducer{%
7483 \@pdfproducer-%
7484 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7485 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7486 \pdfTeXrevision
7487 }%
7488 \fi
7489 \fi
7490 \fi
7491 \else
7492 \begingroup
7493 \count@=\luaTeXversion
7494 \divide\count@ by 100 %
7495 \edef\x{\the\count@}%
7496 \count@=-\x\relax
7497 \multiply\count@ by 100 %
7498 \advance\count@ by \luaTeXversion
7499 \edef\x{\endgroup
7500 \def\noexpand\@pdfproducer{%
7501 LuaTeX-\x.\the\count@.\luaTeXrevision
7502 }%
7503 }%
7504 \x
7505 \fi
7506 \fi

```

\PDF@SetupDox

```

7507 \def\PDF@SetupDoc{%
7508 \ifx\@pdfpagescrop\@empty
7509 \else
7510 \edef\process@me{%
7511 \pdfpagesattr={%
7512 /CropBox\@pdfpagescrop}%
7513 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7514 \else
7515 ^^J\the\pdfpagesattr
7516 \fi
7517 }%
7518 }%

```

```

7519 \process@me
7520 \fi
7521 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7522 \pdfcatalog{%
7523 /PageMode/\@pdfpagemode
7524 \ifx\@baseurl\@empty
7525 \else
7526 /URI<</Base(\Hy@pstringB)>>%
7527 \fi
7528 }%
7529 \ifx\@pdfstartpage\@empty
7530 \else
7531 \ifx\@pdfstartview\@empty
7532 \else
7533 openaction goto page\@pdfstartpage{\@pdfstartview}%
7534 \fi
7535 \fi
7536 \edef\Hy@temp{%
7537 \ifHy@toolbar\else /HideToolbar true\fi
7538 \ifHy@menubar\else /HideMenubar true\fi
7539 \ifHy>windowui\else /HideWindowUI true\fi
7540 \ifHy@fitwindow /FitWindow true\fi
7541 \ifHy@centerwindow /CenterWindow true\fi
7542 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7543 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7544 \Hy@UseNameKey{Direction}\@pdfdirection
7545 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7546 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7547 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7548 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7549 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7550 \Hy@UseNameKey{Duplex}\@pdfduplex
7551 \ifx\@pdfpicktraybypdfsize\@empty
7552 \else
7553 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7554 \fi
7555 \ifx\@pdfprintpagerange\@empty
7556 \else
7557 /PrintPageRange[\@pdfprintpagerange]%
7558 \fi
7559 \ifx\@pdfnumcopies\@empty
7560 \else
7561 /NumCopies \@pdfnumcopies
7562 \fi
7563 }%
7564 \pdfcatalog{%
7565 \ifx\Hy@temp\@empty
7566 \else
7567 /ViewerPreferences<<\Hy@temp>>%
7568 \fi
7569 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7570 \ifx\@pdflang\@empty
7571 \else
7572 /Lang(\@pdflang)%
7573 \fi
7574 }%
7575 }

```

\PDF@FinishDoc

```

7576 \def\PDF@FinishDoc{%
7577   \Hy@UseMaketitleInfos
7578   \pdfinfo{%
7579     /Author(\@pdfauthor)%
7580     /Title(\@pdftitle)%
7581     /Subject(\@pdfsubject)%
7582     /Creator(\@pdfcreator)%
7583     \ifx\@pdfcreationdate\@empty
7584     \else
7585       /CreationDate(\@pdfcreationdate)%
7586     \fi
7587     \ifx\@pdfmoddate\@empty
7588     \else
7589       /ModDate(\@pdfmoddate)%
7590     \fi
7591     \ifx\@pdfproducer\relax
7592     \else
7593       /Producer(\@pdfproducer)%
7594     \fi
7595     /Keywords(\@pdfkeywords)%
7596   }%
7597   \Hy@DisableOption{pdfauthor}%
7598   \Hy@DisableOption{pdftitle}%
7599   \Hy@DisableOption{pdfsubject}%
7600   \Hy@DisableOption{pdfcreator}%
7601   \Hy@DisableOption{pdfcreationdate}%
7602   \Hy@DisableOption{pdfmoddate}%
7603   \Hy@DisableOption{pdfproducer}%
7604   \Hy@DisableOption{pdfkeywords}%
7605 }

```

\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.

```

7606 \def\hyper@pagetransition{%
7607   \ifx\@pdfpagetransition\relax
7608   \else
7609     \expandafter\Hy@RemoveTransPageAttr
7610     \the\pdfpageattr^^J/Trans{}>>\END
7611     \ifx\@pdfpagetransition\@empty
7612     \else
7613       \edef\@processme{%
7614         \global\pdfpageattr{%
7615           \the\pdfpageattr
7616           ^^J/Trans << /S /\@pdfpagetransition\space >>%
7617         }%
7618       }%
7619       \@processme
7620     \fi
7621   \fi
7622 }

```

\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.

```

7623 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7624   \ifx\#2\%
7625     \global\pdfpageattr{#1}%
7626   \else
7627     \Hy@RemoveTransPageAttr#1#4\END
7628   \fi
7629 }

```

`\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`.

```

7630 \def\hyper@pageduration{%
7631   \ifx\@pdfpageduration\relax
7632   \else
7633     \expandafter
7634     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7635     \ifx\@pdfpageduration\@empty
7636     \else
7637       \edef\@processme{%
7638         \global\pdfpageattr{%
7639           \the\pdfpageattr
7640           ^^J/Dur \@pdfpageduration\space
7641         }%
7642       }%
7643       \@processme
7644     \fi
7645   \fi
7646 }

```

`\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.

```

7647 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7648   \ifx\#2\%
7649     \global\pdfpageattr{#1}%
7650   \else
7651     \Hy@RemoveDurPageAttr#1#4\END
7652   \fi
7653 }

```

`\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).

```

7654 \def\hyper@pagehidden{%
7655   \ifHy@useHidKey
7656   \expandafter
7657   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7658   \ifHy@pdfpagehidden
7659   \edef\@processme{%
7660     \global\pdfpageattr{%
7661       \the\pdfpageattr
7662       ^^J/Hid true % SPACE
7663     }%
7664   }%
7665   \@processme
7666   \fi

```



```

7667 \fi
7668 }

```

`\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.

```

7669 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7670 \ifx\#2\%
7671 \global\pdfpageattr{#1}%
7672 \else
7673 \Hy@RemoveHidPageAttr#1#4\END
7674 \fi
7675 }

```

```

7676 \g@addto@macro\Hy@EveryPageHook{%
7677 \hyper@pagetransition
7678 \hyper@pageduration
7679 \hyper@pagehidden
7680 }

```

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

```

7681 </pdfTeX>
7682 <*pdfTeX | xetex>
7683 \AtBeginDocument{%
7684 \ifHy@setpagesize
7685 \expandafter\@firstofone
7686 \else
7687 \expandafter\@gobble
7688 \fi
7689 {%
7690 \@ifclassloaded{seminar}{%
7691 <*pdfTeX>
7692 \setlength{\pdfhorigin}{1truein}%
7693 \setlength{\pdfvorigin}{1truein}%
7694 </pdfTeX>
7695 \ifportrait
7696 \ifdim\paperwidth=\z@
7697 \else
7698 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7699 \fi
7700 \ifdim\paperheight=\z@
7701 \else
7702 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7703 \fi
7704 \else
7705 \ifdim\paperheight=\z@
7706 \else
7707 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7708 \fi
7709 \ifdim\paperwidth=\z@
7710 \else
7711 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7712 \fi
7713 \fi
7714 }{%
7715 \@ifundefined{stockwidth}{%

```

```

7716 \ifdim\paperwidth>\z@
7717 \setlength{\pdfpagewidth}{\paperwidth}%
7718 \fi
7719 \ifdim\paperheight>\z@
7720 \setlength{\pdfpageheight}{\paperheight}%
7721 \fi
7722 }{%
7723 \ifdim\stockwidth>\z@
7724 \setlength{\pdfpagewidth}{\stockwidth}%
7725 \fi
7726 \ifdim\stockheight>\z@
7727 \setlength{\pdfpageheight}{\stockheight}%
7728 \fi
7729 }%
7730 }%
7731 }%
7732 \Hy@DisableOption{setpagesize}%
7733 }
7734 </pdfTeX | xetex>
7735 <*pdfTeX>
7736 \def\Acrobatmenu#1#2{%
7737 \Hy@Acrobatmenu{#1}{#2}{%
7738 \pdfstartlink
7739 attr{%
7740 \Hy@setpdfborder
7741 \ifx\@pdfhighlight\@empty
7742 \else
7743 /H\@pdfhighlight
7744 \fi
7745 \ifx\@menubordercolor\relax
7746 \else
7747 /C[\@menubordercolor]%
7748 \fi
7749 }%
7750 user{%
7751 /Subtype/Link%
7752 \ifHy@pdfa /F 4\fi
7753 /A<<%
7754 /S/Named/N/#1%
7755 >>%
7756 }%
7757 \relax
7758 \Hy@colorlink\@menucolor#2%
7759 \closepdflink
7760 }%
7761 }

```

46.2.1 Fix for problem with different nesting levels

\AtBeginShipoutFirst adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands \pdfstartlink and \pdfendlink, if a link is broken across the first and second output page.

The problem could be fixed by replacing \AtBeginShipoutFirst, because the box layer is not necessary for pdfTeX—no \specials need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also \AtBeginShipoutFirst could be invoked independently from hyperref.

```

7762 \def\Hy@FixNotFirstPage{%
7763   \gdef\Hy@FixNotFirstPage{%
7764     \setbox\AtBeginShipoutBox=\hbox{%
7765       \copy\AtBeginShipoutBox
7766     }%
7767   }%
7768 }
7769 \AtBeginShipout{\Hy@FixNotFirstPage}
7770 \</pdfTeX>

```

46.3 hypertext

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of \special commands:

href: html:

name: html:

end: html:

image: html:

base_name: html:<base href = "href_string">

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is 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 T_EX file — the T_EX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name_string" with the *name_string* identical to the one in the name command) or as part of a URL (of the form URL#name_string). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

7771 \<*hypertext>
7772 \providecommand*\XR@ext\{dvi}
7773 \def\PDF@FinishDoc{}
7774 \def\PDF@SetupDoc{%
7775   \ifx\@baseurl\@empty
7776   \else
7777     \special{html:<base href="\@baseurl">}%
7778   \fi
7779 }
7780 \def\hyper@anchor#1{%
7781   \Hy@SaveLastskip
7782   \begingroup
7783     \let\protect=\string
7784     \hyper@chars

```

```

7785 \special{html:<a name=%
7786 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7787 \endgroup
7788 \Hy@activeanchortrue
7789 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7790 \special{html:</a>}%
7791 \Hy@activeanchorfalse
7792 \Hy@RestoreLastskip
7793 }
7794 \def\hyper@anchorstart#1{%
7795 \Hy@SaveLastskip
7796 \begingroup
7797 \hyper@chars
7798 \special{html:<a name=%
7799 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7800 \endgroup
7801 \Hy@activeanchortrue
7802 }
7803 \def\hyper@anchorend{%
7804 \special{html:</a>}%
7805 \Hy@activeanchorfalse
7806 \Hy@RestoreLastskip
7807 }
7808 \def\@urltype{url}
7809 \def\hyper@linkstart#1#2{%
7810 \expandafter\Hy@colorlink\csname @#1color\endcsname
7811 \def\Hy@tempa{#1}%
7812 \ifx\Hy@tempa\@urltype
7813 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7814 \else
7815 \begingroup
7816 \hyper@chars
7817 \special{html:<a href=%
7818 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
7819 \endgroup
7820 \fi
7821 }
7822 \def\hyper@linkend{%
7823 \special{html:</a>}%
7824 \Hy@endcolorlink
7825 }
7826 \def\hyper@linkfile#1#2#3{%
7827 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
7828 }
7829 \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.

```

7830 \leavevmode
7831 \ifHy@raiselinks
7832 \setbox\@tempboxa=\color@hbox #1\color@endbox
7833 \@linkdim\dp\@tempboxa
7834 \lower\@linkdim\hbox{%
7835 \hyper@chars
7836 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7837 }%
7838 \Hy@colorlink\@urlcolor#1%
7839 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

7840 \advance\@linkdim by -6.5\p@
7841 \raise\@linkdim\hbox{\special{html:</a>}}%
7842 \Hy@endcolorlink
7843 \else
7844 \begingroup
7845 \hyper@chars
7846 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7847 \Hy@colorlink\@urlcolor#1%
7848 \special{html:</a>}%
7849 \Hy@endcolorlink
7850 \endgroup
7851 \fi
7852 }

```

Very poor implementation of \hyper@link without considering #1.

```

7853 \def\hyper@link#1#2#3{%
7854 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
7855 }

7856 \def\hyper@image#1#2{%
7857 \begingroup
7858 \hyper@chars
7859 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7860 \endgroup
7861 }
7862 </hypertex>
7863 <*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, L^AT_EX 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.

```

7864 \providecommand*\XR@ext}{dvi}
7865 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7866 \def\hyper@anchor#1{%
7867 \Hy@SaveLastskip
7868 \begingroup
7869 \let\protect=\string
7870 \special{mark: #1}%
7871 \endgroup
7872 \Hy@activeanchortrue
7873 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7874 \Hy@activeanchorfalse
7875 \Hy@RestoreLastskip
7876 }
7877 \def\hyper@anchorstart#1{%

```

```

7878 \Hy@SaveLastskip
7879 \special{mark: #1}%
7880 \Hy@activeanchortrue
7881 }
7882 \def\hyper@anchorend{%
7883 \Hy@activeanchorfalse
7884 \Hy@RestoreLastskip
7885 }
7886 \def\hyper@linkstart#1#2{%
7887 \expandafter\Hy@colorlink\csname @#1color\endcsname
7888 \special{button: %
7889 10000000 %
7890 \number\baselineskip\space
7891 #2%
7892 }%
7893 }
7894 \def\hyper@linkend{%
7895 \Hy@endcolorlink
7896 }
7897 \def\hyper@link#1#2#3{%
7898 \setbox\@tempboxa=\color@hbox #3\color@endbox
7899 \leavevmode
7900 \ifHy@raiselinks
7901 \@linkdim\dp\@tempboxa
7902 \lower\@linkdim\hbox{%
7903 \special{button: %
7904 \number\wd\@tempboxa\space
7905 \number\ht\@tempboxa\space
7906 #2%
7907 }%
7908 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7909 \Hy@endcolorlink
7910 }%
7911 \@linkdim\ht\@tempboxa
7912 \advance\@linkdim by -6.5\p@
7913 \raise\@linkdim\hbox{}%
7914 \else
7915 \special{button: %
7916 \number\wd\@tempboxa\space
7917 \number\ht\@tempboxa\space
7918 #2%
7919 }%
7920 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7921 \Hy@endcolorlink
7922 \fi
7923 }
7924 \def\hyper@linkurl#1#2{%
7925 \begingroup
7926 \hyper@chars
7927 \leavevmode
7928 \setbox\@tempboxa=\color@hbox #1\color@endbox
7929 \ifHy@raiselinks
7930 \@linkdim\dp\@tempboxa
7931 \lower\@linkdim\hbox{%
7932 \special{button: %
7933 \number\wd\@tempboxa\space
7934 \number\ht\@tempboxa\space

```

```

7935      launch: \wwwbrowser\space
7936      #2%
7937    }%
7938    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7939  }%
7940  \@linkdim\ht\@tempboxa
7941  \advance\@linkdim by -6.5\p@
7942  \raise\@linkdim\hbox{}%
7943  \else
7944    \special{button: %
7945      \number\wd\@tempboxa\space
7946      \number\ht\@tempboxa\space
7947      launch: \wwwbrowser\space
7948      #2%
7949    }%
7950    \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7951  \fi
7952  \endgroup
7953 }
7954 \def\hyper@linkfile#1#2#3{%
7955   \begingroup
7956   \hyper@chars
7957   \leavevmode
7958   \setbox\@tempboxa=\color@hbox #1\color@endbox
7959   \ifHy@raiselinks
7960     \@linkdim\dp\@tempboxa
7961     \lower\@linkdim\hbox{%
7962       \special{button: %
7963         \number\wd\@tempboxa\space
7964         \number\ht\@tempboxa\space
7965         #3,%
7966         file: #2%
7967       }%
7968       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7969     }%
7970     \@linkdim\ht\@tempboxa
7971     \advance\@linkdim by -6.5\p@
7972     \raise\@linkdim\hbox{}%
7973   \else
7974     \special{button: %
7975       \number\wd\@tempboxa\space
7976       \number\ht\@tempboxa\space
7977       #3,%
7978       file: #2%
7979     }%
7980     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7981   \fi
7982   \endgroup
7983 }
7984 \ifx\@pdfproducer\relax
7985   \def\@pdfproducer{dviwindo + Distiller}%
7986 \fi
7987 \def\PDF@FinishDoc{%
7988   \Hy@UseMaketitleInfos
7989   \special{PDF: Keywords \@pdfkeywords}%
7990   \special{PDF: Title \@pdftitle}%
7991   \special{PDF: Creator \@pdfcreator}%

```

```

7992 \ifx\@pdfcreationdate\@empty
7993 \else
7994 \special{PDF: CreationDate \@pdfcreationdate}%
7995 \fi
7996 \ifx\@pdfmoddate\@empty
7997 \else
7998 \special{PDF: ModDate \@pdfmoddate}%
7999 \fi
8000 \special{PDF: Author \@pdfauthor}%
8001 \ifx\@pdfproducer\relax
8002 \else
8003 \special{PDF: Producer \@pdfproducer}%
8004 \fi
8005 \special{PDF: Subject \@pdfsubject}%
8006 \Hy@DisableOption{pdfauthor}%
8007 \Hy@DisableOption{pdftitle}%
8008 \Hy@DisableOption{pdfsubject}%
8009 \Hy@DisableOption{pdfcreator}%
8010 \Hy@DisableOption{pdfcreationdate}%
8011 \Hy@DisableOption{pdfmoddate}%
8012 \Hy@DisableOption{pdfproducer}%
8013 \Hy@DisableOption{pdfkeywords}%
8014 }
8015 \def\PDF@SetupDoc{%
8016 \ifx\@baseurl\@empty
8017 \else
8018 \special{PDF: Base \@baseurl}%
8019 \fi
8020 \ifx\@pdfpagescrop\@empty\else
8021 \special{PDF: BBox \@pdfpagescrop}%
8022 \fi
8023 \def\Hy@temp{%
8024 \ifx\@pdfstartpage\@empty
8025 \else
8026 \ifx\@pdfstartview\@empty
8027 \else
8028 \edef\Hy@temp{%
8029 ,Page=\@pdfstartpage
8030 ,View=\@pdfstartview
8031 }%
8032 \fi
8033 \fi
8034 \edef\Hy@temp{%
8035 \noexpand\pdfmark{%
8036 pdfmark=/DOCVIEW,%
8037 PageMode=/\@pdfpagemode
8038 \Hy@temp
8039 }%
8040 }%
8041 \Hy@temp
8042 \ifx\@pdfpagescrop\@empty
8043 \else
8044 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8045 \fi
8046 \edef\Hy@temp{%
8047 \ifHy@toolbar\else /HideToolbar true\fi
8048 \ifHy@menubar\else /HideMenubar true\fi

```



```

8049 \ifHy@windowui\else /HideWindowUI true\fi
8050 \ifHy@fitwindow /FitWindow true\fi
8051 \ifHy@centerwindow /CenterWindow true\fi
8052 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8053 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8054 \Hy@UseNameKey{Direction}\@pdfdirection
8055 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8056 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8057 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8058 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8059 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8060 \Hy@UseNameKey{Duplex}\@pdfduplex
8061 \ifx\@pdfpicktraybypdfsize\@empty
8062 \else
8063 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8064 \fi
8065 \ifx\@pdfprintpagerange\@empty
8066 \else
8067 /PrintPageRange[\@pdfprintpagerange]%
8068 \fi
8069 \ifx\@pdfnumcopies\@empty
8070 \else
8071 /NumCopies \@pdfnumcopies
8072 \fi
8073 }%
8074 \pdfmark{pdfmark=/PUT,%
8075 Raw={%
8076 \string{Catalog}\string}<<%
8077 \ifx\Hy@temp\@empty
8078 \else
8079 /ViewerPreferences<<\Hy@temp>>%
8080 \fi
8081 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8082 \ifx\@pdflang\@empty
8083 \else
8084 /Lang(\@pdflang)%
8085 \fi
8086 >>%
8087 }%
8088 }%
8089 }
8090 </dviwindo>
8091 < *dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8092 \providecommand*{\XR@ext}{pdf}
8093 \Hy@setbreaklinks{true}
8094 \newsavebox{\pdfm@box}
8095 \def\@pdfm@mark#1{\special{pdf:#1}}
8096 \def\@pdfm@dest#1{%
8097 \Hy@SaveLastskip
8098 \begingroup
8099 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8100 \def\x{XYZ}%
8101 \ifx\x\@pdfview

```

```

8102 \def\x{XYZ @xpos @ypos null}%
8103 \else
8104 \def\x{FitH}%
8105 \ifx\x\@pdfview
8106 \def\x{FitH @ypos}%
8107 \else
8108 \def\x{FitBH}%
8109 \ifx\x\@pdfview
8110 \def\x{FitBH @ypos}%
8111 \else
8112 \def\x{FitV}%
8113 \ifx\x\@pdfview
8114 \def\x{FitV @xpos}%
8115 \else
8116 \def\x{FitBV}%
8117 \ifx\x\@pdfview
8118 \def\x{FitBV @xpos}%
8119 \else
8120 \def\x{Fit}%
8121 \ifx\x\@pdfview
8122 \let\x\@pdfview
8123 \else
8124 \def\x{FitB}%
8125 \ifx\x\@pdfview
8126 \let\x\@pdfview
8127 \else
8128 \def\x{FitR}%
8129 \ifx\x\@pdfview
8130 \Hy@Warning{'pdfview=FitR' is not supported}%
8131 \def\x{XYZ @xpos @ypos null}%
8132 \else
8133 \@onelevel@sanitize\@pdfview
8134 \Hy@Warning{%
8135   Unknown value '\@pdfview' for pdfview%
8136 }%
8137 \def\x{XYZ @xpos @ypos null}%
8138 \fi
8139 \fi
8140 \fi
8141 \fi
8142 \fi
8143 \fi
8144 \fi
8145 \fi
8146 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8147 \endgroup
8148 \Hy@RestoreLastskip
8149 }
8150 \providecommand*\@pdfview{XYZ}
8151 \providecommand*\@pdfborder{0 0 1}
8152 \providecommand*\@pdfborderstyle{}
8153 \def\hyper@anchor#1{%
8154 \@pdfm@dest{#1}%
8155 }
8156 \def\hyper@anchorstart#1{%
8157 \Hy@activeanchortrue
8158 \@pdfm@dest{#1}%

```

```

8159 }
8160 \def\hyper@anchorend{%
8161   \Hy@activeanchorfalse
8162 }

8163 \newcounter{Hy@AnnotLevel}

8164 \ifHy@ocgcolorlinks
8165   \def\OBJ@OCG@view{@OCG@view}%
8166   \@pdfm@mark{%
8167     obj \OBJ@OCG@view <<%
8168       /Type/OCG%
8169       /Name(View)%
8170       /Usage<<%
8171       /Print<<%
8172       /PrintState/OFF%
8173       >>%
8174       /View<<%
8175       /ViewState/ON%
8176       >>%
8177       >>%
8178       >>%
8179   }%
8180   \@pdfm@mark{close \OBJ@OCG@view}%
8181   \def\OBJ@OCG@print{@OCG@print}%
8182   \@pdfm@mark{%
8183     obj \OBJ@OCG@print <<%
8184       /Type/OCG%
8185       /Name(Print)%
8186       /Usage<<%
8187       /Print<<%
8188       /PrintState/ON%
8189       >>%
8190       /View<<%
8191       /ViewState/OFF%
8192       >>%
8193       >>%
8194       >>%
8195   }%
8196   \@pdfm@mark{close \OBJ@OCG@print}%
8197   \def\OBJ@OCGs{@OCGs}%
8198   \@pdfm@mark{%
8199     obj \OBJ@OCGs [%
8200       \OBJ@OCG@view\space\OBJ@OCG@print
8201     ]%
8202   }%
8203   \@pdfm@mark{close \OBJ@OCGs}%
8204   \@pdfm@mark{%
8205     put @catalog <<%
8206       /OCProperties<<%
8207       /OCGs \OBJ@OCGs
8208       /D<<%
8209       /OFF[\OBJ@OCG@print]%
8210       /AS[%
8211         <<%
8212         /Event/View%
8213         /OCGs \OBJ@OCGs
8214         /Category[/View]%
8215         >>%

```

```

8216      <<%
8217      /Event/Print%
8218      /OCGs \OBJ@OCGs
8219      /Category[/Print]%
8220      >>%
8221      <<%
8222      /Event/Export%
8223      /OCGs \OBJ@OCGs
8224      /Category[/Print]%
8225      >>%
8226      ]%
8227      >>%
8228      >>%
8229      >>%
8230  }%
8231  \AtBeginShipout{%
8232  \setbox\AtBeginShipoutBox=\hbox{%
8233  \copy\AtBeginShipoutBox
8234  \@pdfm@mark{%
8235  put @resources <<%
8236  /Properties<<%
8237  /OCView \OBJ@OCG@view
8238  /OCPrint \OBJ@OCG@print
8239  >>%
8240  >>%
8241  }%
8242  }%
8243  }%
8244  \AtBeginDocument{%
8245  \def\Hy@colorlink#1{%
8246  \begingroup
8247  \ifHy@ocgcolorlinks
8248  \def\Hy@ocgcolor{#1}%
8249  \setbox0=\color@hbox
8250  \else
8251  \HyColor@UseColor#1%
8252  \fi
8253  }%
8254  \def\Hy@endcolorlink{%
8255  \ifHy@ocgcolorlinks
8256  \color@endbox
8257  \mbox{%
8258  \@pdfm@mark{content /OC/OCPrint BDC}%
8259  \rlap{\copy0}%
8260  \@pdfm@mark{content EMC/OC/OCView BDC}%
8261  \begingroup
8262  \expandafter\HyColor@UseColor\Hy@ocgcolor
8263  \box0 %
8264  \endgroup
8265  \@pdfm@mark{content EMC}%
8266  }%
8267  \fi
8268  \endgroup
8269  }%
8270  }%
8271  \else
8272  \Hy@DisableOption{ocgcolorlinks}%

```

```

8273 \fi
8274 \def\Hy@BeginAnnot#1{%
8275   \stepcounter{Hy@AnnotLevel}%
8276   \ifnum\value{Hy@AnnotLevel}=\@ne
8277     #1%
8278   \fi
8279 }
8280 \def\Hy@endAnnot{%
8281   \ifnum\value{Hy@AnnotLevel}=\@ne
8282     \Hy@endcolorlink
8283     \@pdfm@mark{eann}%
8284   \fi
8285   \addtocounter{Hy@AnnotLevel}\m@ne
8286 }

8287 \def\Hy@undefinedname{UNDEFINED}
8288 \def\hyper@linkstart#1#2{%
8289   \Hy@BeginAnnot{%
8290     \protected@edef\Hy@testname{#2}%
8291     \ifx\Hy@testname\@empty
8292       \Hy@Warning{%
8293         Empty destination name,\MessageBreak
8294         using '\Hy@undefinedname'%
8295       }%
8296       \let\Hy@testname\Hy@undefinedname
8297     \else
8298       \Hy@pstringdef\Hy@testname{%
8299         \expandafter\HyperDestNameFilter\expandafter{%
8300           \Hy@testname
8301         }%
8302       }%
8303     \fi
8304     \@pdfm@mark{%
8305       bann<<%
8306         /Type/Annot%
8307         /Subtype/Link%
8308         \ifHy@pdfa /F 4\fi
8309         \Hy@setpdfborder
8310         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8311           \else
8312             /C[\csname @#1bordercolor\endcsname]%
8313           \fi
8314           /A<<%
8315           /S/GoTo%
8316           /D(\Hy@testname)%
8317         >>%
8318         >>%
8319       }%
8320       \expandafter\Hy@colorlink\csname @#1color\endcsname
8321     }%
8322   }
8323 \def\hyper@linkend{\Hy@endAnnot}%
8324 \def\hyper@link#1#2#3{%
8325   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8326 }
8327 \def\hyper@linkfile#1#2#3{%
8328   \leavevmode
8329   \Hy@BeginAnnot{%

```

```

8330 \Hy@pstringdef\Hy@pstringF{#2}%
8331 \Hy@pstringdef\Hy@pstringD{#3}%
8332 \@pdfm@mark{%
8333   bann<<%
8334   /Type/Annot%
8335   /Subtype/Link%
8336   \ifHy@pdfa /F 4\fi
8337   \Hy@setpdfborder
8338   \ifx\@filebordercolor\relax
8339   \else
8340   /C[\@filebordercolor]%
8341   \fi
8342   /A<<%
8343   /S/GoToR%
8344   /F(\Hy@pstringF)%
8345   /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)\fi
8346   \Hy@SetNewWindow
8347   >>%
8348   >>%
8349   }%
8350   \Hy@colorlink\@filecolor
8351   }%
8352   #1%
8353   \Hy@EndAnnot
8354 }
8355 \def\hyper@linkurl#1#2{%
8356   \leavevmode
8357   \Hy@BeginAnnot{%
8358     \Hy@pstringdef\Hy@pstringURI{#2}%
8359     \@pdfm@mark{%
8360       bann<<%
8361       /Type/Annot%
8362       /Subtype/Link%
8363       \ifHy@pdfa /F 4\fi
8364       \Hy@setpdfborder
8365       \ifx\@urlbordercolor\relax
8366       \else
8367       /C[\@urlbordercolor]%
8368       \fi
8369       /A<<%
8370       /S/URI%
8371       /URI(\Hy@pstringURI)%
8372       >>%
8373       >>%
8374       }%
8375       \Hy@colorlink\@urlcolor
8376       }%
8377       #1%
8378       \Hy@EndAnnot
8379 }
8380 \def\Acrobatmenu#1#2{%
8381   \Hy@Acrobatmenu{#1}{#2}{%
8382     \Hy@BeginAnnot{%
8383       \@pdfm@mark{%
8384         bann<<%
8385         /Type/Annot%
8386         /Subtype/Link%

```

```

8387 \ifHy@pdfa /F 4\fi
8388 /A<<%
8389 /S/Named%
8390 /N/#1%
8391 >>%
8392 \Hy@setpdfborder
8393 \ifx\@menubordercolor\relax
8394 \relax
8395 /C[\@menubordercolor]%
8396 \fi
8397 >>%
8398 }%
8399 \Hy@colorlink\@menucolor
8400 }%
8401 #2%
8402 \Hy@EndAnnot
8403 }%
8404 }
8405 \ifx\@pdfproducer\relax
8406 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8407 \begingroup\expandafter\expandafter\expandafter\endgroup
8408 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8409 \else
8410 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8411 \fi
8412 \fi
8413 \def\PDF@FinishDoc{%
8414 \Hy@UseMaketitleInfos
8415 \@pdfm@mark{%
8416 docinfo<<%
8417 /Title(\@pdftitle)%
8418 /Subject(\@pdfsubject)%
8419 /Creator(\@pdfcreator)%
8420 \ifx\@pdfcreationdate\@empty
8421 \else
8422 /CreationDate(\@pdfcreationdate)%
8423 \fi
8424 \ifx\@pdfmoddate\@empty
8425 \else
8426 /ModDate(\@pdfmoddate)%
8427 \fi
8428 /Author(\@pdfauthor)%
8429 \ifx\@pdfproducer\relax
8430 \else
8431 /Producer(\@pdfproducer)%
8432 \fi
8433 /Keywords(\@pdfkeywords)%
8434 >>%
8435 }%
8436 \Hy@DisableOption{pdfauthor}%
8437 \Hy@DisableOption{pdftitle}%
8438 \Hy@DisableOption{pdfsubject}%
8439 \Hy@DisableOption{pdfcreator}%
8440 \Hy@DisableOption{pdfcreationdate}%
8441 \Hy@DisableOption{pdfmoddate}%
8442 \Hy@DisableOption{pdfproducer}%

```

```

8443 \Hy@DisableOption{pdfkeywords}%
8444 }

8445 \def\PDF@SetupDoc{%
8446 \edef\Hy@temp{%
8447 \ifHy@toolbar\else /HideToolbar true\fi
8448 \ifHy@menubar\else /HideMenubar true\fi
8449 \ifHy>windowui\else /HideWindowUI true\fi
8450 \ifHy@fitwindow /FitWindow true\fi
8451 \ifHy@centerwindow /CenterWindow true\fi
8452 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8453 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
8454 \Hy@UseNameKey{Direction}\@pdfdirection
8455 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8456 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8457 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8458 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8459 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8460 \Hy@UseNameKey{Duplex}\@pdfduplex
8461 \ifx\@pdfpicktraybypdfsize\@empty
8462 \else
8463 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8464 \fi
8465 \ifx\@pdfprintpagerange\@empty
8466 \else
8467 /PrintPageRange[\@pdfprintpagerange]%
8468 \fi
8469 \ifx\@pdfnumcopies\@empty
8470 \else
8471 /NumCopies \@pdfnumcopies
8472 \fi
8473 }%
8474 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8475 \@pdfm@mark{%
8476 docview<<%
8477 \ifx\@pdfstartpage\@empty
8478 \else
8479 \ifx\@pdfstartview\@empty
8480 \else
8481 /OpenAction[page\@pdfstartpage\@pdfstartview]%
8482 \fi
8483 \fi
8484 \ifx\@baseurl\@empty
8485 \else
8486 /URI<</Base(\Hy@pstringB)>>%
8487 \fi
8488 /PageMode/\@pdfpagemode
8489 \ifx\Hy@temp\@empty
8490 \else
8491 /ViewerPreferences<<\Hy@temp>>%
8492 \fi
8493 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8494 \ifx\@pdflang\@empty
8495 \else
8496 /Lang(\@pdflang)%
8497 \fi
8498 >>%
8499 }%

```



```

8500 \ifx\@pdfpagescrop\@empty
8501 \else
8502 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8503 \fi
8504 }
8505 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

8506 <*dvipdfm>
8507 \AtBeginShipoutFirst{%
8508 \ifHy@setpagesize
8509 \begingroup
8510 \@ifundefined{stockwidth}{%
8511 \ifdim\paperwidth>\z@
8512 \ifdim\paperheight>\z@
8513 \special{papersize=\the\paperwidth,\the\paperheight}%
8514 \fi
8515 \fi
8516 }{%
8517 \ifdim\stockwidth>\z@
8518 \ifdim\stockheight>\z@
8519 \special{papersize=\the\stockwidth,\the\stockheight}%
8520 \fi
8521 \fi
8522 }%
8523 \endgroup
8524 \fi
8525 \Hy@DisableOption{setpagesize}%
8526 }
8527 </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.

```

8528 <*vtexhtml>
8529 \providecommand*\XR@ext{-htm}
8530 \RequirePackage{vtexhtml}
8531 \newif\if@Localurl
8532 \def\PDF@FinishDoc{}
8533 \def\PDF@SetupDoc{%
8534 \ifx\@baseurl\@empty
8535 \else
8536 \special{!direct <base href="\@baseurl">}%
8537 \fi
8538 }
8539 \def\@urltype{url}
8540 \def\hyper@link#1#2#3{%
8541 \leavevmode
8542 \special{!direct <a href=%
8543 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8544 #3%
8545 \special{!direct </a>}%
8546 }
8547 \def\hyper@linkurl#1#2{%
8548 \begingroup

```

```

8549 \hyper@chars
8550 \leavevmode
8551 \MathBSuppress=1\relax
8552 \special{!direct <a href=%
8553 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8554 #1%
8555 \MathBSuppress=0\relax
8556 \special{!direct </a>}%
8557 \endgroup
8558 }
8559 \def\hyper@linkfile#1#2#3{%
8560 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8561 }
8562 \def\hyper@linkstart#1#2{%
8563 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8564 \@Localurltrue
8565 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8566 \else
8567 \@Localurlfalse
8568 \begingroup
8569 \hyper@chars
8570 \special{!aref \HyperDestNameFilter{#2}}%
8571 \endgroup
8572 \fi
8573 }
8574 \def\hyper@linkend{%
8575 \if@Localurl
8576 \special{!endaref}%
8577 \else
8578 \special{!direct </a>}%
8579 \fi
8580 }
8581 \def\hyper@anchorstart#1{%
8582 \Hy@SaveLastskip
8583 \begingroup
8584 \hyper@chars
8585 \special{!aname #1}%
8586 \special{!direct <a name=%
8587 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8588 \endgroup
8589 \Hy@activeanchortrue
8590 }
8591 \def\hyper@anchorend{%
8592 \special{!direct </a>}%
8593 \Hy@activeanchortrue
8594 \Hy@RestoreLastskip
8595 }
8596 \def\hyper@anchor#1{%
8597 \Hy@SaveLastskip
8598 \begingroup
8599 \let\protect=\string
8600 \hyper@chars
8601 \leavevmode
8602 \special{!aname #1}%
8603 \special{!direct <a name=%
8604 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8605 \endgroup

```

```

8606 \Hy@activeanchortrue
8607 \bgroup\anchor@spot\egroup
8608 \special{!direct </a>}%
8609 \Hy@activeanchorfalse
8610 \Hy@RestoreLastskip
8611 }
8612 \def\@Form[#1]{%
8613 \typeout{Sorry, TeXpider does not yet support FORMs}%
8614 }
8615 \def\@endForm{}
8616 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8617 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8618 }
8619 \def\@TextField[#1]#2{% parameters, label
8620 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8621 }
8622 \def\@CheckBox[#1]#2{% parameters, label
8623 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8624 }
8625 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8626 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8627 }
8628 \def\@PushButton[#1]#2{% parameters, label
8629 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8630 }
8631 \def\@Reset[#1]#2{%
8632 \typeout{Sorry, TeXpider does not yet support FORMs}%
8633 }
8634 \def\@Submit[#1]#2{%
8635 \typeout{Sorry, TeXpider does not yet support FORMs}%
8636 }
8637 </vtexhtml>
8638 <*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.

```

8639 \ifx\mediaheight\@undefined
8640 \else
8641 \ifx\mediaheight\relax
8642 \else
8643 \ifHy@setpagesize
8644 \providecommand*{\VTeXInitMediaSize}{%
8645 \@ifundefined{stockwidth}{%
8646 \ifdim\paperheight>0pt %
8647 \setlength\mediaheight\paperheight
8648 \fi
8649 \ifdim\paperheight>0pt %
8650 \setlength\mediawidth\paperwidth
8651 \fi
8652 }{%
8653 \ifdim\stockheight>0pt %
8654 \setlength\mediaheight\stockheight
8655 \fi
8656 \ifdim\stockwidth>0pt %
8657 \setlength\mediawidth\stockwidth
8658 \fi

```

```

8659     }%
8660     }%
8661     \AtBeginDocument{\VTeXInitMediaSize}%
8662     \fi
8663     \Hy@DisableOption{setpagesize}%
8664     \fi
8665     \fi

```

Older versions of VTeX require xyz in lower case.

```

8666 \providecommand*\@pdfview{xyz}
8667 \providecommand*\@pdfborder{0 0 1}
8668 \providecommand*\@pdfborderstyle{}
8669 \let\CurrentBorderColor\@linkbordercolor
8670 \def\hyper@anchor#1{%
8671   \Hy@SaveLastskip
8672   \begingroup
8673   \let\protect=\string
8674   \hyper@chars
8675   \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8676   \endgroup
8677   \Hy@activeanchortrue
8678   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8679   \Hy@activeanchorfalse
8680   \Hy@RestoreLastskip
8681 }
8682 \def\hyper@anchorstart#1{%
8683   \Hy@SaveLastskip
8684   \begingroup
8685   \hyper@chars
8686   \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8687   \endgroup
8688   \Hy@activeanchortrue
8689 }
8690 \def\hyper@anchorend{%
8691   \Hy@activeanchorfalse
8692   \Hy@RestoreLastskip
8693 }
8694 \def\@urltype{url}
8695 \def\Hy@undefinedname{UNDEFINED}
8696 \def\hyper@linkstart#1#2{%
8697   \Hy@pstringdef\Hy@pstringURI{#2}%
8698   \expandafter\Hy@colorlink\csname @#1color\endcsname
8699   \@ifundefined{@#1bordercolor}{%
8700     \let\CurrentBorderColor\relax
8701   }{%
8702     \edef\CurrentBorderColor{%
8703       \csname @#1bordercolor\endcsname
8704     }%
8705   }%
8706   \def\Hy@tempa{#1}%
8707   \ifx\Hy@tempa\@urltype
8708     \special{!%
8709       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8710       a=<%
8711         \ifHy@pdfa /F 4\fi
8712         \Hy@setpdfborder
8713         \ifx\CurrentBorderColor\relax
8714           \else

```

```

8715         /C [\CurrentBorderColor]%
8716     \fi
8717     >%
8718 }%
8719 \else
8720 \protected@edef\Hy@testname{#2}%
8721 \ifx\Hy@testname\@empty
8722 \Hy@Warning{%
8723     Empty destination name,\MessageBreak
8724     using '\Hy@undefinedname'%
8725 }%
8726 \let\Hy@testname\Hy@undefinedname
8727 \fi
8728 \special{!%
8729     aref \expandafter\HyperDestNameFilter
8730     \expandafter{\Hy@testname};%
8731 a=<%
8732 \ifHy@pdfa /F 4\fi
8733 \Hy@setpdfborder
8734 \ifx\CurrentBorderColor\relax
8735 \else
8736     /C [\CurrentBorderColor]%
8737 \fi
8738     >%
8739 }%
8740 \fi
8741 }
8742 \def\hyper@linkend{%
8743 \special{!endaref}%
8744 \Hy@endcolorlink
8745 }
8746 \def\hyper@linkfile#1#2#3{%
8747 \leavevmode
8748 \special{!%
8749     aref <%
8750     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8751     f=#2>#3;%
8752 a=<%
8753 \ifHy@pdfa /F 4\fi
8754 \Hy@setpdfborder
8755 \ifx\@filebordercolor\relax
8756 \else
8757     /C [\@filebordercolor]%
8758 \fi
8759     >%
8760 }%
8761 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8762 \special{!endaref}%
8763 }
8764 \def\hyper@linkurl#1#2{%
8765 \begingroup
8766 \Hy@pstringdef\Hy@pstringURI{#2}%
8767 \hyper@chars
8768 \leavevmode
8769 \special{!%
8770     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8771     a=<%

```

```

8772 \ifHy@pdfa /F 4\fi
8773 \Hy@setpdfborder
8774 \ifx\@urlbordercolor\relax
8775 \else
8776 /C [\@urlbordercolor]%
8777 \fi
8778 >%
8779 }%
8780 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8781 \special{!endaref}%
8782 \endgroup
8783 }
8784 \def\hyper@link#1#2#3{%
8785 \@ifundefined{#@#1bordercolor}{%
8786 \let\CurrentBorderColor\relax
8787 }{%
8788 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8789 }%
8790 \leavevmode
8791 \protected@edef\Hy@testname{#2}%
8792 \ifx\Hy@testname\@empty
8793 \Hy@Warning{%
8794 Empty destination name,\MessageBreak
8795 using '\Hy@undefinedname'%
8796 }%
8797 \let\Hy@testname\Hy@undefinedname
8798 \fi
8799 \special{!%
8800 aref \expandafter\HyperDestNameFilter
8801 \expandafter{\Hy@testname};%
8802 a=<%
8803 \ifHy@pdfa /F 4\fi
8804 \Hy@setpdfborder
8805 \ifx\CurrentBorderColor\relax
8806 \else
8807 /C [\CurrentBorderColor]%
8808 \fi
8809 >%
8810 }%
8811 \expandafter
8812 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8813 \special{!endaref}%
8814 }
8815 \def\hyper@image#1#2{%
8816 \hyper@linkurl{#2}{#1}%
8817 }
8818 \def\@hyper@launch run:#1\#2#3{%
8819 \Hy@pstringdef\Hy@pstringF{#1}%
8820 \Hy@pstringdef\Hy@pstringP{#3}%
8821 \leavevmode
8822 \special{!aref %
8823 <u=%
8824 /Type/Action%
8825 /S/Launch%
8826 /F(\Hy@pstringF)%
8827 \Hy@SetNewWindow
8828 \ifx\#3\%

```

```

8829 \else
8830 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
8831 \fi%
8832 >;%
8833 a=<%
8834 \ifHy@pdfa /F 4\fi
8835 \Hy@setpdfborder
8836 \ifx\@runbordercolor\relax
8837 \else
8838 /C[\@runbordercolor]%
8839 \fi
8840 >%
8841 }%
8842 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8843 \special{!endaref}%
8844 }
8845 \def\Acrobatmenu#1#2{%
8846 \Hy@Acrobatmenu{#1}{#2}{%
8847 \special{!%
8848 aref <u=/S /Named /N /#1>;%
8849 a=<%
8850 \ifHy@pdfa /F 4\fi
8851 \Hy@setpdfborder
8852 \ifx\@menubordercolor\relax
8853 \else
8854 /C[\@menubordercolor]%
8855 \fi
8856 >%
8857 }%
8858 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8859 \special{!endaref}%
8860 }%
8861 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for $\text{V}\text{T}_{\text{E}}\text{X}$ 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{...}{...}` globally.

```

8862 \ifnum\Hy@VTeXversion<702 %
8863 \else
8864 \def\hyper@pagetransition{%
8865 \ifx\@pdfpagetransition\relax
8866 \else
8867 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

8868 \else
8869 \hvtex@parse@trans\@pdfpagetransition
8870 \fi
8871 \fi
8872 }%

```

I have to write an “honest” parser to convert raw PDF code into $\text{V}\text{T}_{\text{E}}\text{X}$ `\special`. (AVK)

Syntax of $\text{V}\text{T}_{\text{E}}\text{X}$ `\special{!trans <transition_effect>}`:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |

```

```

<Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

8873 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8874 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8875 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8876 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8877 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8878 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8879 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8880 \def\hvtex@par@dimension{/Dm}%
8881 \def\hvtex@par@direction{/Di}%
8882 \def\hvtex@par@duration{/D}%
8883 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8884 \def\hvtex@gettoken{%
8885   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
8886 }%

```

Notice that tokens in the input buffer must be space delimited.

```

8887 \def\hvtex@gettoken@#1 #2\@nil{%
8888   \edef\hvtex@token{#1}%
8889   \edef\hvtex@buffer{#2}%
8890 }%
8891 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8892 \let\hvtex@trans@code\@empty
8893 \let\hvtex@param@dimension\@empty
8894 \let\hvtex@param@direction\@empty
8895 \let\hvtex@param@duration\@empty
8896 \let\hvtex@param@motion\@empty
8897 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8898 \hvtex@gettoken
8899 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8900   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8901     \else
8902       \hvtex@gettoken
8903     \fi
8904 \fi
8905 \csname hvtex@trans@effect@\hvtex@token\endcsname

```


Now is time to parse optional parameters.

```
8906 \hvtex@trans@params
8907 }%
```

Reentrant macro to parse optional parameters.

```
8908 \def\hvtex@trans@params{%
8909 \ifx\hvtex@buffer\@empty
8910 \else
8911 \hvtex@gettoken
8912 \let\hvtex@trans@par\hvtex@token
8913 \ifx\hvtex@buffer\@empty
8914 \else
8915 \hvtex@gettoken
8916 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. VTeX special takes it in milliseconds.

```
8917 \let\hvtex@param@duration\hvtex@token
8918 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8919 \expandafter\edef\expandafter\hvtex@param@motion
8920 \expandafter{\expandafter\@gobble\hvtex@token}%
8921 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8922 \expandafter\edef\expandafter\hvtex@param@dimension
8923 \expandafter{\expandafter\@gobble\hvtex@token}%
8924 \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).

```
8925 \let\hvtex@param@direction\hvtex@token
8926 \fi\fi\fi
8927 \fi
8928 \fi
8929 \ifx\hvtex@buffer\@empty
8930 \let\next\hvtex@produce@trans
8931 \else
8932 \let\next\hvtex@trans@params
8933 \fi
8934 \next
8935 }%
```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
8936 \def\hvtex@produce@trans{%
8937 \let\vtex@trans@special\@empty
8938 \if S\hvtex@trans@code
8939 \edef\vtex@trans@special{\hvtex@trans@code
8940 \hvtex@param@dimension\hvtex@param@motion}%
8941 \else\if B\hvtex@trans@code
8942 \edef\vtex@trans@special{%
8943 \hvtex@trans@code\hvtex@param@dimension
8944 }%
8945 \else\if X\hvtex@trans@code
8946 \edef\vtex@trans@special{%
8947 \hvtex@trans@code\hvtex@param@motion
8948 }%
8949 \else\if W\hvtex@trans@code
```

```

8950 \edef\vtex@trans@special{%
8951 \hvtex@trans@code\hvtex@param@direction
8952 }%
8953 \else\if D\hvtex@trans@code
8954 \let\vtex@trans@special\hvtex@trans@code
8955 \else\if R\hvtex@trans@code
8956 \let\vtex@trans@special\hvtex@trans@code
8957 \else\if G\hvtex@trans@code
8958 \edef\vtex@trans@special{%
8959 \hvtex@trans@code\hvtex@param@direction
8960 }%
8961 \fi\fi\fi\fi\fi\fi
8962 \ifx\vtex@trans@special\@empty
8963 \else
8964 \ifx\hvtex@param@duration\@empty
8965 \else
8966 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

8967 \multiply\dimen@\@m
8968 \edef\vtex@trans@special{%
8969 \vtex@trans@special,\strip@pt\dimen@
8970 }%
8971 \fi

```

And all the mess is just for this.

```

8972 \special{!trans \vtex@trans@special}%
8973 \fi
8974 }%
8975 \def\hyper@pageduration{%
8976 \ifx\@pdfpageduration\relax
8977 \else
8978 \ifx\@pdfpageduration\@empty
8979 \special{!duration-}%
8980 \else
8981 \special{!duration \@pdfpageduration}%
8982 \fi
8983 \fi
8984 }%
8985 \def\hyper@pagehidden{%
8986 \ifHy@useHidKey
8987 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8988 \fi
8989 }%
8990 \g@addto@macro\Hy@EveryPageBoxHook{%
8991 \hyper@pagetransition
8992 \hyper@pageduration
8993 \hyper@pagehidden
8994 }%
8995 \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

```

8996 \ifx\@pdfproducer\relax
8997 \def\@pdfproducer{VTeX}%
8998 \ifnum\Hy@VTeXversion>\z@
8999 \count@\VTeXversion
9000 \divide\count@ 100 %
9001 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9002 \multiply\count@ -100 %
9003 \advance\count@\VTeXversion
9004 \edef\@pdfproducer{%
9005 \@pdfproducer
9006 .\ifnum\count@<10 0\fi\the\count@
9007 \ifx\VTeXOS\@undefined\else
9008 \ifnum\VTeXOS>0 %
9009 \ifnum\VTeXOS<6 %
9010 \space(%
9011 \ifcase\VTeXOS
9012 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9013 \fi
9014 )%
9015 \fi
9016 \fi
9017 \fi
9018 ,\space
9019 \ifnum\OpMode=\@ne PDF\else PS\fi
9020 \space backend%
9021 \ifx\gexmode\@undefined\else
9022 \ifnum\gexmode>\z@\space with GeX\fi
9023 \fi
9024 }%
9025 \fi
9026 \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).

```

9027 \def\PDF@SetupDoc{%
9028 \ifx\@pdfpagescrop\@empty
9029 \else
9030 \special{!pdfinfo b=<\@pdfpagescrop>}%
9031 \fi

```

```

9032 \ifx\@pdfstartpage\@empty
9033 \else
9034 \ifx\@pdfstartview\@empty
9035 \else
9036 \special{!onopen Page\@pdfstartpage}%
9037 \fi
9038 \fi
9039 \special{!pdfinfo p=</\@pdfpagemode>}%
9040 \ifx\@baseurl\@empty
9041 \else
9042 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9043 \fi
9044 \special{!pdfinfo v=<<<%
9045 \ifHy@toolbar\else /HideToolbar true\fi
9046 \ifHy@menubar\else /HideMenubar true\fi
9047 \ifHy>windowui\else /HideWindowUI true\fi
9048 \ifHy@fitwindow /FitWindow true\fi
9049 \ifHy@centerwindow /CenterWindow true\fi
9050 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9051 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9052 \Hy@UseNameKey{Direction}\@pdfdirection
9053 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9054 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9055 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9056 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9057 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9058 \Hy@UseNameKey{Duplex}\@pdfduplex
9059 \ifx\@pdfpicktraybypdfsize\@empty
9060 \else
9061 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9062 \fi
9063 \ifx\@pdfprintpagerange\@empty
9064 \else
9065 /PrintPageRange\@pdfprintpagerange]%
9066 \fi
9067 \ifx\@pdfnumcopies\@empty
9068 \else
9069 /NumCopies \@pdfnumcopies
9070 \fi
9071 >>>}%
9072 \ifx\@pdfpagelayout\@empty
9073 \else
9074 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9075 \fi
9076 }%
9077 \def\PDF@FinishDoc{%
9078 \Hy@UseMaketitleInfos
9079 \special{!pdfinfo a=<\@pdfauthor>}%
9080 \special{!pdfinfo t=<\@pdftitle>}%
9081 \special{!pdfinfo s=<\@pdfsubject>}%
9082 \special{!pdfinfo c=<\@pdfcreator>}%
9083 \ifx\@pdfproducer\relax
9084 \else
9085 \special{!pdfinfo r=<\@pdfproducer>}%
9086 \fi
9087 \special{!pdfinfo k=<\@pdfkeywords>}%
9088 \Hy@DisableOption{pdfauthor}%

```

```

9089 \Hy@DisableOption{pdftitle}%
9090 \Hy@DisableOption{pdfsubject}%
9091 \Hy@DisableOption{pdfcreator}%
9092 \Hy@DisableOption{pdfcreationdate}%
9093 \Hy@DisableOption{pdfmoddate}%
9094 \Hy@DisableOption{pdfproducer}%
9095 \Hy@DisableOption{pdfkeywords}%
9096 }
9097 </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.

```

9098 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9099 <package>\providecommand*{\Hy@DistillerDestFix}{-}
9100 <*pdfmark | dviwindo>
9101 \def\Hy@DistillerDestFix{%
9102   \begingroup
9103     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

9104   \ifnum \@ifundefined{OpMode}{0}{}%
9105     \@ifundefined{gexmode}{0}{}%
9106     \ifnum\gexmode>0 \OpMode\else 0\fi
9107     }>1 %
9108   \def\x##1{%
9109     \immediate\special{!=##1}%
9110   }%
9111   \fi
9112   \x{%
9113     /product where{%
9114       pop %
9115       product(Distiller)search{%
9116         pop pop pop %
9117         version(.)search{%
9118           exch pop exch pop%
9119           (3011)eq{%
9120             gsave %
9121             newpath 0 0 moveto closepath clip%
9122             /Courier findfont 10 scalefont setfont %
9123             72 72 moveto(.).show %
9124             grestore%
9125           }if%
9126         }{pop}ifelse%
9127       }{pop}ifelse%
9128     }if%
9129   }%
9130   \endgroup

```

```

9131 }
9132 </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

```

```

9133 < *pdfmark>
9134 \Hy@breaklinks@unsupported
9135 \def\hyper@anchor#1{%
9136   \Hy@SaveLastskip
9137   \begingroup
9138     \pdfmark[\anchor@spot]{%
9139       pdfmark=/DEST,%
9140       linktype=anchor,%
9141       View=/\@pdfview \@pdfviewparams,%
9142       DestAnchor={#1}%
9143     }%
9144   \endgroup
9145   \Hy@RestoreLastskip
9146 }
9147 \ifundefined{hyper@anchorstart}{\endinput}
9148 \def\hyper@anchorstart#1{%
9149   \Hy@SaveLastskip
9150   \literalps@out{H.S}%
9151   \xdef\hyper@currentanchor{#1}%
9152   \Hy@activeanchortrue
9153 }
9154 \def\hyper@anchorend{%
9155   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9156   \pdfmark{%
9157     pdfmark=/DEST,%
9158     linktype=anchor,%
9159     View=/\@pdfview \@pdfviewparams,%
9160     DestAnchor=\hyper@currentanchor,%
9161   }%
9162   \Hy@activeanchorfalse
9163   \Hy@RestoreLastskip
9164 }
9165 \def\hyper@linkstart#1#2{%
9166   \ifHy@breaklinks
9167     \else
9168       \leavevmode\hbox\bgroup
9169       \fi
9170   \expandafter\Hy@colorlink\csname @#1color\endcsname
9171   \literalps@out{H.S}%

```

```

9172 \xdef\hyper@currentanchor{#2}%
9173 \gdef\hyper@currentlinktype{#1}%
9174 }
9175 \def\hyper@linkend{%
9176 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9177 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
9178 \let\Hy@tempcolor\relax
9179 }{%
9180 \edef\Hy@tempcolor{%
9181 \csname @\hyper@currentlinktype bordercolor\endcsname
9182 }%
9183 }%
9184 \pdfmark{%
9185 pdfmark=/ANN,%
9186 linktype=link,%
9187 Subtype=/Link,%
9188 PDFAFlags=4,%
9189 Dest=\hyper@currentanchor,%
9190 AcroHighlight=\@pdfhighlight,%
9191 Border=\@pdfborder,%
9192 BorderStyle=\@pdfborderstyle,%
9193 Color=\Hy@tempcolor,%
9194 Raw=H.B%
9195 }%
9196 \Hy@endcolorlink
9197 \ifHy@breaklinks
9198 \else
9199 \egroup
9200 \fi
9201 }

```

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.

```

9202 \begingroup
9203 \catcode'P=12 %
9204 \catcode'T=12 %
9205 \lowercase{\endgroup
9206 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9207 }
9208 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9209 \def\hyper@pagetransition{%
9210 \ifx\@pdfpagetransition\relax
9211 \else
9212 \ifx\@pdfpagetransition\@empty
9213 % 1. Does an old entry have to be deleted?
9214 % 2. If 1=yes, how to delete?
9215 \else
9216 \pdfmark{%
9217 pdfmark=/PUT,%
9218 Raw={%
9219 \string{ThisPage\string}%
9220 <</Trans << /S /\@pdfpagetransition\space >> >>%
9221 }%
9222 }%

```

```

9223 \fi
9224 \fi
9225 }

```

\hyper@pageduration

```

9226 \def\hyper@pageduration{%
9227 \ifx\@pdfpageduration\relax
9228 \else
9229 \ifx\@pdfpageduration\@empty
9230 % 1. Does an old entry have to be deleted?
9231 % 2. If 1=yes, how to delete?
9232 \else
9233 \pdfmark{%
9234 pdfmark=/PUT,%
9235 Raw={%
9236 \string{ThisPage\string}%
9237 <</Dur \@pdfpageduration>>%
9238 }%
9239 }%
9240 \fi
9241 \fi
9242 }

```

\hyper@pagehidden

```

9243 \def\hyper@pagehidden{%
9244 \ifHy@useHidKey
9245 \pdfmark{%
9246 pdfmark=/PUT,%
9247 Raw={%
9248 \string{ThisPage\string}%
9249 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9250 }%
9251 }%
9252 \fi
9253 }

```

```

9254 \g@addto@macro\Hy@EveryPageBoxHook{%
9255 \hyper@pagetransition
9256 \hyper@pageduration
9257 \hyper@pagehidden
9258 }

```

```

9259 \def\hyper@image#1#2{%
9260 \hyper@linkurl{#2}{#1}%
9261 }
9262 \def\Hy@undefinedname{UNDEFINED}
9263 \def\hyper@link#1#2#3{%
9264 \@ifundefined{@#1bordercolor}{%
9265 \let\Hy@tempcolor\relax
9266 }{%
9267 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9268 }%
9269 \begingroup
9270 \protected@edef\Hy@testname{#2}%
9271 \ifx\Hy@testname\@empty
9272 \Hy@Warning{%
9273 Empty destination name,\MessageBreak
9274 using '\Hy@undefinedname'%

```



```

9275     }%
9276     \let\Hy@testname\Hy@undefinedname
9277 \fi
9278 \pdfmark[{#3}]{%
9279     Color=\Hy@tempcolor,%
9280     linktype={#1},%
9281     AcroHighlight=\@pdfhighlight,%
9282     Border=\@pdfborder,%
9283     BorderStyle=\@pdfborderstyle,%
9284     pdfmark=/ANN,%
9285     Subtype=/Link,%
9286     PDFAFlags=4,%
9287     Dest=\Hy@testname
9288 }%
9289 \endgroup
9290 }
9291 \newtoks\pdf@docset
9292 \def\PDF@FinishDoc{%
9293     \Hy@UseMaketitleInfos
9294     \let\Hy@temp\@empty
9295     \ifx\@pdfcreationdate\@empty
9296     \else
9297         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9298     \fi
9299     \ifx\@pdfmoddate\@empty
9300     \else
9301         \expandafter\def\expandafter\Hy@temp\expandafter{%
9302             \Hy@temp
9303             ModDate=\@pdfmoddate,%
9304         }%
9305     \fi
9306     \ifx\@pdfproducer\relax
9307     \else
9308         \expandafter\def\expandafter\Hy@temp\expandafter{%
9309             \Hy@temp
9310             Producer=\@pdfproducer,%
9311         }%
9312     \fi
9313     \expandafter
9314     \pdfmark\expandafter{%
9315         \Hy@temp
9316         pdfmark=/DOCINFO,%
9317         Title=\@pdftitle,%
9318         Subject=\@pdfsubject,%
9319         Creator=\@pdfcreator,%
9320         Author=\@pdfauthor,%
9321         Keywords=\@pdfkeywords
9322     }%
9323     \Hy@DisableOption{pdfauthor}%
9324     \Hy@DisableOption{pdftitle}%
9325     \Hy@DisableOption{pdfsubject}%
9326     \Hy@DisableOption{pdfcreator}%
9327     \Hy@DisableOption{pdfcreationdate}%
9328     \Hy@DisableOption{pdfmoddate}%
9329     \Hy@DisableOption{pdfproducer}%
9330     \Hy@DisableOption{pdfkeywords}%
9331 }

```

```

9332 \def\PDF@SetupDoc{%
9333   \def\Hy@temp{}%
9334   \ifx\@pdfstartpage\@empty
9335   \else
9336     \ifx\@pdfstartview\@empty
9337     \else
9338       \edef\Hy@temp{%
9339         ,Page=\@pdfstartpage
9340         ,View=\@pdfstartview
9341       }%
9342     \fi
9343   \fi
9344   \edef\Hy@temp{%
9345     \noexpand\pdfmark{%
9346       pdfmark=/DOCVIEW,%
9347       PageMode=/\@pdfpagemode
9348     }\Hy@temp
9349   }%
9350 }%
9351 \Hy@temp
9352 \ifx\@pdfpagescrop\@empty
9353 \else
9354   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9355 \fi
9356 \edef\Hy@temp{%
9357   \ifHy@toolbar\else /HideToolbar true\fi
9358   \ifHy@menubar\else /HideMenubar true\fi
9359   \ifHy>windowui\else /HideWindowUI true\fi
9360   \ifHy@fitwindow /FitWindow true\fi
9361   \ifHy@centerwindow /CenterWindow true\fi
9362   \ifHy@displaydoctitle /DisplayDocTitle true\fi
9363   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9364   \Hy@UseNameKey{Direction}\@pdfdirection
9365   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9366   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9367   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9368   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9369   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9370   \Hy@UseNameKey{Duplex}\@pdfduplex
9371   \ifx\@pdfpicktraybypdfsize\@empty
9372   \else
9373     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9374   \fi
9375   \ifx\@pdfprintpagerange\@empty
9376   \else
9377     /PrintPageRange\@pdfprintpagerange}%
9378   \fi
9379   \ifx\@pdfnumcopies\@empty
9380   \else
9381     /NumCopies \@pdfnumcopies
9382   \fi
9383 }%
9384 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9385 \pdfmark{%
9386   pdfmark=/PUT,%
9387   Raw={%
9388     \string{Catalog\string}<<%

```

```

9389 \ifx\Hy@temp\@empty
9390 \else
9391 /ViewerPreferences<<\Hy@temp>>%
9392 \fi
9393 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9394 \ifx\@pdflang\@empty
9395 \else
9396 /Lang(\@pdflang)%
9397 \fi
9398 \ifx\@baseurl\@empty
9399 \else
9400 /URI<</Base(\Hy@pstringB)>>%
9401 \fi
9402 >>%
9403 }%
9404 }%
9405 }
9406 </pdfmark>
9407 <*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.

```

9408 \newif\ifHy@pdfmarkerror
9409 \def\pdfmark{\@ifnextchar[\pdfmark@]{\pdfmark@[]}}
9410 \def\pdfmark@[#1]#2{%
9411 \Hy@pdfmarkerrorfalse
9412 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9413 \@processme
9414 \let\pdf@type\relax
9415 \setkeys{PDF}{#2}%
9416 \ifHy@pdfmarkerror
9417 \else
9418 \ifx\pdf@type\relax
9419 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9420 \ifx\#1\%
9421 \else
9422 \pdf@rect{#1}%
9423 \fi
9424 \else
9425 \ifx\#1\%
9426 \literalps@out{%
9427 [\the\pdf@toks\space\pdf@type\space pdfmark%
9428 }%
9429 \else
9430 \@ifundefined{@\pdf@linktype color}{%
9431 \Hy@colorlink\@linkcolor
9432 }{%
9433 \expandafter\Hy@colorlink
9434 \csname @\pdf@linktype color\endcsname
9435 }%
9436 \pdf@rect{#1}%
9437 \literalps@out{%
9438 [\the\pdf@toks\space\pdf@type\space pdfmark%
9439 }%

```

```

9440      \Hy@endcolorlink
9441      \fi
9442  \fi
9443  \fi
9444 }

```

The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the `/Rect` key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

9445 \newsavebox{\pdf@box}
9446 \providecommand*{\Hy@setouterhbox}{\sbox}
9447 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9448 \def\Hy@DEST{/DEST}
9449 \def\pdf@rect#1{%
9450   \leavevmode
9451   \ifHy@breaklinks
9452     \Hy@setouterhbox\pdf@box{#1}%
9453   \else
9454     \sbox\pdf@box{#1}%
9455   \fi
9456   \dimen@ \ht\pdf@box
9457   \ifdim\dp\pdf@box=\z@
9458     \literalps@out{H.S}%
9459   \else
9460     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9461   \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. . .).

```

9462   \ifHy@breaklinks
9463     \expandafter\Hy@breaklinksunhbox
9464   \else
9465     \expandafter\box
9466   \fi
9467   \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

9468 \ifdim\dimen@=\z@
9469   \literalps@out{H.R}%
9470 \else
9471   \raise\dimen@\hbox{\literalps@out{H.R}}%
9472 \fi
9473 \ifx\pdf@type\Hy@DEST
9474 \else
9475   \pdf@addtoksx{H.B}%
9476 \fi
9477 }

```

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.

```

9478 \newtoks\pdf@toks
9479 \newtoks\pdf@defaulttoks
9480 \pdf@defaulttoks={}%
9481 \def\pdf@addtoks#1#2{%
9482   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9483   \@processme
9484 }
9485 \def\pdf@addtoksx#1{%
9486   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9487   \@processme
9488 }
9489 \def\PDFdefaults#1{%
9490   \pdf@defaulttoks={#1}%
9491 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

9492 % what is the type of pdfmark?
9493 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9494 % what is the link type?
9495 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9496 \def\pdf@linktype{link}
9497 % parameter is a stream of PDF
9498 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9499 % parameter is a name
9500 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9501 % parameter is a array
9502 \define@key{PDF}{Border}{%
9503   \edef\Hy@temp{#1}%
9504   \ifx\Hy@temp\@empty
9505     \else
9506       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9507     \fi
9508 }
9509 \let\Hy@BorderArrayPatch\@empty
9510 % parameter is a dictionary
9511 \define@key{PDF}{BorderStyle}{%
9512   \edef\Hy@temp{#1}%
9513   \ifx\Hy@temp\@empty
9514     \else
9515       \pdf@addtoks{<<#1>>}{BS}%
9516     \fi
9517 }
9518 % parameter is a array
9519 \define@key{PDF}{Color}{%
9520   \ifx\relax#1\relax
9521     \else
9522       \pdf@addtoks{[#1]}{Color}% hash-ok
9523     \fi
9524 }
9525 % parameter is a string
9526 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9527 % parameter is a integer
9528 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9529 % parameter is a array
9530 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9531 % parameter is a string

```

```

9532 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9533 % parameter is a string or file
9534 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9535 % parameter is a destination
9536 \define@key{PDF}{Dest}{%
9537   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9538   \ifx\Hy@pstringDest\@empty
9539     \Hy@pdfmarkerrortrue
9540     \Hy@Warning{Destination with empty name ignored}%
9541   \else
9542     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9543   \fi
9544 }
9545 \define@key{PDF}{DestAnchor}{%
9546   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9547   \ifx\Hy@pstringDest\@empty
9548     \Hy@pdfmarkerrortrue
9549     \Hy@Warning{Destination with empty name ignored}%
9550   \else
9551     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9552   \fi
9553 }
9554 % parameter is a string
9555 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9556 % parameter is a string
9557 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9558 % parameter is a int
9559 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9560 \define@key{PDF}{PDFAFlags}{%
9561   \ifHy@pdfa
9562     \pdf@addtoks{#1}{F}%
9563   \fi
9564 }
9565 % parameter is a name
9566 \define@key{PDF}{AcroHighlight}{%
9567   \begingroup
9568     \edef\x{#1}%
9569     \expandafter\endgroup\ifx\x\@empty
9570     \else
9571       \pdf@addtoks{#1}{H}%
9572     \fi
9573 }
9574 % parameter is a string
9575 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9576 % parameter is a string
9577 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9578 % parameter is a string
9579 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9580 % parameter is a string
9581 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9582 % parameter is a Boolean
9583 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9584 % parameter is a integer or name
9585 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9586 % parameter is a name
9587 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9588 % parameter is a string

```

```

9589 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9590 % parameter is a array
9591 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9592 % parameter is a integer
9593 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9594 % parameter is a name
9595 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9596 % parameter is a string
9597 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9598 % parameter is a string
9599 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9600 % parameter is a string
9601 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9602 % parameter is an array
9603 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9604 % parameter is a string
9605 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9606 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9607 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9608 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9609 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9610 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9611 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9612 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9613 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9614 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9615 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9616 </pdfmarkbase>
9617 <*pdfmark>
9618 \def\Acrobatmenu#1#2{%
9619   \Hy@Acrobatmenu{#1}{#2}%
9620   \pdfmark[{#2}]{%
9621     linktype=menu,%
9622     pdfmark=/ANN,%
9623     AcroHighlight=\@pdfhighlight,%
9624     Border=\@pdfborder,%
9625     BorderStyle=\@pdfborderstyle,%
9626     Action={<< /Subtype /Named /N /#1 >>},%
9627     Subtype=/Link,%
9628     PDFAFlags=4%
9629   }%
9630 }%
9631 }

```

And now for some useful examples:

```

9632 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
9633 \def\PDFNextPage@[#1]#2{%
9634   \pdfmark[{#2}]{%
9635     #1,%
9636     Border=\@pdfborder,%
9637     BorderStyle=\@pdfborderstyle,%
9638     Color=.2 .1 .5,%
9639     pdfmark=/ANN,%
9640     Subtype=/Link,%
9641     PDFAFlags=4,%
9642     Page=/Next%

```

```

9643 }%
9644 }
9645 \def\PDFPreviousPage{%
9646 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9647 }
9648 \def\PDFPreviousPage@[#1]#2{%
9649 \pdfmark[{#2}]{%
9650   #1,%
9651   Border=\@pdfborder,%
9652   BorderStyle=\@pdfborderstyle,%
9653   Color=.4 .4 .1,%
9654   pdfmark=/ANN,%
9655   Subtype=/Link,%
9656   PDFAFlags=4,%
9657   Page=/Prev%
9658 }%
9659 }
9660 \def\PDFOpen#1{%
9661 \pdfmark{#1,pdfmark=/DOCVIEW}%
9662 }

```

This will only work if you use Distiller 2.1 or higher.

```

9663 \def\hyper@linkurl#1#2{%
9664 \begingroup
9665 \Hy@pstringdef\Hy@pstringURI{#2}%
9666 \hyper@chars
9667 \leavevmode
9668 \pdfmark[{#1}]{%
9669   pdfmark=/ANN,%
9670   linktype=url,%
9671   AcroHighlight=\@pdfhighlight,%
9672   Border=\@pdfborder,%
9673   BorderStyle=\@pdfborderstyle,%
9674   Color=\@urlbordercolor,%
9675   Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9676   Subtype=/Link,%
9677   PDFAFlags=4%
9678 }%
9679 \endgroup
9680 }
9681 \def\hyper@linkfile#1#2#3{%
9682 \begingroup
9683 \Hy@pstringdef\Hy@pstringF{#2}%
9684 \Hy@pstringdef\Hy@pstringD{#3}%
9685 \leavevmode
9686 \pdfmark[{#1}]{%
9687   pdfmark=/ANN,%
9688   Subtype=/Link,%
9689   PDFAFlags=4,%
9690   AcroHighlight=\@pdfhighlight,%
9691   Border=\@pdfborder,%
9692   BorderStyle=\@pdfborderstyle,%
9693   linktype=file,%
9694   Color=\@filebordercolor,%
9695   Action={%
9696     <<%
9697     /S/GoToR%
9698     \Hy@SetNewWindow

```



```

9699      /F(\Hy@pstringF)%
9700      /D\ifx\#3\[/0 \@pdfstartview\else(\Hy@pstringD)cvn\fi
9701      >>%
9702    }%
9703  }%
9704 \endgroup
9705 }
9706 \def\@hyper@launch run:#1\#2#3{%
9707   \begingroup
9708   \Hy@pstringdef\Hy@pstringF{#1}%
9709   \Hy@pstringdef\Hy@pstringP{#3}%
9710   \leavevmode
9711   \pdfmark[{#2}]{%
9712     pdfmark=/ANN,%
9713     Subtype=/Link,%
9714     PDFAFlags=4,%
9715     AcroHighlight=\@pdfhighlight,%
9716     Border=\@pdfborder,%
9717     BorderStyle=\@pdfborderstyle,%
9718     linktype=run,%
9719     Color=\@runbordercolor,%
9720     Action={%
9721       <<%
9722       /S/Launch%
9723       \Hy@SetNewWindow
9724       /F(\Hy@pstringF)%
9725       \ifx\#3\[%
9726       \else
9727       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9728       \fi
9729       >>%
9730     }%
9731   }%
9732 \endgroup
9733 }
9734 \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.

```

9735 (*dvips)
9736 \providecommand*\XR@ext}{pdf}
9737 \def\Hy@raisedlink{}
9738 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9739 \def\headerps@out#1{\special{! #1}}%
9740 \input{pdfmark.def}%
9741 \ifx\@pdfproducer\relax
9742   \def\@pdfproducer{dvips + Distiller}%
9743 \fi
9744 \providecommand*\@pdfborder{0 0 1}
9745 \providecommand*\@pdfborderstyle{}
9746 \providecommand*\@pdfview{XYZ}

```

```

9747 \providecommand*\@pdfviewparams{ H.V}
9748 \def\Hy@BorderArrayPatch{BorderArrayPatch}

9749 \g@addto@macro\Hy@FirstPageHook{%
9750   \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.

```

9751   /DvipsToPDF{72.27 mul Resolution div} def%
9752   /PDFToDvips{72.27 div Resolution mul} def%
9753   /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.

```

9754   /BorderArrayPatch{%
9755     [exch{%
9756       dup dup type/integertype eq exch type/realtype eq or%
9757       {BPToDvips}if%
9758     }forall]%
9759   }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.

```

9760   /HyperBorder {1 PDFToDvips} def%
9761   /H.V {pdf@hoff pdf@voff null} def%
9762   /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

```

9763   /H.S {%
9764     currentpoint %
9765     HyperBorder add /pdf@lly exch def %
9766     dup DvipsToPDF 72 add /pdf@hoff exch def %
9767     HyperBorder sub /pdf@llx exch def%
9768   } def%

```

The calculation of upper left *y* is done without raising the point in T_EX, by simply adding on the current \baselineskip to the current *y*. This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The *x* and *y* coordinates of the current point, minus the baselineskip

```

9769   /H.L {%
9770     2 sub dup%
9771     /HyperBasePt exch def %
9772     PDFToDvips /HyperBaseDvips exch def %

```

```

9773     currentpoint %
9774     HyperBaseDvips sub /pdf@ury exch def%
9775     /pdf@urx exch def%
9776   } def%
9777   /H.A {%
9778     H.L %
9779   % | /pdf@voff| = the distance from the top of the page to a point
9780   % | \baselineskip| above the current point in PDF coordinates
9781     currentpoint exch pop %
9782     vsize 72 sub exch DvipsToPDF %
9783     HyperBasePt sub % baseline skip
9784     sub /pdf@voff exch def%
9785   } def%
9786   /H.R {%
9787     currentpoint %
9788     HyperBorder sub /pdf@ury exch def %
9789     HyperBorder add /pdf@urx exch def %
9790   % | /pdf@voff| = the distance from the top of the page to the current point, in
9791   % PDF coordinates
9792     currentpoint exch pop vsize 72 sub %
9793     exch DvipsToPDF sub /pdf@voff exch def%
9794   } def%
9795 } %
9796 }
9797 \AtBeginShipoutFirst{%
9798   \ifHy@setpagesize
9799     \begingroup
9800       \@ifundefined{stockwidth}{%
9801         \ifdim\paperwidth>\z@
9802           \ifdim\paperheight>\z@
9803             \special{papersize=\the\paperwidth,\the\paperheight}%
9804           \fi
9805         \fi
9806       }{%
9807         \ifdim\stockwidth>\z@
9808           \ifdim\stockheight>\z@
9809             \special{papersize=\the\stockwidth,\the\stockheight}%
9810           \fi
9811         \fi
9812       }%
9813     \endgroup
9814   \fi
9815   \Hy@DisableOption{setpagesize}%
9816 }
9817 </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.

```

9818 <*vtexpdfmark>
9819 \providecommand*{\XR@ext}{pdf}
9820 \def\Hy@raisedlink{}
9821 \def\literalps@out#1{\special{pS:#1}}%

```

```

9822 \def\headerps@out#1{\immediate\special{pS:#1}}%
9823 \input{pdfmark.def}%
9824 \ifx\@pdfproducer\relax
9825   \ifnum\OpMode=\@ne
9826     \def\@pdfproducer{VTeX}%
9827   \else
9828     \def\@pdfproducer{VTeX + Distiller}%
9829   \fi
9830 \fi
9831 \providecommand*\@pdfborder{0 0 1}
9832 \providecommand*\@pdfborderstyle{}
9833 \providecommand*\@pdfview{XYZ}
9834 \providecommand*\@pdfviewparams{H.V}

9835 \g@addto@macro\Hy@FirstPageHook{%
9836   \headerps@out{%
9837     /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.

```

9838   /HyperBorder {1} def%
9839   /H.V {pdf@hoff pdf@voff null} def%
9840   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9841   /H.S {%
9842     currentpoint %
9843     HyperBorder sub%
9844     /pdf@lly exch def %
9845     dup 72 add /pdf@hoff exch def %
9846     HyperBorder sub%
9847     /pdf@llx exch def%
9848   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9849   /H.L {%
9850     2 sub%
9851     /HyperBasePt exch def %
9852     currentpoint %
9853     HyperBasePt add HyperBorder add%
9854     /pdf@ury exch def %
9855     HyperBorder add%
9856     /pdf@urx exch def%
9857   } def%
9858   /H.A {%
9859     H.L %
9860     currentpoint exch pop %
9861     vsize 72 sub exch %
9862     HyperBasePt add add%
9863     /pdf@voff exch def%
9864   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9865   /H.R {%
9866     currentpoint %
9867     HyperBorder add%

```

```

9868    /pdf@ury exch def %
9869    HyperBorder add%
9870    /pdf@urx exch def %
9871    currentpoint exch pop vsize 72 sub add%
9872    /pdf@voff exch def%
9873    } def%
9874    }%
9875    }
9876    </vtexpdfmark>

```

46.11 Textures

```

9877    <*textures>
9878    \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.

```

9879    \begingroup
9880    \obeylines %
9881    \gdef\Hy@ps@CR{\noexpand
9882    }%
9883    \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.

```

9884    \def\literalps@out#1{%
9885    \special{postscript 0 0 transform}%
9886    \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9887    }%
9888    %

```

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.

```

9889    \def\headerps@out#1{%
9890    \special{%
9891    prepostscript TeXdict begin\Hy@ps@CR
9892    #1\Hy@ps@CR
9893    end%
9894    }%
9895    }%
9896    %

```

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.

```

9897 \g@addto@macro\Hy@FirstPageHook{%
9898   \headerps@out{%
9899     /betterpdfmark {%
9900       systemdict begin %
9901         dup /BP eq%
9902         {cleartomark gsave nulldevice []}%
9903         {dup /EP eq%
9904           {cleartomark cleartomark grestore}%
9905           {cleartomark}%
9906           ifelse%
9907         }ifelse %
9908       end%
9909     }def\Hy@ps@CR
9910     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
9911   }% end of \headerps@out
9912 }% end of \AtBeginShipoutFirst
9913 %
9914 \input{pdfmark.def}%
9915 %
9916 \ifx\@pdfproducer\relax
9917   \def\@pdfproducer{Textures + Distiller}%
9918 \fi
9919 \providecommand*\@pdfborder{0 0 1}
9920 \providecommand*\@pdfborderstyle{}
9921 \providecommand*\@pdfview{XYZ}
9922 \providecommand*\@pdfviewparams{ H.V}
9923 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

9924 \AfterBeginDocument{%
9925   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9926   /vsize {\Hy@pageheight} def%
9927   /DvipsToPDF {} def%
9928   /PDFToDvips {} def%
9929   /BPToDvips {} def%
9930   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9931   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9932   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9933   /H.S {%
9934     currentpoint %
9935     HyperBorder add /pdf@lly exch def %
9936     dup DvipsToPDF 72 add /pdf@hoff exch def %
9937     HyperBorder sub /pdf@llx exch def%
9938   } def\Hy@ps@CR
9939   /H.L {%
9940     2 sub %
9941     PDFToDvips /HyperBase exch def %
9942     currentpoint %

```

```

9943   HyperBase sub /pdf@ury exch def%
9944   /pdf@urx exch def%
9945 } def\Hy@ps@CR
9946 /H.A {%
9947   H.L %
9948   currentpoint exch pop %
9949   vsize 72 sub exch DvipsToPDF %
9950   HyperBase sub % baseline skip
9951   sub /pdf@voff exch def%
9952 } def\Hy@ps@CR
9953 /H.R {%
9954   currentpoint %
9955   HyperBorder sub /pdf@ury exch def %
9956   HyperBorder add /pdf@urx exch def %
9957   currentpoint exch pop vsize 72 sub %
9958   exch DvipsToPDF sub /pdf@voff exch def%
9959 } def\Hy@ps@CR
9960 }%
9961 }

9962 \AfterBeginDocument{%
9963   \ifHy@colorlinks
9964     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9965   \fi
9966 }

```

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.

```

9967 \expandafter\let\expandafter\keepPDF@SetupDoc
9968   \csname PDF@SetupDoc\endcsname
9969 \def\PDF@SetupDoc{%
9970   \ifx\@baseurl\@empty
9971     \else
9972       \special{html:<base href="\@baseurl">}%
9973     \fi
9974   \keepPDF@SetupDoc
9975 }

9976 \def\hyper@anchor#1{%
9977   \Hy@SaveLastskip
9978   \begingroup
9979     \let\protect=\string
9980     \special{html:<a name=%
9981       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9982   \endgroup
9983   \Hy@activeanchortrue
9984   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9985   \special{html:</a>}%
9986   \Hy@activeanchorfalse
9987   \Hy@RestoreLastskip
9988 }

9989 \def\hyper@anchorstart#1{%
9990   \Hy@SaveLastskip
9991   \begingroup
9992     \hyper@chars
9993     \special{html:<a name=%
9994       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9995   \endgroup
9996   \Hy@activeanchortrue

```

```

9997 }
9998 \def\hyper@anchorend{%
9999 \special{html:</a>}%
10000 \Hy@activeanchorfalse
10001 \Hy@RestoreLastskip
10002 }
10003 \def\@urlltype{url}
10004 \def\hyper@linkstart#1#2{%
10005 \expandafter\Hy@colorlink\csname @#1color\endcsname
10006 \def\Hy@tempa{#1}%
10007 \ifx\Hy@tempa\@urlltype
10008 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10009 \else
10010 \begingroup
10011 \hyper@chars
10012 \special{%
10013 html:<a href=%
10014 \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
10015 }%
10016 \endgroup
10017 \fi
10018 }
10019 \def\hyper@linkend{%
10020 \special{html:</a>}%
10021 \Hy@endcolorlink
10022 }
10023 \def\hyper@linkfile#1#2#3{%
10024 \hyper@linkurl{#1}{%
10025 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10026 }%
10027 }
10028 \def\hyper@linkurl#1#2{%
10029 \leavevmode
10030 \ifHy@raiselinks
10031 \setbox\@tempboxa=\color@hbox #1\color@endbox
10032 \@linkdim\dp\@tempboxa
10033 \lower\@linkdim\hbox{%
10034 \hyper@chars
10035 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10036 }%
10037 \Hy@colorlink\@urlcolor#1%
10038 \@linkdim\ht\@tempboxa
10039 \advance\@linkdim by -6.5\p@
10040 \raise\@linkdim\hbox{\special{html:</a>}}%
10041 \Hy@endcolorlink
10042 \else
10043 \begingroup
10044 \hyper@chars
10045 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10046 \Hy@colorlink\@urlcolor#1%
10047 \special{html:</a>}%
10048 \Hy@endcolorlink
10049 \endgroup
10050 \fi
10051 }

```

Very poor implementation of \hyper@link without considering #1.

```

10052 \def\hyper@link#1#2#3{%

```



```

10053 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
10054 }
10055 \def\hyper@image#1#2{%
10056 \begingroup
10057 \hyper@chars
10058 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10059 \endgroup
10060 }
10061 </textures>

```

46.12 dvipsone

```

10062 % \subsection{dvipsone driver}
10063 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10064 % |\special| commands.
10065 (*dvipsone)
10066 \providecommand*\XR@ext}{pdf}
10067 \def\Hy@raisedlink{}
10068 \providecommand*\@pdfborder{0 0 1}
10069 \providecommand*\@pdfborderstyle{}
10070 \def\literalps@out#1{\special{ps:#1}}%
10071 \def\headerps@out#1{\special{headertext=#1}}%
10072 \input{pdfmark.def}%
10073 \ifx\@pdfproducer\relax
10074 \def\@pdfproducer{dvipsone + Distiller}%
10075 \fi
10076 \def\PDF@FinishDoc{%
10077 \Hy@UseMaketitleInfos
10078 \special{PDF: Keywords \@pdfkeywords}%
10079 \special{PDF: Title \@pdftitle}%
10080 \special{PDF: Creator \@pdfcreator}%
10081 \ifx\@pdfcreationdate\@empty
10082 \else
10083 \special{PDF: CreationDate \@pdfcreationdate}%
10084 \fi
10085 \ifx\@pdfmoddate\@empty
10086 \else
10087 \special{PDF: ModDate \@pdfmoddate}%
10088 \fi
10089 \special{PDF: Author \@pdfauthor}%
10090 \ifx\@pdfproducer\relax
10091 \else
10092 \special{PDF: Producer \@pdfproducer}%
10093 \fi
10094 \special{PDF: Subject \@pdfsubject}%
10095 \Hy@DisableOption{pdfauthor}%
10096 \Hy@DisableOption{pdftitle}%
10097 \Hy@DisableOption{pdfsubject}%
10098 \Hy@DisableOption{pdfcreator}%
10099 \Hy@DisableOption{pdfcreationdate}%
10100 \Hy@DisableOption{pdfmoddate}%
10101 \Hy@DisableOption{pdfproducer}%
10102 \Hy@DisableOption{pdfkeywords}%
10103 }
10104 \def\PDF@SetupDoc{%
10105 \def\Hy@temp{}%
10106 \ifx\@pdfstartpage\@empty

```

```

10107 \else
10108 \ifx\@pdfstartview\@empty
10109 \else
10110 \edef\Hy@temp{%
10111 ,Page=\@pdfstartpage
10112 ,View=\@pdfstartview
10113 }%
10114 \fi
10115 \fi
10116 \edef\Hy@temp{%
10117 \noexpand\pdfmark{%
10118 pdfmark=/DOCVIEW,%
10119 PageMode=/\@pdfpagemode
10120 \Hy@temp
10121 }%
10122 }%
10123 \Hy@temp
10124 \ifx\@pdfpagescrop\@empty
10125 \else
10126 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10127 \fi
10128 \edef\Hy@temp{%
10129 \ifHy@toolbar\else /HideToolbar true\fi
10130 \ifHy@menubar\else /HideMenubar true\fi
10131 \ifHy>windowui\else /HideWindowUI true\fi
10132 \ifHy@fitwindow /FitWindow true\fi
10133 \ifHy@centerwindow /CenterWindow true\fi
10134 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10135 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
10136 \Hy@UseNameKey{Direction}\@pdfdirection
10137 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10138 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10139 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10140 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10141 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10142 \Hy@UseNameKey{Duplex}\@pdfduplex
10143 \ifx\@pdfpicktraybypdfsize\@empty
10144 \else
10145 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10146 \fi
10147 \ifx\@pdfprintpagerange\@empty
10148 \else
10149 /PrintPageRange[\@pdfprintpagerange]%
10150 \fi
10151 \ifx\@pdfnumcopies\@empty
10152 \else
10153 /NumCopies \@pdfnumcopies
10154 \fi
10155 }%
10156 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10157 \pdfmark{%
10158 pdfmark=/PUT,%
10159 Raw={%
10160 \string{Catalog\string}<<%
10161 \ifx\Hy@temp\@empty
10162 \else
10163 /ViewerPreferences<<\Hy@temp>>%

```

```

10164 \fi
10165 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10166 \ifx\@pdflang\@empty
10167 \else
10168 /Lang(\@pdflang)%
10169 \fi
10170 \ifx\@baseurl\@empty
10171 \else
10172 /URI<</Base(\Hy@pstringB)>>%
10173 \fi
10174 >>%
10175 }%
10176 }%
10177 }
10178 \providecommand*\@pdfview{XYZ}
10179 \providecommand*\@pdfviewparams{ %
10180 gsave revscl currentpoint grestore %
10181 72 add exch pop null exch null%
10182 }
10183 \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_EX.

```

10184 \g@addto@macro\Hy@FirstPageHook{%
10185 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

10186 /DvipsToPDF { 65781 div } def%
10187 /PDFToDvips { 65781 mul } def%
10188 /BPToDvips{65781 mul}def%
10189 /HyperBorder { 1 PDFToDvips } def%
10190 /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.

```

10191 /BorderArrayPatch{%
10192 [exch{%
10193 dup dup type/integertype eq exch type/realtype eq or%
10194 {BPToDvips}if%
10195 }forall]%
10196 }def%
10197 /H.S {%
10198 currentpoint %
10199 HyperBorder add /pdf@lly exch def %
10200 dup DvipsToPDF 72 add /pdf@hoff exch def %
10201 HyperBorder sub /pdf@llx exch def%
10202 } def%
10203 /H.L {%
10204 2 sub %
10205 PDFToDvips /HyperBase exch def %
10206 currentpoint %
10207 HyperBase sub /pdf@ury exch def%
10208 /pdf@urx exch def%
10209 } def%
10210 /H.A {%

```

```

10211      H.L %
10212      currentpoint exch pop %
10213      HyperBase sub % baseline skip
10214      DvipsToPDF /pdf@voff exch def%
10215    } def%
10216    /H.R {%
10217      currentpoint %
10218      HyperBorder sub /pdf@ury exch def %
10219      HyperBorder add /pdf@urx exch def %
10220      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10221    } def%
10222  }%
10223 }
10224 </dvipsone>

```

46.13 TeX4ht

```

10225 <*tex4ht>
10226 \providecommand*{\XR@ext}{html}
10227 \def\Hy@raisedlink{}
10228 \ifpackageloaded{tex4ht}{%
10229   \typeout{hyperref tex4ht: tex4ht already loaded}%
10230 }{%
10231   \RequirePackage[hTeX4ht]{tex4ht}%
10232 }
10233 \hyperlinkfileprefix{}
10234 \def\PDF@FinishDoc{}
10235 \def\PDF@SetupDoc{%
10236   \ifx\@baseurl\@empty
10237     \else
10238       \special{t4ht=<base href="\@baseurl">}%
10239     \fi
10240 }
10241 \def\hyper@anchor#1{%
10242   \Hy@SaveLastskip
10243   \begingroup
10244     \let\protect=\string
10245     \special{t4ht=<a name=%
10246       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10247   \endgroup
10248   \Hy@activeanchortrue
10249   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10250   \special{t4ht=</a>}%
10251   \Hy@activeanchorfalse
10252   \Hy@RestoreLastskip
10253 }
10254 \def\hyper@anchorstart#1{%
10255   \Hy@SaveLastskip
10256   \begingroup
10257     \hyper@chars\special{t4ht=<a name=%
10258       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10259   \endgroup
10260   \Hy@activeanchortrue
10261 }
10262 \def\hyper@anchorend{%
10263   \special{t4ht=</a>}%
10264   \Hy@activeanchorfalse
10265   \Hy@RestoreLastskip

```

```

10266 }
10267 \def\@urltype{url}
10268 \def\hyper@linkstart#1#2{%
10269   \expandafter\Hy@colorlink\csname @#1color\endcsname
10270   \def\Hy@tempa{#1}%
10271   \ifx\Hy@tempa\@urltype
10272     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10273   \else
10274     \begingroup
10275       \hyper@chars
10276       \special{t4ht=<a href=%
10277         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10278     \endgroup
10279   \fi
10280 }
10281 \def\hyper@linkend{%
10282   \special{t4ht=</a>}%
10283   \Hy@endcolorlink
10284 }
10285 \def\hyper@linkfile#1#2#3{%
10286   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10287 }
10288 \def\hyper@linkurl#1#2{%
10289   \leavevmode
10290   \ifHy@raiselinks
10291     \setbox\@tempboxa=\color@hbox #1\color@endbox
10292     \@linkdim\dp\@tempboxa
10293     \lower\@linkdim\hbox{%
10294       \begingroup
10295         \hyper@chars
10296         \special{%
10297           t4ht=<a href=\hyper@quote#2\hyper@quote>%
10298         }%
10299       \endgroup
10300     }%
10301     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10302     \@linkdim\ht\@tempboxa
10303     \advance\@linkdim by -6.5\p@
10304     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10305   \else
10306     \begingroup
10307       \hyper@chars
10308       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10309       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10310       \special{t4ht=</a>}%
10311     \endgroup
10312   \fi
10313 }

```

Poor implementation of \hyper@link without considering #1.

```

10314 \def\hyper@link#1#2#3{%
10315   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10316 }
10317 \def\hyper@image#1#2{%
10318   \begingroup
10319     \hyper@chars
10320     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10321   \endgroup

```

```

10322 }
10323 \let\autoref\ref
10324 \ifx \rEfLiNK \UnDef
10325   \def\rEfLiNK #1#2{#2}%
10326 \fi
10327 \def\backref#1{}
10328 </tex4ht>
10329 <*tex4htcfg>
10330 \IfFileExists{\jobname.cfg}{\endinput}{}
10331 \Preamble{html}
10332   \begin{document}%
10333 \EndPreamble
10334 \def\TeX{TeX}
10335 \def\OMEGA{Omega}
10336 \def\LaTeX{LaTeX}
10337 \def\LaTeXe{LaTeX2e}
10338 \def\eTeX{e-TeX}
10339 \def\MF{Metafont}
10340 \def\MP{MetaPost}
10341 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

10342 <*pdfmark>
10343 \long\def\@Form[#1]{%
10344   \g@addto@macro\Hy@FirstPageHook{%
10345     \headerps@out{%
10346 [%
10347   /__objdef{pdfDocEncoding}%
10348   /type/dict%
10349   /OBJ pdfmark%
10350 [%
10351     {pdfDocEncoding}%
10352     <<%
10353       /Type/Encoding%
10354       /Differences%
10355         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10356         /tilde %
10357         39/quotesingle %
10358         96/grave %
10359         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10360         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10361         /quotedblbase/quotedblleft/quotedblright/quoteleft%
10362         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10363         /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10364         164/currency %
10365         166/brokenbar %
10366         168/dieresis/copyright/ordfeminine %
10367         172/logicalnot/.notdef/registered/macron/degree/plusminus%
10368         /twosuperior/threesuperior/acute/mu %
10369         183/periodcentered/cedilla/onesuperior/ordmasculine %
10370         188/onequarter/onehalf/threequarters %
10371         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10372         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10373         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10374         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%

```

```

10375      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10376      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10377      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10378      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10379      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
10380      /ucircumflex/udieresis/yacute/thorn/ydieresis%
10381      ]%
10382      >>%
10383 /PUT pdfmark%
10384 [%
10385      /__objdef{ZaDb}%
10386      /type/dict%
10387 /OBJ pdfmark%
10388 [%
10389      {ZaDb}%
10390      <<%
10391      /Type/Font%
10392      /Subtype/Type1%
10393      /Name/ZaDb%
10394      /BaseFont/ZapfDingbats%
10395      >>%
10396 /PUT pdfmark%
10397 [%
10398      /__objdef{Helv}%
10399      /type/dict%
10400 /OBJ pdfmark%
10401 [%
10402      {Helv}%
10403      <<%
10404      /Type/Font%
10405      /Subtype/Type1%
10406      /Name/Helv%
10407      /BaseFont/Helvetica%
10408      /Encoding{pdfDocEncoding}%
10409      >>%
10410 /PUT pdfmark%
10411 [%
10412      /__objdef{aform}%
10413      /type/dict%
10414 /OBJ pdfmark%
10415 [%
10416      /__objdef{afields}%
10417      /type/array%
10418 /OBJ pdfmark%
10419 {%
10420      [%
10421      /BBox[0 0 100 100]%
10422      /__objdef{Check}%
10423 /BP pdfmark %
10424      1 0 0 setrgbcolor%
10425      /ZapfDingbats 80 selectfont %
10426      20 20 moveto%
10427      (4)show%
10428      [/EP pdfmark%
10429      [%
10430      /BBox[0 0 100 100]%
10431      /__objdef{Cross}%

```

```

10432 /BP pdfmark %
10433 1 0 0 setrgbcolor%
10434 /ZapfDingbats 80 selectfont %
10435 20 20 moveto%
10436 (8)show%
10437 [/EP pdfmark%
10438 [%
10439 /BBox[0 0 250 100]%
10440 /_objdef{Submit}%
10441 /BP pdfmark %
10442 0.6 setgray %
10443 0 0 250 100 rectfill %
10444 1 setgray %
10445 2 2 moveto %
10446 2 98 lineto %
10447 248 98 lineto %
10448 246 96 lineto %
10449 4 96 lineto %
10450 4 4 lineto %
10451 fill %
10452 0.34 setgray %
10453 248 98 moveto %
10454 248 2 lineto %
10455 2 2 lineto %
10456 4 4 lineto %
10457 246 4 lineto %
10458 246 96 lineto %
10459 fill%
10460 /Helvetica 76 selectfont %
10461 0 setgray %
10462 8 22.5 moveto%
10463 (Submit)show%
10464 [/EP pdfmark%
10465 [%
10466 /BBox[0 0 250 100]%
10467 /_objdef{SubmitP}%
10468 /BP pdfmark %
10469 0.6 setgray %
10470 0 0 250 100 rectfill %
10471 0.34 setgray %
10472 2 2 moveto %
10473 2 98 lineto %
10474 248 98 lineto %
10475 246 96 lineto %
10476 4 96 lineto %
10477 4 4 lineto %
10478 fill %
10479 1 setgray %
10480 248 98 moveto %
10481 248 2 lineto %
10482 2 2 lineto %
10483 4 4 lineto %
10484 246 4 lineto %
10485 246 96 lineto %
10486 fill%
10487 /Helvetica 76 selectfont %
10488 0 setgray %

```



```

10489 10 20.5 moveto%
10490 (Submit)show%
10491 [/EP pdfmark%
10492 } ?pdfmark%
10493 [%
10494 {aform}%
10495 <<%
10496 /Fields{afields}%
10497 /DR<<%
10498 /Font<<%
10499 /ZaDb{ZaDb}%
10500 /Helv{Helv}%
10501 >>%
10502 >>%
10503 /DA(/Helv 10 Tf 0 g)%
10504 /CO{corder}%
10505 \ifHy@pdfa
10506 \else
10507 /NeedAppearances true%
10508 \fi
10509 >>%
10510 /PUT pdfmark%
10511 [%
10512 {Catalog}%
10513 <<%
10514 /AcroForm{aform}%
10515 >>%
10516 /PUT pdfmark%
10517 [%
10518 /_objdef{corder}%
10519 /type/array%
10520 /OBJ pdfmark% dps
10521 }}%
10522 \setkeys{Form}{#1}%
10523 }
10524 \def\@endForm{}
10525 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10526 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10527 }
10528 \def\@TextField[#1]#2{% parameters, label
10529 \def\Fld@name{#2}%
10530 \def\Fld@default{}%
10531 \let\Fld@value\@empty
10532 \def\Fld@width{\DefaultWidthofText}%
10533 \def\Fld@height{%
10534 \ifFld@multiline
10535 \DefaultHeightofTextMultiline
10536 \else
10537 \DefaultHeightofText
10538 \fi
10539 }%
10540 \begingroup
10541 \Field@toks={ }%
10542 \expandafter\HyField@SetKeys\expandafter{%
10543 \DefaultOptionsofText,#1%
10544 }%
10545 \HyField@FlagsText

```

```

10546 \ifFld@hidden\def\Fld@width{1sp}\fi
10547 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10548 \LayoutTextField{#2}{%
10549   \Hy@escapeform\PDFForm@Text
10550   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10551     pdfmark=/ANN,Raw={\PDFForm@Text}%
10552   }%
10553 }%
10554 \endgroup
10555 }
10556 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10557   \def\Fld@name{#2}%
10558   \let\Fld@default\relax
10559   \let\Fld@value\relax
10560   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10561   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10562   \begingroup
10563     \Fld@menulength=0 %
10564     \@tempdima\z@
10565     \@for\@curropt:=#3\do{%
10566       \expandafter\Fld@checkequals\@curropt==\%
10567       \Hy@StepCount\Fld@menulength
10568       \settowidth{\@tempdimb}{\@currDisplay}%
10569       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10570     }%
10571     \advance\@tempdima by 15\p@
10572     \Field@toks={ }%
10573     \begingroup
10574       \HyField@SetKeys{#1}%
10575     \edef\x{\endgroup
10576       \noexpand\expandafter
10577       \noexpand\HyField@SetKeys
10578       \noexpand\expandafter{%
10579         \expandafter\noexpand\csname DefaultOptionsof%
10580           \ifFld@radio
10581             Radio%
10582           \else
10583             \ifFld@combo
10584               \ifFld@popdown
10585                 PopdownBox%
10586               \else
10587                 ComboBox%
10588               \fi
10589             \else
10590               ListBox%
10591             \fi
10592           \fi
10593         \endcsname
10594       }%
10595     }\x
10596     \HyField@SetKeys{#1}%
10597   \ifFld@hidden\def\Fld@width{1sp}\fi
10598   \ifx\Fld@value\relax
10599     \let\Fld@value\Fld@default
10600   \fi
10601   \LayoutChoiceField{#2}{%
10602     \ifFld@radio

```

```

10603     \HyField@FlagsRadioButton
10604     \@@Radio{#3}%
10605   \else
10606     \begingroup
10607     \HyField@FlagsChoice
10608     \ifdim\Fld@width<\@tempdima
10609       \ifdim\@tempdima<1cm\@tempdima1cm\fi
10610       \edef\Fld@width{\the\@tempdima}%
10611     \fi
10612     \ifFld@combo
10613     \else
10614       \@tempdima=\the\Fld@menulength\Fld@charsize
10615       \advance\@tempdima by \Fld@borderwidth bp %
10616       \advance\@tempdima by \Fld@borderwidth bp %
10617       \edef\Fld@height{\the\@tempdima}%
10618     \fi
10619     \@@ListBox{#3}%
10620   \endgroup
10621 \fi
10622 }%
10623 \endgroup
10624 }
10625 \def\@@Radio#1{%
10626   \Fld@listcount=0 %
10627   \for\@curropt=#1\do{%
10628     \expandafter\Fld@checkequals\@curropt==\%
10629     \Hy@StepCount\Fld@listcount
10630     \@currDisplay\space
10631     \Hy@escapeform\PDFForm@Radio
10632     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10633       pdfmark=/ANN,%
10634       Raw={%
10635         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
10636       }%
10637     } % deliberate space between radio buttons
10638   }%
10639 }
10640 \newcount\Fld@listcount
10641 \def\@@ListBox#1{%
10642   \HyField@PDFChoices{#1}%
10643   \Hy@escapeform\PDFForm@List
10644   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10645     pdfmark=/ANN,Raw={\PDFForm@List}%
10646   }%
10647 }
10648 \def\@PushButton[#1]#2{% parameters, label
10649   \def\Fld@name{#2}%
10650   \begingroup
10651     \Field@toks={ }%
10652     \expandafter\HyField@SetKeys\expandafter{%
10653       \DefaultOptionsofPushButton,#1%
10654     }%
10655     \ifHy@pdfa
10656       \PackageError{hyperref}{%
10657         PDF/A: Push button with JavaScript is prohibited%
10658       }\@ehc
10659     \LayoutPushButtonField{%

```

```

10660     \leavevmode
10661     \MakeButtonField{#2}%
10662   }%
10663 \else
10664   \HyField@FlagsPushButton
10665   \ifFld@hidden\def\Fld@width{1sp}\fi
10666   \LayoutPushButtonField{%
10667     \leavevmode
10668     \Hy@escapeform\PDFForm@Push
10669     \pdfmark[\MakeButtonField{#2}]{%
10670       pdfmark=/ANN,Raw={\PDFForm@Push}%
10671     }%
10672   }%
10673 \fi
10674 \endgroup
10675 }
10676 \def\@Submit[#1]#2{%
10677   \Field@toks={ }%
10678   \def\Fld@width{\DefaultWidthofSubmit}%
10679   \def\Fld@height{\DefaultHeightofSubmit}%
10680   \begingroup
10681     \expandafter\HyField@SetKeys\expandafter{%
10682       \DefaultOptionsofSubmit,#1%
10683     }%
10684     \HyField@FlagsPushButton
10685     \HyField@FlagsSubmit
10686     \ifFld@hidden\def\Fld@width{1sp}\fi
10687     \Hy@escapeform\PDFForm@Submit
10688     \pdfmark[\MakeButtonField{#2}]{%
10689       pdfmark=/ANN,%
10690       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10691     }%
10692   \endgroup
10693 }
10694 \def\@Reset[#1]#2{%
10695   \Field@toks={ }%
10696   \def\Fld@width{\DefaultWidthofReset}%
10697   \def\Fld@height{\DefaultHeightofReset}%
10698   \begingroup
10699     \expandafter\HyField@SetKeys\expandafter{%
10700       \DefaultOptionsofReset,#1%
10701     }%
10702     \leavevmode
10703     \ifHy@pdfa
10704       \PackageError{hyperref}{%
10705         PDF/A: Reset action is prohibited%
10706       }\@ehc
10707       \MakeButtonField{#2}%
10708     \else
10709       \HyField@FlagsPushButton
10710       \ifFld@hidden\def\Fld@width{1sp}\fi
10711       \Hy@escapeform\PDFForm@Reset
10712       \pdfmark[\MakeButtonField{#2}]{%
10713         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10714       }%
10715     \fi
10716   \endgroup

```

```

10717 }%
10718 \def\@CheckBox[#1]#2{% parameters, label
10719   \def\Fld@name{#2}%
10720   \def\Fld@default{0}%
10721   \begingroup
10722     \def\Fld@width{\DefaultWidthofCheckBox}%
10723     \def\Fld@height{\DefaultHeightofCheckBox}%
10724     \Field@toks={ }%
10725     \expandafter\HyField@SetKeys\expandafter{%
10726       \DefaultOptionsofCheckBox,#1%
10727     }%
10728     \HyField@FlagsCheckBox
10729     \ifFld@hidden\def\Fld@width{1sp}\fi
10730     \LayoutCheckField{#2}{%
10731       \Hy@escapeform\PDFForm@Check
10732       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10733         pdfmark=/ANN,Raw={\PDFForm@Check}%
10734       }%
10735     }%
10736   \endgroup
10737 }
10738 \</pdfmark>

```

47.2 HyperTeX

```

10739 \<hypertex>
10740 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10741 \def\@endForm{}
10742 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10743   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10744 }
10745 \def\@TextField[#1]#2{% parameters, label
10746   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10747 }
10748 \def\@CheckBox[#1]#2{% parameters, label
10749   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10750 }
10751 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10752   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10753 }
10754 \def\@PushButton[#1]#2{% parameters, label
10755   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10756 }
10757 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10758 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10759 \</hypertex>

```

47.3 TeX4ht

```

10760 \<tex4ht>
10761 \def\@Form[#1]{%
10762   \setkeys{Form}{#1}%
10763   \HCode{<form action="\Form@action" method="\Form@method">}%
10764 }
10765 \def\@endForm{\HCode{</form>}}
10766 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10767   \typeout{Sorry, TeX4ht does not support gauges}%
10768 }
10769 \def\@TextField[#1]#2{% parameters, label

```

```

10770 \let\Hy@reserved@a\@empty
10771 \def\Fld@name{#2}%
10772 \def\Fld@default{}%
10773 \bgroup
10774 \Field@toks={ }%
10775 \setkeys{Field}{#1}%
10776 \HCode{<label for="\Fld@name">#2</label>}%
10777 \ifFld@password
10778 \@@PasswordField
10779 \else
10780 \@@TextField
10781 \fi
10782 \egroup
10783 }
10784 \def\@@PasswordField{%
10785 \HCode{%
10786 <input type="password" %
10787 id="\Fld@name" %
10788 name="\Fld@name" %
10789 \ifFld@hidden type="hidden" \fi
10790 value="\Fld@default" %
10791 \the\Field@toks
10792 >%
10793 }%
10794 }
10795 \def\@@TextField{%
10796 \ifFld@multiline
10797 \HCode{<textarea %
10798 \ifFld@readonly readonly \fi
10799 id="\Fld@name" %
10800 name="\Fld@name" %
10801 \ifFld@hidden type="hidden" \fi
10802 \the\Field@toks>%
10803 }%
10804 \Fld@default
10805 \HCode{</textarea>}%
10806 \else
10807 \HCode{<input type="text" %
10808 \ifFld@readonly readonly \fi
10809 id="\Fld@name" %
10810 name="\Fld@name" %
10811 \ifFld@hidden type="hidden" \fi
10812 value="\Fld@default" %
10813 \the\Field@toks>%
10814 }%
10815 \fi
10816 }
10817 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10818 \def\Fld@name{#2}%
10819 \def\Fld@default{}%
10820 \let\Hy@reserved@a\relax
10821 \begingroup
10822 \expandafter\Fld@findlength#3\\%
10823 \Field@toks={ }%
10824 \setkeys{Field}{#1}%
10825 #2%
10826 \ifFld@radio

```

```

10827     \expandafter\@@Radio#3\\%
10828     \else
10829     \expandafter\@@Menu#3\\%
10830     \fi
10831 \endgroup
10832 }
10833 \def\Fld@findlength#1\\{%
10834 \Fld@menulength=0 %
10835 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10836 }
10837 \def\@@Menu#1\\{%
10838 \HCode{<select size="\the\Fld@menulength" %
10839     name="\Fld@name" %
10840     \the\Field@toks>%
10841 }%
10842 \@for\@curropt:=#1\do{%
10843     \expandafter\Fld@checkequals\@curropt==\\%
10844     \HCode{<option %
10845         \ifx\@curropt\Fld@default selected \fi
10846         value="\@currValue">\@currDisplay</option>%
10847     }%
10848 }%
10849 \HCode{</select>}%
10850 }
10851 \def\@@Radio#1\\{%
10852 \@for\@curropt:=#1\do{%
10853     \expandafter\Fld@checkequals\@curropt==\\%
10854     \HCode{<input type="radio" %
10855         \ifx\@curropt\Fld@default checked \fi
10856         name="\Fld@name" %
10857         value="\@currValue" %
10858         \the\Field@toks>%
10859     }%
10860     \@currDisplay
10861 }%
10862 }
10863 \def\@PushButton[#1]#2{% parameters, label
10864 \def\Fld@name{#2}%
10865 \bgroup
10866 \Field@toks={ }%
10867 \setkeys{Field}{#1}%
10868 \HCode{<input type="button" %
10869     name="\Fld@name" %
10870     value="#2" %
10871     \the\Field@toks>%
10872 }%
10873 \HCode{</button>}%
10874 \egroup
10875 }
10876 \def\@Submit[#1]#2{%
10877 \HCode{<button type="submit">#2</button>}%
10878 }
10879 \def\@Reset[#1]#2{%
10880 \HCode{<button type="reset">#2</button>}%
10881 }
10882 \def\@CheckBox[#1]#2{% parameters, label
10883 \let\Hy@reserved@a\@empty

```

```

10884 \def\Fld@name{#2}%
10885 \def\Fld@default{0}%
10886 \bgroup
10887 \Field@toks={ }%
10888 \setkeys{Field}{#1}%
10889 \HCode{<input type="checkbox" %
10890 \ifFld@checked checked \fi
10891 \ifFld@disabled disabled \fi
10892 \ifFld@readonly readonly \fi
10893 name="\Fld@name" %
10894 \ifFld@hidden type="hidden" \fi
10895 value="\Fld@default" %
10896 \the\Field@toks>%
10897 #2%
10898 }%
10899 \egroup
10900 }
10901 </tex4ht>

```

47.4 pdfTeX

```

10902 <*pdfTeX>
10903 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10904 \typeout{Sorry, pdfTeX does not support FORM gauges}%
10905 }
10906 \def\MakeFieldObject#1#2{\sbox0{#1}%
10907 \immediate\pdfxform0 %
10908 \expandafter\edef\csname #2Object\endcsname{%
10909 \the\pdfastxform\space 0 R%
10910 }%
10911 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
10912 }%
10913 \def\HyField@afields{}
10914 \begingroup\expandafter\expandafter\expandafter\endgroup
10915 \expandafter\ifx\csname pdfastlink\endcsname\relax
10916 \let\HyField@AddToFields\relax
10917 \PackageInfo{hyperref}{%
10918 You need pdfTeX 1.40.0 for setting the /Fields entry.%
10919 \MessageBreak
10920 Adobe Reader/Acrobat accepts an empty /Field array,%
10921 \MessageBreak
10922 but other PDF viewers might complain%
10923 }%
10924 \else
10925 \def\HyField@AddToFields{%
10926 \xdef\HyField@afields{%
10927 \ifx\HyField@afields\@empty
10928 \else
10929 \HyField@afields
10930 \space
10931 \fi
10932 \the\pdfastlink\space 0 R%
10933 }%
10934 }%
10935 \fi
10936 \def\@Form[#1]{%
10937 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10938 \setkeys{Form}{#1}%

```



```

10939 \Hy@FormObjects
10940 \ifnum\pdftexversion>13 %
10941 \pdfrefobj\OBJ@pdfdocencoding
10942 \pdfrefobj\OBJ@ZaDb
10943 \pdfrefobj\OBJ@Helv
10944 \fi
10945 \AtEndDocument{%
10946 \immediate\pdfobj{%
10947 <<%
10948 /Fields[\HyField@afields]%
10949 /DR<<%
10950 /Font<<%
10951 /ZaDb \OBJ@ZaDb\space 0 R%
10952 /Helv \OBJ@Helv\space 0 R%
10953 >>%
10954 >>%
10955 /DA(/Helv 10 Tf 0 g)%
10956 \ifHy@pdfa
10957 \else
10958 /NeedAppearances true%
10959 \fi
10960 >>%
10961 }%
10962 \edef\OBJ@acroform{\the\pdfastobj}%
10963 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10964 }%
10965 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10966 \begingroup
10967 \fontfamily{pzd}%
10968 \fontencoding{U}%
10969 \fontseries{m}%
10970 \fontshape{n}%
10971 \selectfont
10972 \char123 %
10973 \endgroup
10974 }{Ding}%
10975 \MakeFieldObject{%
10976 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10977 }{Submit}%
10978 \MakeFieldObject{%
10979 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10980 }{SubmitP}%
10981 }
10982 \def\@endForm{}
10983 \def\@TextField[#1]#2{% parameters, label
10984 \def\Fld@name{#2}%
10985 \def\Fld@default{}%
10986 \let\Fld@value\@empty
10987 \def\Fld@width{\DefaultWidthofText}%
10988 \def\Fld@height{%
10989 \ifFld@multiline
10990 \DefaultHeightofTextMultiline
10991 \else
10992 \DefaultHeightofText
10993 \fi
10994 }%

```

```

10995 \begingroup
10996 \Field@toks={ }%
10997 \expandafter\HyField@SetKeys\expandafter{%
10998 \DefaultOptionsofText,#1%
10999 }%
11000 \PDFForm@Name
11001 \HyField@FlagsText
11002 \ifFld@hidden\def\Fld@width{1sp}\fi
11003 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11004 \LayoutTextField{#2}{%
11005 \Hy@escapeform\PDFForm@Text
11006 \pdfstartlink user {\PDFForm@Text}\relax
11007 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11008 \HyField@AddToFields
11009 }%
11010 \endgroup
11011 }
11012 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11013 \def\Fld@name{#2}%
11014 \let\Fld@default\relax
11015 \let\Fld@value\relax
11016 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11017 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11018 \begingroup
11019 \Fld@menulength=0 %
11020 \@tempdima\z@
11021 \@for\@curropt:=#3\do{%
11022 \expandafter\Fld@checkequals\@curropt==\%
11023 \Hy@StepCount\Fld@menulength
11024 \settowidth{\@tempdimb}{\@currDisplay}%
11025 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11026 }%
11027 \advance\@tempdima by 15\p@
11028 \Field@toks={ }%
11029 \begingroup
11030 \HyField@SetKeys{#1}%
11031 \edef\x{\endgroup
11032 \noexpand\expandafter
11033 \noexpand\HyField@SetKeys
11034 \noexpand\expandafter{%
11035 \expandafter\noexpand\csname DefaultOptionsof%
11036 \ifFld@radio
11037 Radio%
11038 \else
11039 \ifFld@combo
11040 \ifFld@popdown
11041 PopdownBox%
11042 \else
11043 ComboBox%
11044 \fi
11045 \else
11046 ListBox%
11047 \fi
11048 \fi
11049 \endcsname
11050 }%
11051 }\x

```

```

11052 \HyField@SetKeys{#1}%
11053 \PDFForm@Name
11054 \ifFld@hidden\def\Fld@width{1sp}\fi
11055 \ifx\Fld@value\relax
11056 \let\Fld@value\Fld@default
11057 \fi
11058 \LayoutChoiceField{#2}{%
11059 \ifFld@radio
11060 \HyField@FlagsRadioButton
11061 \@@Radio{#3}%
11062 \else
11063 \beginngroup
11064 \HyField@FlagsChoice
11065 \ifdim\Fld@width<\@tempdima
11066 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11067 \edef\Fld@width{\the\@tempdima}%
11068 \fi
11069 \ifFld@combo
11070 \else
11071 \@tempdima=\the\Fld@menulength\Fld@charsize
11072 \advance\@tempdima by \Fld@borderwidth bp %
11073 \advance\@tempdima by \Fld@borderwidth bp %
11074 \edef\Fld@height{\the\@tempdima}%
11075 \fi
11076 \@@ListBox{#3}%
11077 \endgroup
11078 \fi
11079 }%
11080 \endgroup
11081 }
11082 \def\@@Radio#1{%
11083 \Fld@listcount=0 %
11084 \@for\@curropt:=#1\do{%
11085 \expandafter\Fld@checkequals\@curropt==\%
11086 \Hy@StepCount\Fld@listcount
11087 \@currDisplay\space
11088 \leavevmode
11089 \Hy@escapeform\PDFForm@Radio
11090 \pdfstartlink user {%
11091 \PDFForm@Radio
11092 /AP<<%
11093 /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.

```

11094 /\@currValue\space \DingObject
11095 >>%
11096 >>%
11097 }%
11098 \relax
11099 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11100 \ifnum\Fld@listcount=1 %
11101 \HyField@AddToFields
11102 \fi
11103 \space % deliberate space between radio buttons
11104 }%
11105 }

```

```

11106 \newcount\Fld@listcount
11107 \def\@@ListBox#1{%
11108   \HyField@PDFChoices{#1}%
11109   \leavevmode
11110   \Hy@escapeform\PDFForm@List
11111   \pdfstartlink user {\PDFForm@List}\relax
11112   \MakeChoiceField{\Fld@width}{\Fld@height}%
11113   \pdfendlink
11114   \HyField@AddToFields
11115 }
11116 \def\@PushButton[#1]#2{% parameters, label
11117   \def\Fld@name{#2}%
11118   \begingroup
11119     \Field@toks={ }%
11120     \expandafter\HyField@SetKeys\expandafter{%
11121       \DefaultOptionsofPushButton,#1%
11122     }%
11123     \PDFForm@Name
11124     \ifHy@pdfa
11125       \PackageError{hyperref}{%
11126         PDF/A: Push button with JavaScript is prohibited%
11127       }\@ehc
11128       \LayoutPushButtonField{%
11129         \leavevmode
11130         \MakeButtonField{#2}%
11131       }%
11132     \else
11133       \HyField@FlagsPushButton
11134       \ifFld@hidden\def\Fld@width{1sp}\fi
11135       \LayoutPushButtonField{%
11136         \leavevmode
11137         \Hy@escapeform\PDFForm@Push
11138         \pdfstartlink user {\PDFForm@Push}\relax
11139         \MakeButtonField{#2}%
11140         \pdfendlink
11141         \HyField@AddToFields
11142       }%
11143     \fi
11144   \endgroup
11145 }
11146 \def\@Submit[#1]#2{%
11147   \Field@toks={ }%
11148   \def\Fld@width{\DefaultWidthofSubmit}%
11149   \def\Fld@height{\DefaultHeightofSubmit}%
11150   \begingroup
11151     \expandafter\HyField@SetKeys\expandafter{%
11152       \DefaultOptionsofSubmit,#1%
11153     }%
11154     \HyField@FlagsPushButton
11155     \HyField@FlagsSubmit
11156     \ifFld@hidden\def\Fld@width{1sp}\fi
11157     \leavevmode
11158     \Hy@escapeform\PDFForm@Submit
11159     \pdfstartlink user {%
11160       \PDFForm@Submit
11161       /AP<</N \SubmitObject/D \SubmitPObject>>%
11162     }%

```

```

11163 \relax
11164 \MakeButtonField{#2}%
11165 \pdfendlink
11166 \HyField@AddToFields
11167 \endgroup
11168 }
11169 \def\@Reset[#1]#2{%
11170 \Field@toks={ }%
11171 \def\Fld@width{\DefaultWidthofReset}%
11172 \def\Fld@height{\DefaultHeightofReset}%
11173 \begingroup
11174 \expandafter\HyField@SetKeys\expandafter{%
11175 \DefaultOptionsofReset,#1%
11176 }%
11177 \leavevmode
11178 \ifHy@pdfa
11179 \PackageError{hyperref}{%
11180 PDF/A: Reset action is prohibited%
11181 }\@ehc
11182 \MakeButtonField{#2}%
11183 \else
11184 \HyField@FlagsPushButton
11185 \ifFld@hidden\def\Fld@width{1sp}\fi
11186 \Hy@escapeform\PDFForm@Reset
11187 \pdfstartlink user {\PDFForm@Reset}\relax
11188 \MakeButtonField{#2}%
11189 \pdfendlink
11190 \HyField@AddToFields
11191 \fi
11192 \endgroup
11193 }
11194 \def\@CheckBox[#1]#2{% parameters, label
11195 \def\Fld@name{#2}%
11196 \def\Fld@default{0}%
11197 \begingroup
11198 \def\Fld@width{\DefaultWidthofCheckBox}%
11199 \def\Fld@height{\DefaultHeightofCheckBox}%
11200 \Field@toks={ }%
11201 \expandafter\HyField@SetKeys\expandafter{%
11202 \DefaultOptionsofCheckBox,#1%
11203 }%
11204 \PDFForm@Name
11205 \HyField@FlagsCheckBox
11206 \ifFld@hidden\def\Fld@width{1sp}\fi
11207 \LayoutCheckField{#2}{%
11208 \Hy@escapeform\PDFForm@Check
11209 \pdfstartlink user {\PDFForm@Check}\relax
11210 \MakeCheckField{\Fld@width}{\Fld@height}%
11211 \pdfendlink
11212 \HyField@AddToFields
11213 }%
11214 \endgroup
11215 }
11216 \def\Hy@FormObjects{%
11217 \pdfobj {%
11218 <<%
11219 /Type/Encoding%

```

```

11220 /Differences[%
11221 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11222 /ring/tilde %
11223 39/quotesingle %
11224 96/grave %
11225 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11226 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11227 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11228 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11229 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11230 164/currency %
11231 166/brokenbar %
11232 168/dieresis/copyright/ordfeminine %
11233 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11234 /twosuperior/threesuperior/acute/mu %
11235 183/periodcentered/cedilla/onesuperior/ordmasculine %
11236 188/onequarter/onehalf/threequarters %
11237 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11238 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11239 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11240 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11241 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11242 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11243 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11244 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11245 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11246 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11247 ]%
11248 >>%
11249 }%
11250 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11251 \pdfobj{%
11252 <<%
11253 /Type/Font%
11254 /Subtype/Type1%
11255 /Name/ZaDb%
11256 /BaseFont/ZapfDingbats%
11257 >>%
11258 }%
11259 \xdef\OBJ@ZaDb{\the\pdflastobj}%
11260 \pdfobj{%
11261 <<%
11262 /Type/Font%
11263 /Subtype/Type1%
11264 /Name/Helv%
11265 /BaseFont/Helvetica%
11266 /Encoding \OBJ@pdfdocencoding\space 0 R%
11267 >>%
11268 }%
11269 \xdef\OBJ@Helv{\the\pdflastobj}%
11270 \global\let\Hy@FormObjects\relax
11271 }
11272 </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.

```

11273 <*dvipdfm | xetex>

\@Gauge
11274 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11275 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11276 }

\@Form
11277 \def\@Form[#1]{%
11278 \ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11279 \setkeys{Form}{#1}%
11280 \Hy@FormObjects
11281 \@pdfm@mark{obj @afields []}%
11282 \@pdfm@mark{obj @corder []}%
11283 \@pdfm@mark{%
11284 obj @aform <<%
11285 /Fields @afields%
11286 /DR<<%
11287 /Font<<%
11288 /ZaDb @OBJZaDb%
11289 /Helv @OBJHelv%
11290 >>%
11291 >>%
11292 /DA(/Helv 10 Tf 0 g)%
11293 /CO @corder%
11294 \ifHy@pdfa
11295 \else
11296 /NeedAppearances true%
11297 \fi
11298 >>%
11299 }%
11300 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11301 }

\@endForm
11302 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
11303 \def\dvipdfm@setdim{%
11304 height \the\ht\pdfm@box\space
11305 width \the\wd\pdfm@box\space
11306 depth \the\dp\pdfm@box\space
11307 }

\HyField@AnnotCount
11308 \newcount\HyField@AnnotCount
11309 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
11310 \def\HyField@AdvanceAnnotCount{%
11311 \global\advance\HyField@AnnotCount\@ne
11312 }

\HyField@TheAnnotCount
11313 \def\HyField@TheAnnotCount{%
11314 \the\HyField@AnnotCount
11315 }

```

\@TextField

```

11316 \def\@TextField[#1]#2{% parameters, label
11317   \def\Fld@name{#2}%
11318   \def\Fld@default{}%
11319   \let\Fld@value\@empty
11320   \def\Fld@width{\DefaultWidthofText}%
11321   \def\Fld@height{%
11322     \ifFld@multiline
11323       \DefaultHeightofTextMultiline
11324     \else
11325       \DefaultHeightofText
11326     \fi
11327   }%
11328   \begingroup
11329     \Field@toks={ }%
11330     \expandafter\HyField@SetKeys\expandafter{%
11331       \DefaultOptionsofText,#1%
11332     }%
11333     \PDFForm@Name
11334     \HyField@FlagsText
11335     \ifFld@hidden\def\Fld@width{1sp}\fi
11336     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11337     \setbox\pdfm@box=\hbox{%
11338       \MakeTextField{\Fld@width}{\Fld@height}%
11339     }%
11340     \HyField@AdvanceAnnotCount
11341     \LayoutTextField{#2}{%
11342       \Hy@escapeform\PDFForm@Text
11343       \@pdfm@mark{%
11344         ann @text\HyField@TheAnnotCount\space
11345         \dvipdfm@setdim << \PDFForm@Text >>%
11346       }%
11347     }%
11348     \unhbox\pdfm@box
11349     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11350     % record in @afields array
11351   \endgroup
11352 }

```

\@ChoiceMenu

```

11353 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11354   \def\Fld@name{#2}%
11355   \let\Fld@default\relax
11356   \let\Fld@value\relax
11357   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11358   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11359   \begingroup
11360     \Fld@menulength=0 %
11361     \@tempdima\z@
11362     \@for\@curropt:=#3\do{%
11363       \expandafter\Fld@checkequals\@curropt==\%
11364       \Hy@StepCount\Fld@menulength
11365       \settowidth{\@tempdimb}{\@currDisplay}%
11366       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11367     }%
11368     \advance\@tempdima by 15\p@
11369     \Field@toks={ }%

```



```

11370 \begingroup
11371   \HyField@SetKeys{#1}%
11372 \edef\x{\endgroup
11373   \noexpand\expandafter
11374   \noexpand\HyField@SetKeys
11375   \noexpand\expandafter{%
11376     \expandafter\noexpand\csname DefaultOptionsof%
11377       \Fld@radio
11378       Radio%
11379     \else
11380       \ifFld@combo
11381       \ifFld@popdown
11382       PopdownBox%
11383       \else
11384       ComboBox%
11385       \fi
11386       \else
11387       ListBox%
11388       \fi
11389     \fi
11390   \endcsname
11391   }%
11392 } \x
11393 \HyField@SetKeys{#1}%
11394 \PDFForm@Name
11395 \ifFld@hidden\def\Fld@width{1sp}\fi
11396 \ifx\Fld@value\relax
11397   \let\Fld@value\Fld@default
11398 \fi
11399 \LayoutChoiceField{#2}{%
11400   \ifFld@radio
11401     \HyField@FlagsRadioButton
11402     \@@Radio{#3}%
11403   \else
11404     \begingroup
11405       \HyField@FlagsChoice
11406       \ifdim\Fld@width<\@tempdima
11407         \ifdim\@tempdima<1cm\@tempdima1cm\fi
11408         \edef\Fld@width{\the\@tempdima}%
11409       \fi
11410       \ifFld@combo
11411       \else
11412         \@tempdima=\the\Fld@menulength\Fld@charsize
11413         \advance\@tempdima by \Fld@borderwidth bp %
11414         \advance\@tempdima by \Fld@borderwidth bp %
11415         \edef\Fld@height{\the\@tempdima}%
11416       \fi
11417       \@@ListBox{#3}%
11418     \endgroup
11419   \fi
11420 }%
11421 \endgroup
11422 }

```

\@@Radio

```

11423 \def\@@Radio#1{%
11424   \Fld@listcount=0 %

```

```

11425 \setbox\pdfm@box=\hbox{%
11426   \MakeRadioField{\Fld@width}{\Fld@height}%
11427 }%
11428 \@for\@curropt:=#1\do{%
11429   \expandafter\Fld@checkequals\@curropt==\%
11430   \Hy@StepCount\Fld@listcount
11431   \@currDisplay\space
11432   \leavevmode
11433   \Hy@escapeform\PDFForm@Radio
11434   \ifnum\Fld@listcount=1 %
11435     \HyField@AdvanceAnnotCount
11436   \fi
11437   \@pdfm@mark{%
11438     ann %
11439     \ifnum\Fld@listcount=1 %
11440       @radio\HyField@TheAnnotCount%
11441     \space
11442   \fi
11443   \dvipdfm@setdim
11444   <<%
11445     \PDFForm@Radio
11446     /AP<</N<</\@currValue /null>>>>%
11447   >>%
11448 }%
11449 \unhcopy\pdfm@box\space% deliberate space between radio buttons
11450 \ifnum\Fld@listcount=1 %
11451   \@pdfm@mark{%
11452     put @afields @radio\HyField@TheAnnotCount
11453   }%
11454 \fi
11455 }%
11456 }

```

\Fld@listcount

```

11457 \newcount\Fld@listcount

```

\@@ListBox

```

11458 \def\@@ListBox#1{%
11459   \HyField@PDFChoices{#1}%
11460   \setbox\pdfm@box=\hbox{%
11461     \MakeChoiceField{\Fld@width}{\Fld@height}%
11462   }%
11463   \leavevmode
11464   \Hy@escapeform\PDFForm@List
11465   \HyField@AdvanceAnnotCount
11466   \@pdfm@mark{%
11467     ann @list\HyField@TheAnnotCount\space
11468     \dvipdfm@setdim
11469     <<\PDFForm@List>>%
11470   }%
11471   \unhbox\pdfm@box
11472   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11473 }

```

\@PushButton

```

11474 \def\@PushButton[#1]#2{% parameters, label
11475   \def\Fld@name{#2}%

```

```

11476 \begingroup
11477 \Field@toks={ }%
11478 \expandafter\HyField@SetKeys\expandafter{%
11479 \DefaultOptionsofPushButton,#1%
11480 }%
11481 \PDFForm@Name
11482 \ifHy@pdfa
11483 \PackageError{hyperref}{%
11484 PDF/A: Push button with JavaScript is prohibited%
11485 }\@ehc
11486 \LayoutPushButtonField{%
11487 \leavevmode
11488 \MakeButtonField{#2}%
11489 }%
11490 \else
11491 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11492 \HyField@FlagsPushButton
11493 \ifFld@hidden\def\Fld@width{1sp}\fi
11494 \HyField@AdvanceAnnotCount
11495 \LayoutPushButtonField{%
11496 \leavevmode
11497 \Hy@escapeform\PDFForm@Push
11498 \@pdfm@mark{%
11499 ann @push\HyField@TheAnnotCount\space
11500 \dvipdfm@setdim
11501 <<\PDFForm@Push>>%
11502 }%
11503 }%
11504 \unhbox\pdfm@box
11505 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11506 \fi
11507 \endgroup
11508 }

```

\@Submit

```

11509 \def\@Submit[#1]#2{%
11510 \Field@toks={ }%
11511 \def\Fld@width{\DefaultWidthofSubmit}%
11512 \def\Fld@height{\DefaultHeightofSubmit}%
11513 \begingroup
11514 \expandafter\HyField@SetKeys\expandafter{%
11515 \DefaultOptionsofSubmit,#1%
11516 }%
11517 \HyField@FlagsPushButton
11518 \HyField@FlagsSubmit
11519 \ifFld@hidden\def\Fld@width{1sp}\fi
11520 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11521 \leavevmode
11522 \Hy@escapeform\PDFForm@Submit
11523 \HyField@AdvanceAnnotCount
11524 \@pdfm@mark{%
11525 ann @submit\HyField@TheAnnotCount\space
11526 \dvipdfm@setdim
11527 <<\PDFForm@Submit>>%
11528 }%
11529 \unhbox\pdfm@box%
11530 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%

```

```

11531 \endgroup
11532 }

\@Reset
11533 \def\@Reset[#1]#2{%
11534   \Field@toks={ }%
11535   \def\Fld@width{\DefaultWidthofReset}%
11536   \def\Fld@height{\DefaultHeightofReset}%
11537   \begingroup
11538     \expandafter\HyField@SetKeys\expandafter{%
11539       \DefaultOptionsofReset,#1%
11540     }%
11541     \leavevmode
11542     \ifHy@pdfa
11543       \PackageError{hyperref}{%
11544         PDF/A: Reset action is prohibited%
11545       }\@ehc
11546       \MakeButtonField{#2}%
11547     \else
11548       \HyField@FlagsPushButton
11549       \ifFld@hidden\def\Fld@width{1sp}\fi
11550       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11551       \Hy@escapeform\PDFForm@Reset
11552       \HyField@AdvanceAnnotCount
11553       \@pdfm@mark{%
11554         ann @reset\HyField@TheAnnotCount\space
11555         \dvipdfm@setdim
11556         <<\PDFForm@Reset>>%
11557       }%
11558       \unhbox\pdfm@box
11559       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11560     \fi
11561   \endgroup
11562 }

\@CheckBox
11563 \def\@CheckBox[#1]#2{% parameters, label
11564   \def\Fld@name{#2}%
11565   \def\Fld@default{0}%
11566   \begingroup
11567     \def\Fld@width{\DefaultWidthofCheckBox}%
11568     \def\Fld@height{\DefaultHeightofCheckBox}%
11569     \Field@toks={ }%
11570     \expandafter\HyField@SetKeys\expandafter{%
11571       \DefaultOptionsofCheckBox,#1%
11572     }%
11573     \PDFForm@Name
11574     \HyField@FlagsCheckBox
11575     \ifFld@hidden\def\Fld@width{1sp}\fi
11576     \setbox\pdfm@box=\hbox{%
11577       \MakeCheckField{\Fld@width}{\Fld@height}%
11578     }%
11579     \HyField@AdvanceAnnotCount
11580     \LayoutCheckField{#2}{%
11581       \Hy@escapeform\PDFForm@Check
11582       \@pdfm@mark{%
11583         ann @check\HyField@TheAnnotCount\space

```

```

11584      \dvipdfm@setdim
11585      <<\PDFForm@Check>>%
11586    }%
11587    \unhbox\pdfm@box
11588    \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11589  }%
11590 \endgroup
11591 }

11592 \def\Hy@FormObjects{%
11593   \@pdfm@mark{obj @OBJpdfdocencoding%
11594     <<%
11595       /Type/Encoding%
11596       /Differences[%
11597         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11598         39/quotesingle %
11599         96/grave %
11600         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11601         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11602         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11603         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11604         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11605         164/currency %
11606         166/brokenbar %
11607         168/dieresis/copyright/ordfeminine %
11608         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11609         /twosuperior/threesuperior/acute/mu %
11610         183/periodcentered/cedilla/onesuperior/ordmasculine %
11611         188/onequarter/onehalf/threequarters %
11612         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11613         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11614         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11615         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11616         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11617         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11618         /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11619         /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11620         /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11621         /thorn/ydieresis%
11622       ]%
11623     >>%
11624   }%
11625   \@pdfm@mark{obj @OBJZaDb%
11626     <<%
11627       /Type/Font%
11628       /Subtype/Type1%
11629       /Name/ZaDb%
11630       /BaseFont/ZapfDingbats%
11631     >>%
11632   }%
11633   \@pdfm@mark{obj @OBJHelv%
11634     <<%
11635       /Type/Font%
11636       /Subtype/Type1%
11637       /Name/Helv%
11638       /BaseFont/Helvetica%
11639       /Encoding @OBJpdfdocencoding%
11640     >>%

```

```

11641 }%
11642 \global\let\Hy@FormObjects\relax
11643 }
11644 </dvipdfm | xetex>

```

47.6 Common forms part

```

11645 <*pdfform>

```

\Hy@escapestring

```

11646 \begingroup\expandafter\expandafter\expandafter\endgroup
11647 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11648 \let\Hy@escapestring\@firstofone
11649 \def\Hy@escapeform#1{%
11650   \ifHy@escapeform
11651     \def\Hy@escapestring##1{%
11652       \noexpand\Hy@escapestring{\noexpand##1}%
11653     }%
11654     \edef\Hy@temp{#1}%
11655     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11656     \def\Hy@escapestring##1{%
11657       \@ifundefined{Hy@esc@\string##1}{%
11658         ##1%
11659         \ThisShouldNotHappen
11660       }{%
11661         \csname Hy@esc@\string##1\endcsname
11662       }%
11663     }%
11664   \else
11665     \let\Hy@escapestring\@firstofone
11666   \fi
11667 }%
11668 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11669   \ifx\#3\%
11670   \else
11671     \expandafter
11672     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11673     \Hy@ReturnAfterFi{%
11674       \Hy@@escapeform#3\@nil
11675     }%
11676   \fi
11677 }%
11678 \else
11679 \def\Hy@escapeform#1{%
11680   \ifHy@escapeform
11681     \let\Hy@escapestring\pdfescapestring
11682   \else
11683     \let\Hy@escapestring\@firstofone
11684   \fi
11685 }%
11686 \Hy@escapeform{}%
11687 \fi

```

\PDFForm@Name

```

11688 \def\PDFForm@Name{%
11689   \begingroup
11690   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7

```

```

11691     \ifHy@unicode
11692     \Hy@unicodedefalse
11693     \fi
11694     \fi
11695     \pdfstringdef\Hy@gtemp\Fld@name
11696 \endgroup
11697 \let\Fld@name\Hy@gtemp
11698 }

```

\PDFForm@Check

```

11699 \def\PDFForm@Check{%
11700 /Subtype/Widget%
11701 \Fld@annotflags
11702 /T(\Fld@name)%
11703 /FT/Btn%
11704 \Fld@flags
11705 /Q \Fld@align
11706 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11707 /MK<<%
11708   \ifnum\Fld@rotation=\z@
11709   \else
11710     /R \Fld@rotation
11711   \fi
11712   \ifx\Fld@bordercolor\relax
11713   \else
11714     /BC[\Fld@bordercolor]%
11715   \fi
11716   \ifx\Fld@bcolor\relax
11717   \else
11718     /BG[\Fld@bcolor]%
11719   \fi
11720   /CA(\Hy@escapestring{\Fld@cbsymbol})%
11721 >>%
11722 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11723   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11724 /H/P%
11725 \ifFld@checked /V/Yes\else /V/Off\fi
11726 }

```

\PDFForm@Push

```

11727 \ifHy@pdfa
11728 \else
11729   \def\PDFForm@Push{%
11730 /Subtype/Widget%
11731 \Fld@annotflags
11732 /T(\Fld@name)%
11733 /FT/Btn%
11734 \Fld@flags
11735 /H/P%
11736 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11737 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11738   \ifx\Fld@bordercolor\relax\else 1\fi
11739   \space
11740 \else
11741   /MK<<%
11742   \ifnum\Fld@rotation=\z@
11743   \else

```

```

11744         /R \Fld@rotation
11745     \fi
11746     \ifx\Fld@bordercolor\relax
11747     \else
11748         /BC[\Fld@bordercolor]%
11749     \fi
11750     >>%
11751 \fi
11752 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11753 }%
11754 \fi

```

\Fld@additionalactions

```

11755 \def\Fld@@additionalactions{%
K input (keystroke) format
11756 \ifx\Fld@keystroke@code\@empty
11757 \else
11758     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11759 \fi

```

F display format

```

11760 \ifx\Fld@format@code\@empty
11761 \else
11762     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11763 \fi

```

V validation

```

11764 \ifx\Fld@validate@code\@empty
11765 \else
11766     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11767 \fi

```

C calculation

```

11768 \ifx\Fld@calculate@code\@empty
11769 \else
11770     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11771 \fi

```

Fo receiving the input focus

```

11772 \ifx\Fld@onfocus@code\@empty
11773 \else
11774     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11775 \fi

```

Bl loosing the input focus (blurred)

```

11776 \ifx\Fld@onblur@code\@empty
11777 \else
11778     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11779 \fi

```

D pressing the mouse button (down)

```

11780 \ifx\Fld@onmousedown@code\@empty
11781 \else
11782     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11783 \fi

```

U releasing the mouse button (up)

```

11784 \ifx\Fld@onmouseup@code\@empty
11785 \else

```



```

11786 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11787 \fi
E cursor enters the annotation's active area.
11788 \ifx\Fld@onenter@code\@empty
11789 \else
11790 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11791 \fi
X cursor exits the annotation's active area.
11792 \ifx\Fld@onexit@code\@empty
11793 \else
11794 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11795 \fi
11796 }
11797 \def\Fld@additionalactions{%
11798 \if\Fld@@additionalactions-%
11799 \else
11800 \ifHy@pdfa
11801 \else
11802 /AA<<\Fld@@additionalactions>>%
11803 \fi
11804 \fi
11805 }

```

\PDFForm@List

```

11806 \def\PDFForm@List{%
11807 /Subtype/Widget%
11808 \Fld@annotflags
11809 /T(\Fld@name)%
11810 /FT/Ch%
11811 \Fld@flags
11812 /Q \Fld@align
11813 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11814 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11815 \ifx\Fld@bordercolor\relax\else 1\fi
11816 \ifx\Fld@bcolor\relax \else 1\fi
11817 \space
11818 \else
11819 /MK<<%
11820 \ifnum\Fld@rotation=\z@
11821 \else
11822 /R \Fld@rotation
11823 \fi
11824 \ifx\Fld@bordercolor\relax
11825 \else
11826 /BC[\Fld@bordercolor]%
11827 \fi
11828 \ifx\Fld@bcolor\relax
11829 \else
11830 /BG[\Fld@bcolor]%
11831 \fi
11832 >>%
11833 \fi
11834 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11835 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11836 \Fld@choices
11837 \Fld@additionalactions

```

11838 }

\PDFForm@Radio

```
11839 \def\PDFForm@Radio{%
11840   /Subtype/Widget%
11841   \Fld@annotflags
11842   /T(\Fld@name)%
11843   /FT/Btn%
11844   \Fld@flags
11845   /H/P%
11846   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11847   /MK<<%
11848     \ifnum\Fld@rotation=\z@
11849     \else
11850       /R \Fld@rotation
11851     \fi
11852     \ifx\Fld@bordercolor\relax
11853     \else
11854       /BC[\Fld@bordercolor]%
11855     \fi
11856     \ifx\Fld@bcolor\relax
11857     \else
11858       /BG[\Fld@bcolor]%
11859     \fi
11860     /CA(\Fld@radiosymbol)%
11861   >>%
11862   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11863     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11864   \ifx\@currValue\Fld@default
11865     /V/\Fld@default
11866   \else
11867     /V/Off%
11868   \fi
11869   \Fld@additionalactions
11870 }
```

\PDFForm@Text

```
11871 \def\PDFForm@Text{%
11872   /Subtype/Widget%
11873   \Fld@annotflags
11874   /T(\Fld@name)%
11875   /FT/Tx%
11876   \Fld@flags
11877   /Q \Fld@align
11878   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11879   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11880     \ifx\Fld@bordercolor\relax\else 1\fi
11881     \ifx\Fld@bcolor\relax \else 1\fi
11882     \space
11883   \else
11884     /MK<<%
11885     \ifnum\Fld@rotation=\z@
11886     \else
11887       /R \Fld@rotation
11888     \fi
11889     \ifx\Fld@bordercolor\relax
11890     \else
```

```

11891      /BC[\Fld@bordercolor]%
11892      \fi
11893      \ifx\Fld@bcolor\relax
11894      \else
11895      /BG[\Fld@bcolor]%
11896      \fi
11897      >>%
11898  \fi
11899  /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11900      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11901  /DV(\Hy@escapestring{\Fld@default})%
11902  /V(\Hy@escapestring{\Fld@value})%
11903  \Fld@additionalactions
11904  \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11905 }

```

\PDFForm@Submit

```

11906 \def\PDFForm@Submit{%
11907   /Subtype/Widget%
11908   \Fld@annotflags
11909   /T(\Fld@name)%
11910   /FT/Btn%
11911   \Fld@flags
11912   /H/P%
11913   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11914   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11915       \ifx\Fld@bordercolor\relax\else 1\fi
11916       \space
11917   \else
11918   /MK<<%
11919       \ifnum\Fld@rotation=\z@
11920       \else
11921       /R \Fld@rotation
11922       \fi
11923       \ifx\Fld@bordercolor\relax
11924       \else
11925       /BC[\Fld@bordercolor]%
11926       \fi
11927       >>%
11928   \fi
11929   /A<<%
11930   /S/SubmitForm%
11931   /F<<%
11932   /FS/URL%
11933   /F(\Hy@escapestring{\Form@action})%
11934   >>%
11935   \Fld@submitflags
11936   >>%
11937 }

```

\PDFForm@Reset

```

11938 \ifHy@pdfa
11939 \else
11940 \def\PDFForm@Reset{%
11941   /Subtype/Widget%
11942   \Fld@annotflags
11943   /T(\Fld@name)%

```

```

11944 /FT/Btn%
11945 \Fld@flags
11946 /H/P%
11947 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11948 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11949 \ifx\Fld@bordercolor\relax\else 1\fi
11950 \space
11951 \else
11952 /MK<<%
11953 \ifnum\Fld@rotation=\z@
11954 \else
11955 /R \Fld@rotation
11956 \fi
11957 \ifx\Fld@bordercolor\relax
11958 \else
11959 /BC[\Fld@bordercolor]%
11960 \fi
11961 % /CA (Clear)
11962 % /AC (Done)
11963 >>%
11964 \fi
11965 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11966 /A<</S/ResetForm>>%
11967 }%
11968 \fi

11969 </pdfform>
11970 <*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 \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

11971 \def\phantomsection{%
11972 \Hy@GlobalStepCount\Hy@linkcounter
11973 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11974 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11975 }
11976 </package>

```

48.1 Bookmarks

```
11977 <*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

ε -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.

```

11978 \def\Hy@writebookmark#1#2#3#4#5{%
11979   % section number, text, label, level, file
11980   \ifx\WriteBookmarks\relax%
11981   \else
11982     \ifnum#4>\Hy@bookmarksdepth\relax
11983     \else
11984       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11985     \fi
11986   \fi
11987 }
11988 \def\Hy@currentbookmarklevel{0}
11989 \def\Hy@numberline#1{#1 }
11990 \def\@writetorep#1#2#3#4#5{%
11991   \begingroup
11992     \edef\Hy@tempa{#5}%
11993     \ifx\Hy@tempa\Hy@bookmarkstype
11994       \edef\Hy@level{#4}%
11995       \ifx\Hy@levelcheck Y%
11996         \@tempcnta\Hy@level\relax
11997         \advance\@tempcnta by -1 %
11998         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11999           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12000           \advance\@tempcnta by 1 %
12001           \Hy@Warning{%
12002             Difference (\the\@tempcnta) between bookmark levels is %
12003             greater \MessageBreak than one, level fixed%
12004           }%
12005           \@tempcnta\Hy@currentbookmarklevel
12006           \advance\@tempcnta by 1 %
12007           \edef\Hy@level{\the\@tempcnta}%
12008         \fi
12009       \else
12010         \global\let\Hy@levelcheck Y%
12011       \fi
12012       \global\let\Hy@currentbookmarklevel\Hy@level
12013       \@tempcnta\Hy@level\relax
12014       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12015       \advance\@tempcnta by -1 %
12016       \edef\Hy@tempa{#3}%
12017       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12018       \ifx\Hy@tempa\Hy@tempb
12019         \Hy@Warning{%
12020           The anchor of a bookmark and its parent's must not%
12021           \MessageBreak be the same. Added a new anchor%
12022         }%
12023       \phantomsection
12024     \fi
12025     \ifHy@bookmarksnumbered
12026       \let\numberline\Hy@numberline
12027       \let\partnumberline\Hy@numberline

```

```

12028 \let\chapternumberline\Hy@numberline
12029 \else
12030 \let\numberline\@gobble
12031 \let\partnumberline\@gobble
12032 \let\chapternumberline\@gobble
12033 \fi
12034 \pdfstringdef\Hy@tempa{#2}%
12035 \if@filesw
12036 \stepcounter{bookmark@seq@number}%
12037 \protected@write\@outlinefile{}{%
12038 \protect\BOOKMARK
12039 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12040 {\Hy@tempa}{\Hy@tempb}}%
12041 \@percentchar\space\thebookmark@seq@number
12042 }%
12043 \fi
12044 \fi
12045 \endgroup
12046 }
12047 \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 `]`.

```

12048 \newcommand{\currentpdfbookmark}{%
12049 \pdfbookmark[\Hy@currentbookmarklevel]%
12050 }
12051 \newcommand{\subpdfbookmark}{%
12052 \@tempcnta\Hy@currentbookmarklevel
12053 \Hy@StepCount\@tempcnta
12054 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12055 }
12056 \newcommand{\belowpdfbookmark}[2]{%
12057 \@tempcnta\Hy@currentbookmarklevel
12058 \Hy@StepCount\@tempcnta
12059 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12060 \advance\@tempcnta by -1 %
12061 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12062 }

```

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.

```

12063 \renewcommand\pdfbookmark[3][0]{%
12064 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12065 \hyper@anchorstart{#3.#1}\hyper@anchorend
12066 }
12067 \def\BOOKMARK{%
12068 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12069 }
12070 \def\@BOOKMARK[#1]{%
12071 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
12072 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

12073 \RequirePackage{rerunfilecheck}[2009/12/10]

```

```

12074 \def\Hy@OutlineRerunCheck{%
12075   \RerunFileCheck{\jobname.out}{}%
12076   \immediate\closeout\@outlinefile
12077 }{%
12078   Rerun to get outlines right\MessageBreak
12079   or use package 'bookmark'%
12080 }%
12081 }

```

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 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.

```

12082 (*vtex)
12083 \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.

```

12084 \begingroup
12085   \catcode'\'=12 %
12086   \ifnum\Hy@VTeXversion<650 %
12087     \catcode'\=12 %
12088     \gdef\hv@pdf@char#1#2#3{%
12089       \char
12090       \ifcase'#1#2#3 %
12091         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12092         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12093         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12094         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12095         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12096         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12097         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12098         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12099         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12100         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12101         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12102         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12103         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12104         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12105         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12106         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12107         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12108         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12109         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12110         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12111         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12112         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12113         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12114         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12115         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12116         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12117         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12118         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

```

```

12119 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12120 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12121 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12122 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12123 \fi
12124 }%
12125 \else
12126 \gdef\hv@pdf@char{\char'}%
12127 \fi
12128 \endgroup

```

\@@BOOKMARK

```

12129 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12130 \expandafter\edef\csname @count@#3\endcsname{%
12131 \the\@serial@counter
12132 }%
12133 \edef\@mycount{\the\@serial@counter}%
12134 \Hy@StepCount\@serial@counter
12135 \edef\@parcount{%
12136 \expandafter\ifx\csname @count@#5\endcsname\relax
12137 0%
12138 \else
12139 \csname @count@#5\endcsname
12140 \fi
12141 }%
12142 \immediate\special{%
12143 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12144 s=\ifx#2-c\else o\fi,t=#4%
12145 }%
12146 }%

```

\ReadBookmarks

```

12147 \def\ReadBookmarks{%
12148 \begingroup
12149 \def\0{\hv@pdf@char 0}%
12150 \def\1{\hv@pdf@char 1}%
12151 \def\2{\hv@pdf@char 2}%
12152 \def\3{\hv@pdf@char 3}%
12153 \def\{({}%
12154 \def\)}{)%
12155 \def\do##1{%
12156 \ifnum\the\catcode'##1=\active
12157 \@makeother##1%
12158 \fi
12159 }%
12160 \dospecials
12161 \InputIfFileExists{\jobname.out}{\}{}%
12162 \endgroup
12163 \ifx\WriteBookmarks\relax
12164 \else
12165 \if@filesw
12166 \newwrite\@outlinefile
12167 \Hy@OutlineRerunCheck
12168 \immediate\openout\@outlinefile=\jobname.out\relax
12169 \ifHy@typexml
12170 \immediate\write\@outlinefile{<relaxxml>\relax}%
12171 \fi

```



```

12172 \fi
12173 \fi
12174 }

12175 </vtex>
12176 <*!vtex>
12177 \def\ReadBookmarks{%
12178 \begingroup
12179 \escapechar='\'%
12180 \let\escapechar\@gobble %
12181 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12182 \calc@bm@number{##5}%
12183 }%
12184 \InputIfFileExists{\jobname.out}{-}{-}%
12185 \ifx\WriteBookmarks\relax
12186 \global\let\WriteBookmarks\relax
12187 \fi
12188 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12189 \def\Hy@temp{##4}%
12190 <*pdfTex>
12191 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12192 \Hy@OutlineName{\Hy@pstringName%
12193 ##2\check@bm@number{##3}}%
12194 }{%
12195 \expandafter\strip@prefix\meaning\Hy@temp
12196 }%
12197 </pdfTex>
12198 <*pdfmark>
12199 \pdfmark{%
12200 pdfmark=/OUT,%
12201 Count={##2\check@bm@number{##3}},%
12202 Dest={##3},%
12203 Title=\expandafter\strip@prefix\meaning\Hy@temp
12204 }%
12205 </pdfmark>
12206 <*dvipdfm | xetex>
12207 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12208 \@pdfm@mark{%
12209 outline \ifHy@DvipdfmxOutlineOpen
12210 [%
12211 \ifnum##21>\z@
12212 \else
12213 -%
12214 \fi
12215 ] %
12216 \fi
12217 ##1<<%
12218 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12219 /A<<%
12220 /S/GoTo%
12221 /D(\Hy@pstringName)%
12222 >>%
12223 >>%
12224 }%
12225 </dvipdfm | xetex>
12226 }%
12227 {%
12228 \def\WriteBookmarks{0}%

```

```

12229 \InputIfFileExists{\jobname.out}{-}{-}%
12230 }%
12231 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
12232 \ifx\WriteBookmarks\relax
12233 \else
12234 \if@filesw
12235 \newwrite\@outlinefile
12236 \Hy@OutlineRerunCheck
12237 \immediate\openout\@outlinefile=\jobname.out\relax
12238 \ifHy@typexml
12239 \immediate\write\@outlinefile{<relaxxml>\relax}%
12240 \fi
12241 \fi
12242 \fi
12243 \endgroup
12244 }
12245 <*pdftex>
12246 \def\Hy@OutlineName#1#2#3#4{%
12247 \pdfoutline goto name{#2}count#3{#4}%
12248 }
12249 </pdftex>
12250 \def\check@bm@number#1{%
12251 \expandafter\ifx\csname B_#1\endcsname\relax
12252 0%
12253 \else
12254 \csname B_#1\endcsname
12255 \fi
12256 }
12257 \def\calc@bm@number#1{%
12258 \@tempcnta=\check@bm@number{#1}\relax
12259 \advance\@tempcnta by 1 %
12260 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12261 }
12262 </!vtex>
12263 \ifHy@implicit
12264 \else
12265 \expandafter\endinput
12266 \fi
12267 </outlines>
12268 <*outlines | hypertex>
12269 \newlength\Hy@SectionHShift
12270 \def\Hy@SectionAnchor{%
12271 \ifx\protect\@typeset@protect
12272 \Hy@@@SectionAnchor
12273 \fi
12274 }
12275 \DeclareRobustCommand*{\Hy@@@SectionAnchor}{%
12276 \leavevmode
12277 \hbox to 0pt{%
12278 \kern-\Hy@SectionHShift
12279 \Hy@raisedlink{%
12280 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12281 }%
12282 \hss
12283 }%
12284 }

```

```

12285 \let\H@old@ssect\@ssect
12286 \def\@ssect#1#2#3#4#5{%
12287   \Hy@GlobalStepCount\Hy@linkcounter
12288   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12289   \setlength\Hy@SectionHShift{#1}%
12290   \H@old@ssect{#1}{#2}{#3}{#4}{\Hy@SectionAnchor#5}%
12291 }
12292 \let\H@old@schapter\@schapter
12293 \def\@schapter#1{%
12294   \begingroup
12295     \let\@mkboth\@gobbletwo
12296     \Hy@GlobalStepCount\Hy@linkcounter
12297     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12298     \Hy@raisedlink{%
12299       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12300     }%
12301   \endgroup
12302   \H@old@schapter{#1}%
12303 }

```

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:

```

12304 \@ifundefined{@chapter}{-}{%
12305   \let\Hy@org@chapter\@chapter
12306   \def\@chapter{%
12307     \def\Hy@next{%
12308       \Hy@GlobalStepCount\Hy@linkcounter
12309       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12310       \Hy@raisedlink{%
12311         \hyper@anchorstart{\@currentHref}\hyper@anchorend
12312       }%
12313     }%
12314     \ifnum\c@secnumdepth>\m@ne
12315       \@ifundefined{if@mainmatter}%
12316       \iftrue{\csname if@mainmatter\endcsname}%
12317       \let\Hy@next\relax
12318     \fi
12319     \fi
12320     \Hy@next
12321     \Hy@org@chapter
12322   }%
12323 }
12324 \let\H@old@part\@part
12325 \begingroup\expandafter\expandafter\expandafter\endgroup
12326 \expandafter\ifx\csname chapter\endcsname\relax
12327   \let\Hy@secnum@part\z@
12328 \else
12329   \let\Hy@secnum@part\m@ne
12330 \fi
12331 \def\@part{%
12332   \ifnum\Hy@secnum@part>\c@secnumdepth
12333     \phantomsection
12334   \fi
12335   \H@old@part
12336 }
12337 \let\H@old@spart\@spart

```

```

12338 \def\@spart#1{%
12339   \Hy@GlobalStepCount\Hy@linkcounter
12340   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12341   \Hy@raisedlink{%
12342     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12343   }%
12344   \H@old@spart{#1}%
12345 }
12346 \let\H@old@sect\@sect
12347 \def\@sect#1#2#3#4#5#6[#7]#8{%
12348   \ifnum #2>\c@secnumdepth
12349     \expandafter\@firstoftwo
12350   \else
12351     \expandafter\@secondoftwo
12352   \fi
12353   {%
12354     \Hy@GlobalStepCount\Hy@linkcounter
12355     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12356     \setlength{\Hy@SectionHShift}{#3}%
12357     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{\Hy@SectionAnchor#8}%
12358   }{%
12359     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
12360   }%
12361 }

12362 </outlines | hypertex>
12363 <*outlines>

12364 \expandafter\def\csname Parent-4\endcsname{}
12365 \expandafter\def\csname Parent-3\endcsname{}
12366 \expandafter\def\csname Parent-2\endcsname{}
12367 \expandafter\def\csname Parent-1\endcsname{}
12368 \expandafter\def\csname Parent0\endcsname{}
12369 \expandafter\def\csname Parent1\endcsname{}
12370 \expandafter\def\csname Parent2\endcsname{}
12371 \expandafter\def\csname Parent3\endcsname{}
12372 \expandafter\def\csname Parent4\endcsname{}

12373 </outlines>

```

49 Compatibility with koma-script classes

```
12374 <*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.

```

12375 \def\Hy@tempa{%
12376   \def\@addchap[#1]##2{%
12377     \typeout{##2}%
12378     \if@twoside
12379       \@mkboth{##1}{}%
12380     \else
12381       \@mkboth{}{##1}%
12382     \fi
12383     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12384     \addtocontents{lot}{\protect\addvspace{10\p@}}%

```

```

12385 \Hy@GlobalStepCount\Hy@linkcounter
12386 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12387 \Hy@raisedlink{%
12388   \hyper@anchorstart{\@currentHref}\hyper@anchorend
12389 }%
12390 \if@twocolumn
12391   \@topnewpage[\@makeschapterhead{##2}]%
12392 \else
12393   \@makeschapterhead{##2}%
12394   \@afterheading
12395 \fi
12396 \addcontentsline{toc}{chapter}{##1}%
12397 }%
12398 }
12399 \@ifclassloaded{scrbook}{%
12400   \@ifclasslater{scrbook}{2001/01/01}{%
12401     \let\Hy@tempa\@empty
12402   }{}%
12403 }{%
12404   \@ifclassloaded{scrreprt}{%
12405     \@ifclasslater{scrreprt}{2001/01/01}{%
12406       \let\Hy@tempa\@empty
12407     }{}%
12408   }{%
12409     \let\Hy@tempa\@empty
12410   }%
12411 }%
12412 \Hy@tempa
12413 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

12414 <*pd1enc>
12415 \DeclareFontEncoding{PD1}{}{}

Accents
12416 \DeclareTextAccent{'}{PD1}{\textasciigrave}
12417 \DeclareTextAccent{'}{PD1}{\textacute}
12418 \DeclareTextAccent{`}{PD1}{\textasciicircum}
12419 \DeclareTextAccent{~}{PD1}{\texttilde}
12420 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
12421 \DeclareTextAccent{r}{PD1}{\textring}
12422 \DeclareTextAccent{v}{PD1}{\textasciicaron}
12423 \DeclareTextAccent{.}{PD1}{\textdotaccent}
12424 \DeclareTextAccent{c}{PD1}{\textcedilla}
12425 \DeclareTextAccent{=}{PD1}{\textasciimacron}
12426 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
12427 \DeclareTextAccent{d}{PD1}{\textdotbelow}
12428 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
12429 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
12430 \DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciicircum}
12431 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
12432 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}

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12433 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12434 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12435 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12436 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12437 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12438 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12439 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12440 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
12441 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textacute}
12442 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
12443 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12444 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12445 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12446 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12447 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12448 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12449 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12450 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12451 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12452 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12453 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12454 \DeclareTextCommand{\newtie}{PD1}[1]{%
12455   \TextSymbolUnavailable{\newtie{#1}}#1%
12456 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12457 % U+0009 (CHARACTER TABULATION)
12458 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12459 % U+000A (LINE FEED)
12460 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12461 % U+000D (CARRIAGE RETURN)
12462 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

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Accent glyph names

```

12463 % U+02D8 BREVE; breve
12464 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12465 % U+02C7 CARON; caron
12466 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12467 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12468 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12469 % U+02D9 DOT ABOVE; dotaccent
12470 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12471 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12472 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12473 % U+02DB OGONEK; ogonek
12474 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12475 % U+02DA RING ABOVE; ring
12476 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12477 % U+02DC SMALL TILDE; ilde, *tilde
12478 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

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12479 % U+0022 QUOTATION MARK; quotedbl
12480 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
12481 % U+0023 NUMBER SIGN; numbersign
12482 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
12483 % U+0024 DOLLAR SIGN; dollar
12484 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

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12485 % U+0025 PERCENT SIGN; percent
 12486 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12487 % U+0026 AMPERSAND; ampersand
 12488 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12489 % U+0028 LEFT PARENTHESIS; parenleft
 12490 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 12491 % U+0029 RIGHT PARENTHESIS; parenright
 12492 \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
 12493 % U+002E FULL STOP; period
 12494 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E
 \057: U+002F SOLIDUS; slash
 \060: U+0030 DIGIT ZERO; zero
 ...
 \071: U+0039 DIGIT NINE; nine
 \072: U+003A COLON; colon
 \073: U+003B SEMICOLON; semicolon
 12495 % U+003C LESS-THAN SIGN; less
 12496 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12497 % U+003E GREATER-THAN SIGN; greater
 12498 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E
 \077: U+003F QUESTION MARK; question
 \100: U+0040 COMMERCIAL AT; at
 \101: U+0041 LATIN CAPITAL LETTER A; A
 ...
 \132: U+005A LATIN CAPITAL LETTER Z; Z
 \133: U+005B LEFT SQUARE BRACKET; bracketleft
 12499 % U+005C REVERSE SOLIDUS; backslash
 12500 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12501 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12502 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12503 % U+005F LOW LINE; underscore
 12504 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12505 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12506 % U+0060 GRAVE ACCENT; grave
 12507 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 12508 % U+0069 LATIN SMALL LETTER I; i
 12509 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12510 % U+007B LEFT CURLY BRACKET; braceleft

12511 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12512 % U+007C VERTICAL LINE; *bar, verticalbar
 12513 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12514 % U+007D RIGHT CURLY BRACKET; braceright
 12515 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12516 % U+007E TILDE; asciitilde
 12517 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12518 % U+2022 BULLET; bullet
 12519 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12520 % U+2020 DAGGER; dagger
 12521 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12522 % U+2021 DOUBLE DAGGER; daggerdbl
 12523 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12524 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12525 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12526 % U+2014 EM DASH; emdash
 12527 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12528 % U+2013 EN DASH; endash
 12529 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12530 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12531 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12532 % U+2044 FRACTION SLASH; fraction
 12533 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12534 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 -ingleft
 12535 \DeclareTextCommand{\guillemotleft}{PD1}{\210}% U+2039
 12536 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 -ingright
 12537 \DeclareTextCommand{\guillemotright}{PD1}{\211}% U+203A
 12538 % U+2212 MINUS SIGN; minus
 12539 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12540 % U+2030 PER MILLE SIGN; perthousand
 12541 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12542 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12543 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12544 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12545 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12546 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12547 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12548 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12549 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12550 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12551 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12552 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12553 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12554 % U+2122 TRADE MARK SIGN; trademark
 12555 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12556 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12557 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12558 % U+FB02 LATIN SMALL LIGATURE FL; fl
 12559 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12560 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 12561 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 12562 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12563 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 12564 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron

12565 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 12566 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12567 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 12568 \DeclareTextCommand{\IJ}{PD1}{\230}
 12569 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 12570 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 12571 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 12572 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 12573 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 12574 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 12575 % U+0153 LATIN SMALL LIGATURE OE; oe
 12576 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 12577 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12578 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 12579 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 12580 \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.
 12581 % U+20AC EURO SIGN; *Euro, euro
 12582 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 12583 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12584 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 12585 % U+00A2 CENT SIGN; cent
 12586 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 12587 % U+00A3 POUND SIGN; sterling
 12588 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 12589 % U+00A4 CURRENCY SIGN; currency
 12590 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 12591 % U+00A5 YEN SIGN; yen
 12592 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 12593 % U+00A6 BROKEN BAR; brokenbar
 12594 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 12595 % U+00A7 SECTION SIGN; section
 12596 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 12597 % U+00A8 DIAERESIS; dieresis
 12598 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 12599 % U+00A9 COPYRIGHT SIGN; copyright
 12600 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 12601 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12602 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 12603 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 12604 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 12605 % U+00AC NOT SIGN; logicalnot
 12606 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 12607 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 12608 % U+00AE REGISTERED SIGN; registered
 12609 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 12610 % U+00AF MACRON; *macron, overscore
 12611 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 12612 % U+00B0 DEGREE SIGN; degree
 12613 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 12614 % U+00B1 PLUS-MINUS SIGN; plusminus
 12615 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 12616 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12617 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2

12618 % U+00B3 SUPERSCRIP^T THREE; threesuperior
 12619 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 12620 % U+00B4 ACUTE ACCENT; acute
 12621 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 12622 % U+00B5 MICRO SIGN; mu, μ
 12623 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 12624 % U+00B6 PILCROW SIGN; paragraph
 12625 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 12626 % U+00B7 MIDDLE DOT; middot, \cdot , $\text{\textperiodcentered}$
 12627 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 12628 % U+00B8 CEDILLA; cedilla
 12629 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 12630 % U+00B9 SUPERSCRIP^T ONE; onesuperior
 12631 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 12632 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12633 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 12634 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 12635 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 12636 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12637 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 12638 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12639 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 12640 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12641 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 12642 % U+00BF INVERTED QUESTION MARK; questiondown
 12643 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
 12644 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12645 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
 12646 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12647 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
 12648 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12649 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302}% U+00C2
 12650 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12651 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
 12652 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12653 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
 12654 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12655 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
 12656 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12657 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
 12658 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12659 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
 12660 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12661 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
 12662 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12663 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
 12664 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12665 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA
 12666 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12667 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
 12668 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 12669 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
 12670 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 12671 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
 12672 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 12673 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE

12674 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12675 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF
12676 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12677 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12678 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12679 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12680 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12681 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12682 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12683 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12684 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12685 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12686 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12687 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12688 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12689 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12690 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6
12691 % U+00D7 MULTIPLICATION SIGN; multiply
12692 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12693 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12694 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12695 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12696 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12697 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12698 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12699 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12700 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12701 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12702 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
12703 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12704 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12705 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12706 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12707 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12708 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12709 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12710 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12711 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12712 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12713 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12714 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12715 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12716 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12717 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12718 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
12719 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12720 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12721 % U+00E6 LATIN SMALL LETTER AE; ae
12722 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12723 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12724 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
12725 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12726 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12727 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12728 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
12729 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12730 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA

12731 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12732 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
12733 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12734 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
12735 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
12736 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12737 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
12738 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
12739 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12740 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
12741 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
12742 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12743 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
12744 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
12745 % U+00F0 LATIN SMALL LETTER ETH; eth
12746 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
12747 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12748 \DeclareTextCompositeCommand{-}{PD1}{n}{\361}% U+00F1
12749 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12750 \DeclareTextCompositeCommand{'}{PD1}{o}{\362}% U+00F2
12751 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12752 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3
12753 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12754 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4
12755 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12756 \DeclareTextCompositeCommand{-}{PD1}{o}{\365}% U+00F5
12757 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12758 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
12759 % U+00F7 DIVISION SIGN; divide
12760 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
12761 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12762 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
12763 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
12764 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9
12765 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12766 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA
12767 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12768 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB
12769 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12770 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
12771 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12772 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
12773 % U+00FE LATIN SMALL LETTER THORN; thorn
12774 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12775 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12776 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
12777 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12778 \DeclareTextCommand{\SS}{PD1}{SS}
12779 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12780 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12781 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12782 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12783 \DeclareTextCommand{\textgrq}{PD1}{\textquoteright}
12784 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12785 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}

```

12786 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12787 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)
12788 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12789 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12790 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12791 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12792 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12793 \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).

```

12794 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12795 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12796 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12797 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12798 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12799 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12800 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12801 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12802 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12803 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12804 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12805 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12806 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12807 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
12808 </pdlenc>

```

50.2 PU encoding

```

12809 <*puenc>
12810 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

12811 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12812 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
12813 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12814 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
12815 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12816 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
12817 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12818 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
12819 % U+0304 COMBINING MACRON; macroncmb
12820 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
12821 % U+0306 COMBINING BREVE; brevecmb
12822 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
12823 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306
12824 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12825 \DeclareTextCommand{\.}{PU}[1]{\#1\83\007}% U+0307
12826 % U+0308 COMBINING DIAERESIS; dieresiscmb
12827 \DeclareTextCommand{\"}{PU}[1]{\#1\83\010}% U+0308
12828 % U+030A COMBINING RING ABOVE; ringcmb
12829 \DeclareTextCommand{\r}{PU}[1]{\#1\83\012}% U+030A
12830 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12831 \DeclareTextCommand{\H}{PU}[1]{\#1\83\013}% U+030B
12832 % U+030C COMBINING CARON; caroncmb
12833 \DeclareTextCommand{\v}{PU}[1]{\#1\83\014}% U+030C

```

12834 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12835 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12836 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12837 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12838 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12839 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12840 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12841 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12842 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12843 % U+0327 COMBINING CEDILLA; cedillacmb
12844 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12845 % U+0328 COMBINING OGONEK; ogonekcmb
12846 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12847 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12848 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12849 % U+20DD COMBINING ENCLOSING CIRCLE
12850 \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.

12851 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12852 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12853 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12854 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
12855 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12856 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12857 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12858 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12859 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12860 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12861 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12862 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12863 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12864 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12865 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12866 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12867 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12868 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12869 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12870 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12871 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12872 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12873 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
12874 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12875 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12876 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12877 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12878 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12879 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12880 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12881 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12882 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12883 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12884 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12885 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12886 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12887 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12888 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

Accents for capitals (see encoding TS1)

```
12889 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12890 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12891 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12892 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12893 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12894 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12895 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12896 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12897 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12898 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12899 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12900 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12901 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12902 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12903 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}
```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```
12904 % U+0009 (CHARACTER TABULATION)
12905 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12906 % U+000A (LINE FEED)
12907 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12908 % U+000D (CARRIAGE RETURN)
12909 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12910 % U+0022 QUOTATION MARK; quotedbl
12911 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12912 % U+0023 NUMBER SIGN; numbersign
12913 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12914 % U+0024 DOLLAR SIGN; dollar
12915 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12916 % U+0025 PERCENT SIGN; percent
12917 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12918 % U+0026 AMPERSAND; ampersand
12919 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12920 % U+0027 APOSTROPHE; quotesingle
12921 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12922 % U+0028 LEFT PARENTHESIS; parenleft
12923 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12924 % U+0029 RIGHT PARENTHESIS; parenright
12925 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12926 % U+002A ASTERISK; asterisk
12927 \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
```

12928 % U+003C LESS-THAN SIGN; less
 12929 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 12930 % U+003E GREATER-THAN SIGN; greater
 12931 \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
 12932 % U+005C REVERSE SOLIDUS; backslash
 12933 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12934 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12935 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12936 % U+005F LOW LINE; underscore
 12937 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12938 % U+0060 GRAVE ACCENT; grave
 12939 \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
 12940 % U+0069 LATIN SMALL LETTER I; i
 12941 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
 12942 \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
 12943 % U+007B LEFT CURLY BRACKET; braceleft
 12944 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 12945 % U+007C VERTICAL LINE; *bar, verticalbar
 12946 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 12947 % U+007D RIGHT CURLY BRACKET; braceright
 12948 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 12949 % U+007E TILDE; asciitilde
 12950 \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
 12951 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12952 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 12953 % U+00A2 CENT SIGN; cent
 12954 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 12955 % U+00A3 POUND SIGN; sterling
 12956 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 12957 % U+00A4 CURRENCY SIGN; currency
 12958 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 12959 % U+00A5 YEN SIGN; yen
 12960 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 12961 % U+00A6 BROKEN BAR; brokenbar
 12962 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6

12963 % U+00A7 SECTION SIGN; section
 12964 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 12965 % U+00A8 DIAERESIS; dieresis
 12966 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 12967 % U+00A9 COPYRIGHT SIGN; copyright
 12968 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 12969 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12970 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 12971 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 12972 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 12973 % U+00AC NOT SIGN; logicalnot
 12974 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 12975 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 12976 % U+00AE REGISTERED SIGN; registered
 12977 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 12978 % U+00AF MACRON; *macron, overscore
 12979 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 12980 % U+00B0 DEGREE SIGN; degree
 12981 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 12982 % U+00B1 PLUS-MINUS SIGN; plusminus
 12983 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 12984 % U+00B2 SUPERSCRIFT TWO; twosuperior
 12985 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 12986 % U+00B3 SUPERSCRIFT THREE; threesuperior
 12987 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 12988 % U+00B4 ACUTE ACCENT; acute
 12989 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 12990 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 12991 % U+00B5 MICRO SIGN; mu, mu1
 12992 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 12993 % U+00B6 PILCROW SIGN; paragraph
 12994 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 12995 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12996 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 12997 % U+00B8 CEDILLA; cedilla
 12998 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 12999 % U+00B9 SUPERSCRIFT ONE; onesuperior
 13000 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 13001 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 13002 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 13003 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 13004 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 13005 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 13006 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 13007 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 13008 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 13009 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 13010 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 13011 % U+00BF INVERTED QUESTION MARK; questiondown
 13012 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 13013 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 13014 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 13015 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 13016 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\301}% U+00C1

13017 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
13018 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\302}% U+00C2
13019 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
13020 \DeclareTextCompositeCommand{\-}{PU}{A}{\80\303}% U+00C3
13021 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
13022 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
13023 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
13024 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
13025 % U+00C6 LATIN CAPITAL LETTER AE; AE
13026 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
13027 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
13028 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
13029 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
13030 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
13031 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
13032 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
13033 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
13034 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
13035 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
13036 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
13037 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
13038 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
13039 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
13040 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
13041 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
13042 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
13043 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
13044 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
13045 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
13046 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
13047 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
13048 \DeclareTextCompositeCommand{\-}{PU}{N}{\80\321}% U+00D1
13049 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
13050 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
13051 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
13052 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
13053 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
13054 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
13055 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
13056 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5
13057 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
13058 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
13059 % U+00D7 MULTIPLICATION SIGN; multiply
13060 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
13061 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
13062 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
13063 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
13064 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
13065 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
13066 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
13067 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
13068 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
13069 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
13070 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
13071 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
13072 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
13073 % U+00DE LATIN CAPITAL LETTER THORN; Thorn

13074 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
13075 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
13076 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
13077 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
13078 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
13079 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
13080 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
13081 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
13082 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
13083 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
13084 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
13085 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
13086 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
13087 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
13088 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
13089 % U+00E6 LATIN SMALL LETTER AE; ae
13090 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
13091 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
13092 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
13093 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
13094 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
13095 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
13096 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
13097 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
13098 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
13099 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
13100 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
13101 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
13102 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
13103 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
13104 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
13105 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
13106 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED
13107 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
13108 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
13109 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
13110 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
13111 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13112 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13113 % U+00F0 LATIN SMALL LETTER ETH; eth
13114 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
13115 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
13116 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
13117 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
13118 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
13119 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
13120 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
13121 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
13122 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
13123 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
13124 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
13125 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
13126 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
13127 % U+00F7 DIVISION SIGN; divide
13128 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
13129 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
13130 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8

13131 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 13132 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 13133 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 13134 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 13135 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 13136 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 13137 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 13138 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 13139 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 13140 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 13141 % U+00FE LATIN SMALL LETTER THORN; thorn
 13142 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 13143 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 13144 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

13145 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 13146 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 13147 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 13148 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 13149 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 13150 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 13151 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 13152 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 13153 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 13154 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 13155 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 13156 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 13157 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 13158 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 13159 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 13160 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 13161 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 13162 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 13163 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 13164 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 13165 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 13166 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 13167 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 13168 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 13169 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 13170 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 13171 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 13172 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 13173 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 13174 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 13175 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 13176 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 13177 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 13178 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 13179 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 13180 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 13181 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 13182 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
 13183 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 13184 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113

13185 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
13186 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
13187 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
13188 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
13189 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
13190 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
13191 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
13192 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
13193 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13194 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13195 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13196 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13197 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13198 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13199 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13200 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13201 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13202 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13203 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13204 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13205 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13206 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13207 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13208 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13209 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13210 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13211 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13212 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
13213 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
13214 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13215 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13216 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13217 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13218 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13219 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13220 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13221 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13222 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13223 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13224 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
13225 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13226 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13227 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13228 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13229 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13230 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
13231 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
13232 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
13233 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13234 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
13235 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
13236 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
13237 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
13238 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13239 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
13240 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek

```

13241 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
13242 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
13243 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
13244 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
13245 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
13246 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
13247 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
13248 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
13249 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
13250 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
13251 % U+0133 LATIN SMALL LIGATURE IJ; ij
13252 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
13253 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
13254 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
13255 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
13256 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
13257 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
13258 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
13259 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
13260 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
13261 \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 chosen `\textkra`.

```

13262 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
13263 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
13264 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
13265 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
13266 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
13267 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
13268 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
13269 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
13270 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
13271 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
13272 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
13273 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
13274 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
13275 \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`.

```

13276 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
13277 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
13278 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
13279 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
13280 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
13281 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
13282 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
13283 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
13284 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
13285 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
13286 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
13287 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
13288 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent

```

13289 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
13290 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
13291 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
13292 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
13293 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
13294 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
13295 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
13296 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
13297 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
13298 % U+014A LATIN CAPITAL LETTER ENG; Eng
13299 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
13300 % U+014B LATIN SMALL LETTER ENG; eng
13301 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
13302 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
13303 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
13304 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13305 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
13306 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13307 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13308 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13309 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13310 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
13311 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13312 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
13313 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13314 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13315 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13316 % U+0153 LATIN SMALL LIGATURE OE; oe
13317 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13318 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13319 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13320 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13321 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
13322 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13323 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13324 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13325 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13326 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13327 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13328 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13329 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13330 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
13331 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13332 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13333 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13334 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
13335 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
13336 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13337 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
13338 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13339 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13340 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13341 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F

13342 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13343 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13344 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13345 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13346 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
13347 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13348 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13349 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
13350 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13351 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13352 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13353 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13354 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13355 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13356 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13357 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
13358 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
13359 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
13360 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
13361 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
13362 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
13363 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
13364 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
13365 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
13366 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
13367 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
13368 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
13369 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
13370 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
13371 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
13372 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
13373 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
13374 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
13375 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
13376 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
13377 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
13378 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
13379 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
13380 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
13381 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
13382 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
13383 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
13384 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
13385 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
13386 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
13387 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
13388 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
13389 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
13390 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
13391 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
13392 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
13393 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
13394 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
13395 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A

13396 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 13397 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13398 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13399 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13400 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13401 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13402 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13403 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13404 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13405 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

13406 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13407 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 13408 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 13409 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 13410 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 13411 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 13412 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 13413 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 13414 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 13415 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13416 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13417 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 13418 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 13419 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 13420 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 13421 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 13422 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 13423 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 13424 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 13425 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 13426 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 13427 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 13428 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 13429 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 13430 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 13431 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 13432 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 13433 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 13434 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 13435 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 13436 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 13437 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 13438 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 13439 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 13440 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 13441 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 13442 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 13443 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 13444 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
 13445 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
 13446 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
 13447 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
 13448 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
 13449 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
 13450 % U+01F9 LATIN SMALL LETTER N WITH GRAVE

13451 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
13452 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13453 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
13454 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13455 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
13456 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
13457 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
13458 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13459 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
13460 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13461 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
13462 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13463 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13464 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13465 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13466 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13467 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13468 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13469 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
13470 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
13471 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13472 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13473 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
13474 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
13475 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
13476 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
13477 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
13478 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
13479 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
13480 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
13481 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
13482 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
13483 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
13484 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
13485 % U+021E LATIN CAPITAL LETTER H WITH CARON
13486 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
13487 % U+021F LATIN SMALL LETTER H WITH CARON
13488 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
13489 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
13490 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
13491 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
13492 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
13493 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
13494 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
13495 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
13496 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
13497 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
13498 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
13499 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
13500 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
13501 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
13502 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
13503 % U+0233 LATIN SMALL LETTER Y WITH MACRON
13504 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
13505 % U+0237 LATIN SMALL LETTER DOTLESS J

13506 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13507 % U+02C7 CARON; caron
13508 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
13509 % U+02D8 BREVE; breve
13510 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
13511 % U+02D9 DOT ABOVE; dotaccent
13512 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
13513 % U+02DA RING ABOVE; ring
13514 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
13515 % U+02DB OGONEK; ogonek
13516 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
13517 % U+02DC SMALL TILDE; ilde, *tilde
13518 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
13519 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13520 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
13521 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
13522 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
13523 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
13524 % U+02F7 MODIFIER LETTER LOW TILDE
13525 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13526 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13527 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
13528 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13529 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
13530 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
13531 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
13532 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13533 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
13534 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13535 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

13536 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
13537 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
13538 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
13539 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
13540 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
13541 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
13542 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
13543 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
13544 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
13545 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
13546 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
13547 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
13548 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
13549 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
13550 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
13551 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
13552 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
13553 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
13554 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadierestonos

13555 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
13556 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
13557 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
13558 % U+0392 GREEK CAPITAL LETTER BETA; Beta
13559 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
13560 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
13561 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
13562 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
13563 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
13564 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
13565 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
13566 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
13567 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13568 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13569 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13570 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13571 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13572 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13573 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13574 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13575 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13576 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13577 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13578 % U+039C GREEK CAPITAL LETTER MU; Mu
13579 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13580 % U+039D GREEK CAPITAL LETTER NU; Nu
13581 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13582 % U+039E GREEK CAPITAL LETTER XI; Xi
13583 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13584 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13585 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13586 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13587 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13588 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13589 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13590 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13591 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13592 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13593 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13594 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13595 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13596 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13597 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13598 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13599 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13600 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13601 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13602 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13603 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13604 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13605 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13606 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA
13607 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silonadieresis
13608 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB
13609 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphonos
13610 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC

13611 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon-tonos
 13612 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
 13613 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatons
 13614 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
 13615 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatons
 13616 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
 13617 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
 silondieresisto
 13618 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
 13619 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
 13620 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
 13621 % U+03B2 GREEK SMALL LETTER BETA; beta
 13622 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
 13623 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
 13624 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
 13625 % U+03B4 GREEK SMALL LETTER DELTA; delta
 13626 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
 13627 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
 13628 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
 13629 % U+03B6 GREEK SMALL LETTER ZETA; zeta
 13630 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
 13631 % U+03B7 GREEK SMALL LETTER ETA; eta
 13632 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
 13633 % U+03B8 GREEK SMALL LETTER THETA; theta
 13634 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
 13635 % U+03B9 GREEK SMALL LETTER IOTA; iota
 13636 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
 13637 % U+03BA GREEK SMALL LETTER KAPPA; kappa
 13638 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
 13639 % U+03BB GREEK SMALL LETTER LAMDA; lambda
 13640 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
 13641 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
 13642 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
 13643 % U+03BD GREEK SMALL LETTER NU; nu
 13644 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
 13645 % U+03BE GREEK SMALL LETTER XI; xi
 13646 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
 13647 % U+03BF GREEK SMALL LETTER OMICRON; omicron
 13648 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 13649 % U+03C0 GREEK SMALL LETTER PI; pi
 13650 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
 13651 % U+03C1 GREEK SMALL LETTER RHO; rho
 13652 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 13653 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 13654 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 13655 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 13656 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 13657 % U+03C4 GREEK SMALL LETTER TAU; tau
 13658 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 13659 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 13660 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 13661 % U+03C6 GREEK SMALL LETTER PHI; phi
 13662 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 13663 % U+03C7 GREEK SMALL LETTER CHI; chi
 13664 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 13665 % U+03C8 GREEK SMALL LETTER PSI; psi
 13666 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8

13667 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 13668 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 13669 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
 13670 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 13671 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 13672 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 13673 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 13674 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 13675 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 13676 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 13677 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 13678 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 13679 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 13680 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 13681 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 13682 % U+03DB GREEK SMALL LETTER STIGMA
 13683 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 13684 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 13685 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 13686 % U+03DD GREEK SMALL LETTER DIGAMMA
 13687 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 13688 % U+03DE GREEK LETTER KOPPA; Koppagreek
 13689 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 13690 % U+03DF GREEK SMALL LETTER KOPPA
 13691 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 13692 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 13693 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 13694 % U+03E1 GREEK SMALL LETTER SAMPI
 13695 \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.

13696 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 13697 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 13698 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 13699 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 13700 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
 13701 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 13702 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 13703 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 13704 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
 13705 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 13706 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 13707 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 13708 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 13709 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-
 lic, *afii10055
 13710 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
 13711 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
 13712 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
 13713 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
 13714 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
 13715 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
 13716 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
 13717 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

13718 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13719 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13720 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13721 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13722 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13723 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13724 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13725 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13726 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13727 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13728 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13729 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13730 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13731 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13732 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13733 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13734 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13735 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13736 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13737 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13738 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13739 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13740 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13741 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13742 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13743 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13744 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13745 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13746 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13747 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13748 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13749 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13750 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13751 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13752 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13753 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13754 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13755 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13756 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13757 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13758 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13759 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13760 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13761 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13762 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13763 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13764 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13765 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13766 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13767 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13768 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13769 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13770 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13771 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13772 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13773 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13774 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039

13775 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13776 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13777 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13778 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13779 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13780 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13781 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13782 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13783 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13784 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13785 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13786 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13787 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13788 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13789 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13790 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13791 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13792 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, *afii10048
13793 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
13794 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
13795 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13796 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13797 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13798 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13799 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13800 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13801 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13802 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13803 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13804 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13805 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13806 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13807 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13808 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
13809 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
13810 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13811 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13812 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
13813 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13814 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13815 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13816 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13817 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13818 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13819 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13820 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
13821 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13822 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
13823 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13824 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13825 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
13826 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13827 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
13828 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13829 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
13830 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13831 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic

13832 \DeclareTextCommand{\cysr}{PU}{\84\101}% U+0441
13833 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
13834 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
13835 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
13836 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13837 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
13838 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13839 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
13840 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13841 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
13842 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13843 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
13844 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13845 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
13846 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13847 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
13848 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13849 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
13850 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A
13851 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13852 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
13853 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13854 \DeclareTextCommand{\cysrftsn}{PU}{\84\114}% U+044C
13855 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13856 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
13857 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13858 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
13859 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13860 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
13861 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13862 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13863 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13864 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
13865 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13866 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13867 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
13868 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13869 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13870 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13871 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
13872 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13873 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
13874 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
lic
13875 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
13876 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13877 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
13878 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
13879 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
13880 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
13881 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13882 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
13883 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13884 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
13885 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13886 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
13887 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic

13888 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
13889 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13890 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13891 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13892 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13893 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13894 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13895 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
13896 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13897 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13898 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13899 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13900 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13901 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13902 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13903 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
13904 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
13905 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13906 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13907 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
13908 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13909 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13910 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13911 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
13912 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
tifiedcyrillic
13913 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13914 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
fiedcyrillic
13915 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
13916 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13917 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13918 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13919 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
13920 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
13921 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13922 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
13923 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
13924 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13925 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
13926 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13927 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13928 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13929 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13930 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13931 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13932 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13933 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13934 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13935 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13936 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
13937 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13938 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13939 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475

13940 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 13941 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 13942 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 13943 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 13944 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 13945 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 13946 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 13947 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 13948 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 13949 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 13950 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 13951 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 13952 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 13953 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 13954 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 13955 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 13956 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 13957 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 13958 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 13959 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 13960 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 13961 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 13962 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 13963 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 13964 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 13965 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
 liccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
 cyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
 liccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 13966 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 13967 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 13968 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 13969 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 13970 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 13971 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 13972 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 13973 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 13974 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 13975 \DeclareTextCommand{\CYRRRTICK}{PU}{\84\216}% U+048E
 13976 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 13977 \DeclareTextCommand{\cyrrrtick}{PU}{\84\217}% U+048F
 13978 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afi10050
 13979 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490

13980 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 13981 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 13982 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 13983 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 13984 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 13985 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 13986 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 13987 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 13988 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 13989 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 13990 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 13991 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 13992 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 13993 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 13994 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 13995 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 13996 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 13997 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 13998 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
 13999 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 14000 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 14001 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 14002 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-
 cyrillic
 14003 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 14004 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
 ticalstrokecyrillic
 14005 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 14006 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
 ticalstrokecyrillic
 14007 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 14008 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 14009 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 14010 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 14011 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 14012 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 14013 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 14014 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 14015 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 14016 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
 dercyrillic
 14017 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 14018 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
 cyrillic
 14019 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 14020 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 14021 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 14022 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic

14023 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
14024 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
14025 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
14026 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
14027 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
14028 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
14029 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
14030 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
14031 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
14032 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
14033 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
14034 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
14035 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
14036 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
14037 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
14038 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
14039 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
14040 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
14041 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
14042 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
14043 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
14044 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
14045 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
14046 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
14047 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
14048 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
14049 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
14050 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
14051 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
14052 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
14053 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
14054 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
14055 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
14056 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
14057 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
14058 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
14059 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
14060 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
14061 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
14062 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
verticalstrokecyrillic
14063 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
14064 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
verticalstrokecyrillic

14065 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
14066 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
14067 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
14068 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
14069 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
14070 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic
14071 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
14072 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
14073 \DeclareTextCommand{\cyrahbch}{PU}{\84\275}% U+04BD
14074 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
14075 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
14076 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
14077 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
14078 \DeclareTextCommand{\cyrahbchdsc}{PU}{\84\277}% U+04BF
14079 \DeclareTextCompositeCommand{\k}{PU}{\cyrahbch}{\84\277}% U+04BF
14080 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
14081 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
14082 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
14083 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
14084 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
14085 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
14086 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
14087 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
14088 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
14089 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
14090 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
14091 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
14092 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
14093 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
14094 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
14095 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
14096 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
14097 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
14098 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic
14099 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
14100 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic
14101 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
14102 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
14103 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
14104 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
14105 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
14106 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
14107 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
14108 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
14109 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
14110 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
14111 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
14112 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
14113 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3

14114 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
14115 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
14116 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
14117 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
14118 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrllic
14119 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
14120 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrllic
14121 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
14122 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
14123 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
14124 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
14125 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
14126 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrllic
14127 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
14128 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrllic
14129 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
14130 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrllic
14131 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
14132 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
cyrllic
14133 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
14134 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
cyrllic
14135 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
14136 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrllic
14137 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
14138 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
cyrllic
14139 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
14140 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrllic
14141 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
14142 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrllic
14143 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
14144 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrllic
14145 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
14146 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrllic
14147 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
14148 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrllic
14149 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
14150 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrl-
lic
14151 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
14152 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrllic
14153 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
14154 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrllic
14155 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
14156 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrllic
14157 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
14158 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
SIS; Obarreddieresiscyrllic
14159 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
14160 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
dieresiscyrllic
14161 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB

14162 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 14163 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 14164 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 14165 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 14166 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 14167 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE
 14168 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 14169 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 14170 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 14171 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 14172 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 14173 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 14174 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
 garumlautcyrillic
 14175 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 14176 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
 garumlautcyrillic
 14177 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 14178 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
 siscyrillic
 14179 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 14180 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-
 cyrillic
 14181 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 14182 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 14183 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 14184 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 14185 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 14186 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 14187 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 14188 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 14189 \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
 14190 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 14191 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 14192 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 14193 \DeclareTextCommand{\cyrhhk}{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

14194 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14195 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14196 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 14197 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 14198 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 14199 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 14200 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 14201 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 14202 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow

14203 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
14204 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
14205 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
14206 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
14207 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
14208 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
14209 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
14210 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
14211 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
14212 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
14213 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
14214 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
14215 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
14216 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
14217 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
14218 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
14219 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
14220 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
14221 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
14222 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
14223 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
14224 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
14225 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
14226 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
14227 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
14228 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
14229 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
14230 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
14231 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
14232 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
14233 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
14234 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
14235 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
14236 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
14237 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
14238 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
14239 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
14240 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
14241 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
14242 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
14243 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
14244 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
14245 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
14246 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
14247 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
14248 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
14249 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
14250 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14251 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
14252 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14253 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
14254 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14255 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
14256 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
14257 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
14258 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14259 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45

14260 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14261 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
14262 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14263 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
14264 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14265 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
14266 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14267 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
14268 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14269 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
14270 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14271 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
14272 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14273 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
14274 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14275 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
14276 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14277 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
14278 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14279 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
14280 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14281 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
14282 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14283 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
14284 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
14285 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14286 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14287 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14288 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14289 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14290 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14291 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14292 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14293 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
14294 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
14295 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
14296 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14297 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
14298 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14299 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
14300 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14301 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
14302 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14303 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
14304 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14305 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
14306 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
14307 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
14308 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
14309 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
14310 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
14311 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
14312 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
14313 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
14314 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
14315 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
14316 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent

14317 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
 14318 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 14319 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
 14320 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 14321 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
 14322 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 14323 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
 14324 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 14325 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 14326 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 14327 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 14328 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 14329 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 14330 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 14331 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
 14332 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 14333 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 14334 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 14335 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 14336 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 14337 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 14338 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 14339 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 14340 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 14341 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 14342 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 14343 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 14344 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 14345 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 14346 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 14347 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 14348 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 14349 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

14350 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 14351 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14352 % U+2013 EN DASH; endash
 14353 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14354 % U+2014 EM DASH; emdash
 14355 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14356 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14357 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14358 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14359 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 14360 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14361 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14362 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14363 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14364 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14365 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14366 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14367 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14368 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14369 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14370 % U+2020 DAGGER; dagger

14371 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14372 % U+2021 DOUBLE DAGGER; daggerdbl
 14373 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14374 % U+2022 BULLET; bullet
 14375 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14376 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14377 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14378 % U+2030 PER MILLE SIGN; perthousand
 14379 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14380 % U+2031 PER TEN THOUSAND SIGN
 14381 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14382 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14383 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039
 14384 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
 ingright
 14385 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A
 14386 % U+203B REFERENCE MARK; referencemark
 14387 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14388 % U+203D INTERROBANG
 14389 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14390 % U+2044 FRACTION SLASH; fraction
 14391 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14392 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14393 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14394 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14395 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14396 % U+2052 COMMERCIAL MINUS SIGN
 14397 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

14398 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 14399 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 14400 % U+2074 SUPERSCRIPT FOUR; foursuperior
 14401 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 14402 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 14403 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 14404 % U+2076 SUPERSCRIPT SIX; sixsuperior
 14405 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 14406 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 14407 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 14408 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 14409 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 14410 % U+2079 SUPERSCRIPT NINE; ninesuperior
 14411 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 14412 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 14413 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 14414 % U+207B SUPERSCRIPT MINUS
 14415 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 14416 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 14417 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 14418 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 14419 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 14420 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 14421 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 14422 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 14423 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}

14424 % U+2080 SUBSCRIPT ZERO; zeroinferior
 14425 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 14426 % U+2081 SUBSCRIPT ONE; oneinferior
 14427 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 14428 % U+2082 SUBSCRIPT TWO; twoinferior
 14429 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 14430 % U+2083 SUBSCRIPT THREE; threeinferior
 14431 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 14432 % U+2084 SUBSCRIPT FOUR; fourinferior
 14433 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 14434 % U+2085 SUBSCRIPT FIVE; fiveinferior
 14435 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 14436 % U+2086 SUBSCRIPT SIX; sixinferior
 14437 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 14438 % U+2087 SUBSCRIPT SEVEN; seveninferior
 14439 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 14440 % U+2088 SUBSCRIPT EIGHT; eightinferior
 14441 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 14442 % U+2089 SUBSCRIPT NINE; nineinferior
 14443 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 14444 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 14445 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 14446 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 14447 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

14448 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 14449 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 14450 % U+20A4 LIRA SIGN; afii08941, *lira
 14451 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14452 % U+20A6 NAIRA SIGN
 14453 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14454 % U+20A7 PESETA SIGN; peseta
 14455 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14456 % U+20A9 WON SIGN; won
 14457 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14458 % U+20AB DONG SIGN; dong
 14459 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14460 % U+20AC EURO SIGN; *Euro, euro
 14461 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14462 % U+20B1 PESO SIGN
 14463 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14464 % U+20B2 GUARANI SIGN
 14465 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

14466 % U+2103 DEGREE CELSIUS; centigrade
 14467 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14468 % U+2116 NUMERO SIGN; *afii61352, numero
 14469 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14470 % U+2117 SOUND RECORDING COPYRIGHT
 14471 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14472 % U+211E PRESCRIPTION TAKE; prescription
 14473 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14474 % U+2120 SERVICE MARK
 14475 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14476 % U+2122 TRADE MARK SIGN; trademark

14477 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14478 % U+2126 OHM SIGN; Ohm, Omega
 14479 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14480 % U+2127 INVERTED OHM SIGN
 14481 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14482 % U+212B ANGSTROM SIGN; angstrom
 14483 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14484 % U+212E ESTIMATED SYMBOL; estimated
 14485 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14486 % U+2135 ALEF SYMBOL; aleph
 14487 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14488 % U+2190 LEFTWARDS ARROW; arrowleft
 14489 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14490 % U+2191 UPWARDS ARROW; arrowup
 14491 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14492 % U+2192 RIGHTWARDS ARROW; arrowright
 14493 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14494 % U+2193 DOWNWARDS ARROW; arrowdown
 14495 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

14496 % U+2212 MINUS SIGN; minus
 14497 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14498 % U+221A SQUARE ROOT; radical
 14499 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14500 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 14501 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 14502 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 14503 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

14504 % U+2422 BLANK SYMBOL
 14505 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 14506 % U+2423 OPEN BOX; blank
 14507 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14508 % U+2460 CIRCLED DIGIT ONE; onecircle
 14509 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 14510 % U+2461 CIRCLED DIGIT TWO; twocircle
 14511 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 14512 % U+2462 CIRCLED DIGIT THREE; threecircle
 14513 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 14514 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 14515 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 14516 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 14517 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 14518 % U+2465 CIRCLED DIGIT SIX; sixcircle
 14519 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 14520 % U+2466 CIRCLED DIGIT SEVEN; sevendigit
 14521 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 14522 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 14523 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467

14524 % U+2468 CIRCLED DIGIT NINE; ninecircle
 14525 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 14526 % U+2469 CIRCLED NUMBER TEN; tencircle
 14527 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 14528 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 14529 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 14530 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 14531 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 14532 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 14533 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 14534 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 14535 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 14536 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 14537 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 14538 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 14539 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 14540 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 14541 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 14542 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 14543 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 14544 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 14545 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 14546 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 14547 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 14548 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 14549 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 14550 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 14551 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 14552 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 14553 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 14554 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 14555 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 14556 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 14557 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 14558 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 14559 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 14560 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 14561 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 14562 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 14563 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 14564 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 14565 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 14566 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 14567 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 14568 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 14569 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 14570 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 14571 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 14572 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 14573 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 14574 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 14575 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 14576 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 14577 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 14578 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 14579 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 14580 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle

14581 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14582 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14583 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14584 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14585 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14586 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14587 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14588 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14589 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14590 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14591 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14592 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14593 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14594 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14595 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14596 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14597 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14598 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14599 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14600 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14601 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14602 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14603 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14604 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14605 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
14606 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
14607 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
14608 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
14609 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
14610 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
14611 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
14612 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
14613 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
14614 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
14615 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
14616 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
14617 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
14618 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
14619 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
14620 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
14621 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
14622 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
14623 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
14624 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
14625 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
14626 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
14627 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
14628 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
14629 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
14630 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
14631 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
14632 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
14633 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
14634 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
14635 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
14636 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
14637 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2

14638 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
14639 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
14640 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
14641 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
14642 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
14643 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
14644 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
14645 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
14646 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
14647 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
14648 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
14649 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
14650 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
14651 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
14652 % U+24EA CIRCLED DIGIT ZERO
14653 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

14654 % U+25E6 WHITE BULLET; *openbullet, whitebullet
14655 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
14656 % U+25EF LARGE CIRCLE; largecircle
14657 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14658 % U+266A EIGHTH NOTE; musicalnote
14659 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
14660 % U+26AD MARRIAGE SYMBOL
14661 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
14662 % U+26AE DIVORCE SYMBOL
14663 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14664 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14665 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14666 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14667 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

14668 % U+FB01 LATIN SMALL LIGATURE FI; fi
14669 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14670 % U+FB02 LATIN SMALL LIGATURE FL; fl
14671 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

14672 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

14673 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14674 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14675 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14676 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14677 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14678 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14679 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14680 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

```
14681 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14682 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14683 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14684 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14685 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14686 \puenc
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50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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14687 \*puvnenc

14688 \DeclareTextCommand{\abreve}{PU}{\81\003}
14689 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14690 \DeclareTextCommand{\dj}{PU}{\81\021}
14691 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14692 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14693 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14694 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14695 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14696 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14697 \DeclareTextCommand{\DJ}{PU}{\81\020}
14698 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14699 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14700 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14701 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14702 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14703 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14704 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14705 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14706 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14707 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14708 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
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14710 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
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14822 </puvnenc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

14823 <*puarenc>
14824 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
    TER HAMZA
14825 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
    TER ALEF WITH MADDA ABOVE
14826 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
    TER ALEF WITH HAMZA ABOVE
14827 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LET-
    TER WAW WITH HAMZA ABOVE
14828 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LET-
    TER ALEF WITH HAMZA BELOW
14829 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
    TER YEH WITH HAMZA ABOVE
14830 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14831 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14832 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14833 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

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14834 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LETTER THEH

14835 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LETTER JEEM

14836 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH

14837 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH

14838 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL

14839 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL

14840 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH

14841 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN

14842 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN

14843 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LETTER SHEEN

14844 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD

14845 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD

14846 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH

14847 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH

14848 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN

14849 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LETTER GHAIN

14850 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL

14851 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH

14852 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF

14853 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF

14854 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM

14855 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LETTER MEEM

14856 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON

14857 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH

14858 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW

14859 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LETTER ALEF MAKSURA

14860 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH

14861 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN

14862 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN

14863 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN

14864 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA

14865 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA

14866 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA

14867 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA

14868 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi

14869 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH

14870 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LETTER TCHEH

14871 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH

14872 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi?????;FARSI LETTER KAF

14873 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF

14874 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi?????;FARSI LETTER YEH

14875 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%

14876 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14877 </puarenc>

51 End of file hyccheck.tex

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14878 \<check>
14879 \typeout{}
14880 \begin{document}
14881 \end{document}
14882 \</check>
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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	13541, 13543, 13545, 13547, 13549, 13551, 13553, 13555,	\@@Menu 10829, 10837
\"	202, 227, 2511, 12087, 12420, 12432, 12444, 12567, 12653, 12667, 12675, 12690, 12702, 12718, 12732, 12743, 12744, 12758, 12770, 12776, 12827, 12855, 12874, 12895, 13022, 13036, 13044, 13058, 13070, 13086, 13100, 13111, 13112, 13126, 13138, 13144, 13391, 13606, 13608, 13618, 13670, 13672, 13700, 13713, 13865, 13878, 14111, 14113, 14127, 14129, 14131, 14133, 14135, 14137, 14147, 14149, 14151, 14153, 14159, 14161, 14163, 14165, 14171, 14173, 14179, 14181, 14187, 14189, 14229, 14231, 14301, 14303, 14313, 14315, 14331	13610, 13612, 13614, 13616, 13674, 13677, 13679, 13704, 13723, 13869, 13888, 14237, 14239, 14249, 14251, 14265, 14267, 14297, 14299, 14702, 14707, 14712, 14717, 14722, 14727, 14732, 14737, 14742, 14747, 14752, 14757, 14762, 14767, 14772, 14777, 14782, 14787, 14792, 14797, 14802, 14807, 14812, 14817	\@@PasswordField . 10778, 10784 \@@Radio . . 10604, 10625, 10827, 10851, 11061, 11082, 11402, 11423 \@@TextField 10780, 10795 \@@commahyperpage . 6595, 6596 \@@hyperref 3691, 3692 \@@latextohtmlX 2344, 3878 \@@wrindex 6523, 6524 \@@writetorep 11984, 11990 \@Alph . . . 5328, 5329, 5332, 5333 \@Alph@bul 5332 \@BIBLABEL . . 6022, 6028, 6034 \@BOOKMARK . . 12068, 12070 \@CITE 6099, 6107 \@CITEX 6101 \@CheckBox . . 4565, 8622, 10718, 10748, 10882, 11194, 11563 \@ChoiceMenu . 4562, 8625, 10556, 10751, 10817, 11012, 11353 \@Form . 4337, 8612, 10343, 10740, 10761, 10936, 11277 \@Gauge 4571, 8616, 10525, 10742, 10766, 10903, 11274 \@Localurifalse 8567 \@Localurltrue 8564 \@M 888, 1877, 5664 \@MM 5798 \@PushButton . 4568, 8628, 10648, 10754, 10863, 11116, 11474 \@Refstar 6895, 6902 \@Reset . 4577, 8631, 10694, 10757, 10879, 11169, 11533 \@Roman 472 \@SCTR 6642, 6694 \@SetMaxRnhefLabel 6096 \@Submit 4574, 8634, 10676, 10758, 10876, 11146, 11509 \@TextField . . . 4559, 8619, 10528, 10745, 10769, 10983, 11316 \@addchap 12376 \@addtoreset . . 6417, 6418, 6432, 6639 \@afterheading 12394 \@alph 5335, 5336 \@alph@bul 5335 \@anchorcolor . 7789, 7873, 8678, 9984, 10249 \@arabic 858, 863, 867, 5329, 5333, 5336
\#	405, 1614, 1615, 3581, 3592, 3594, 3610, 3642, 3657, 7086, 7088, 7818, 7827, 7854, 8560, 10014, 10025, 10053, 10277, 10286, 10315	\(. . 190, 215, 598, 601, 603, 12153, 12490 \) . . 191, 216, 570, 576, 579, 12154, 12492 \+ 200, 225 \- 201, 226 \. . . 198, 223, 12423, 12435, 12447, 12509, 12800, 12807, 12825, 12858, 12877, 12901, 12941, 12942, 13166, 13168, 13190, 13192, 13210, 13212, 13246, 13277, 13279, 13397, 13399, 13490, 13492, 13498, 13500, 14197, 14199, 14205, 14207, 14217, 14219, 14225, 14227, 14253, 14255, 14257, 14259, 14269, 14271, 14273, 14275, 14281, 14283, 14305, 14307, 14309, 14311, 14317, 14319, 14337 \/ 194, 219, 512, 513, 514, 581, 1332, 6488 \: 189, 214 \; 199, 224, 6783 \< 196, 221 \= 167, 173, 180, 183, 12425, 12437, 12449, 12820, 12862, 12881, 12900, 13146, 13148, 13182, 13184, 13231, 13233, 13234, 13303, 13305, 13363, 13365, 13502, 13504, 14143, 14145, 14167, 14169, 14221, 14223 \> 197, 222 \@ 2502 \@@@ 1838 \@@@BOOKMARK . 12068, 12071, 12129, 12181, 12188 \@@@Listbox . 10619, 10641, 11076, 11107, 11417, 11458	
\\$	184, 209, 406, 3583, 3656		
\%	407, 1589, 1590, 3580, 3589, 3591, 3643, 7088		
\&	185, 210, 408, 3584, 3595, 3597, 10063		
\'	203, 228, 2451, 2465, 2506, 2508, 2509, 2510, 2511, 2516, 2517, 2519, 2524, 2530, 2534, 2535, 2538, 2581, 2582, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2596, 2600, 2613, 12085, 12417, 12429, 12441, 12647, 12663, 12671, 12684, 12698, 12704, 12712, 12728, 12737, 12738, 12752, 12766, 12772, 12795, 12797, 12798, 12799, 12802, 12804, 12805, 12806, 12814, 12852, 12871, 12892, 13016, 13032, 13040, 13052, 13066, 13072, 13080, 13096, 13105, 13106, 13120, 13134, 13140, 13158, 13160, 13265, 13267, 13285, 13287, 13319, 13321, 13331, 13333, 13393, 13395, 13445, 13447, 13453, 13455, 13457, 13459,		

<code>\@auxout</code> . 1832, 3736, 4784, 4786, 5397, 5425, 6042, 6057, 6073, 6083, 6113, 6136, 6162, 6168, 6192	5538, 5542, 5549, 5573, 5658, 5722, 5733, 5736, 5738, 5783, 5812, 5896, 5922, 5926, 5941, 5943, 6171, 6297, 6320, 6329, 6335, 6386, 6387, 6411, 6413, 11973, 11974, 12280, 12288, 12297, 12299, 12309, 12311, 12340, 12342, 12355, 12386, 12388	<code>\@footnotetext</code> . 5673, 5680, 5709, 5820, 5822, 5836, 5837, 5857
<code>\@backslashchar</code> 1509, 1513, 1516, 1637, 1654, 1660, 1664, 1672, 3605, 7101, 7111	<code>\@currentlabel</code> . 5801, 6164, 6171, 6392, 6399, 6648, 6700	<code>\@for</code> 2826, 3944, 6108, 6131, 10565, 10627, 10835, 10842, 10852, 11021, 11084, 11362, 11428
<code>\@baseurl</code> . 2807, 2809, 3830, 7521, 7524, 7775, 7777, 8016, 8018, 8474, 8484, 8534, 8536, 9040, 9042, 9384, 9398, 9970, 9972, 10156, 10170, 10236, 10238	<code>\@currentlabelname</code> . 1830, 5723, 5784, 5813, 5901	<code>\@fourthoffive</code> . 3533, 3724, 6959, 6966
<code>\@begintheorem</code> 5632, 5638	<code>\@currentlabstr</code> 1829, 1837	<code>\@gobble</code> 49, 56, 117, 456, 457, 458, 459, 484, 485, 486, 495, 686, 722, 733, 874, 878, 881, 1058, 1071, 1075, 1137, 1200, 1201, 1208, 1213, 1227, 1232, 1867, 2099, 2111, 2989, 3137, 3139, 3191, 3571, 4288, 4467, 4720, 4724, 4740, 4742, 4758, 4759, 4760, 4762, 4763, 4765, 5194, 5209, 5213, 5621, 5878, 5967, 6296, 7024, 7687, 8920, 8923, 10937, 11278, 12030, 12031, 12032, 12180
<code>\@bibitem</code> 6049, 6080	<code>\@curropt</code> . . 10565, 10566, 10627, 10628, 10835, 10842, 10843, 10845, 10852, 10853, 10855, 11021, 11022, 11084, 11085, 11362, 11363, 11428, 11429	<code>\@gobblefour</code> . . 522, 984, 985, 986, 6763
<code>\@biblabel</code> 6022, 6069	<code>\@dblarg</code> 1930, 5891, 5972	<code>\@gobbleopt</code> 4765, 4767
<code>\@bookmarkopenstatus</code> . . . 3419, 3436, 12039	<code>\@definecounter</code> 6371, 6372	<code>\@gobbletwo</code> 488, 515, 523, 524, 983, 1155, 1232, 1236, 1984, 3141, 4234, 4744, 4753, 4761, 4765, 6947, 12295
<code>\@bookmarksopenlevel</code> 2770, 2772, 3422	<code>\@ehc</code> 2156, 3189, 3794, 4048, 4172, 4368, 4514, 4550, 10658, 10706, 11127, 11181, 11485, 11545	<code>\@harvarditem</code> 6181, 6183
<code>\@bsphack</code> 1825, 3729, 6166	<code>\@ehd</code> 63, 5877, 5966	<code>\@hyper@Canchor</code> . . . 3839, 3840
<code>\@capstartfalse</code> 5916	<code>\@endForm</code> . . . 4338, 8615, 10524, 10741, 10765, 10982, 11302	<code>\@hyper@itemfalse</code> . . . 5245, 5261, 5275
<code>\@caption</code> 5881, 5893, 5936, 5972, 5974	<code>\@endparenv</code> 5628	<code>\@hyper@itemtrue</code> 5246
<code>\@capytype</code> 1834, 5876, 5880, 5884, 5891, 5898, 5940, 5965, 5969, 5972	<code>\@eqnocr</code> 5557	<code>\@hyper@launch</code> 3800, 3809, 7414, 8818, 9706
<code>\@car</code> 1120, 1136, 1154, 1174, 2749, 3954, 7473, 7484	<code>\@eqnstarfalse</code> 5533, 5560	<code>\@hyper@linkfile</code> 3781, 3784, 3788, 3820
<code>\@cdr</code> 7474, 7485	<code>\@eqnstartrue</code> 5557	<code>\@hyper@readexternalink</code> . 3775, 3779
<code>\@chapter</code> 12305, 12306	<code>\@eqnswtrue</code> 5503, 5512	<code>\@hyperdef</code> 3699, 3700
<code>\@cite</code> 6099, 6130, 6227, 6233	<code>\@esphack</code> . 1846, 3740, 6176, 6535	<code>\@hyperpage</code> 6587, 6588
<code>\@cite@opt</code> . 6228, 6234, 6238, 6248	<code>\@extra@b@citeb</code> 6007, 6010, 6027, 6032, 6052, 6100, 6122, 6138, 6145	<code>\@hyperref</code> 3680, 3691
<code>\@citea</code> . . 6102, 6109, 6110, 6129, 6132, 6133	<code>\@extra@binfo</code> . . 6006, 6009, 6013	<code>\@ifclasslater</code> 12400, 12405
<code>\@citeb</code> . . 6108, 6111, 6113, 6115, 6119, 6122, 6131, 6134, 6136, 6138, 6142, 6145	<code>\@fifthoffive</code> 3149, 3534, 3723, 6849, 6964	<code>\@ifclassloaded</code> 1817, 5369, 5406, 6091, 6623, 6627, 7690, 12399, 12404
<code>\@citebordercolor</code> 3081	<code>\@filebordercolor</code> 3079, 7390, 7392, 8338, 8340, 8755, 8757, 9694	<code>\@ifnextchar</code> 12, 88, 103, 123, 516, 3650, 3680, 3699, 3748, 4337, 4559, 4562, 4565, 4568, 4571, 4574, 4577, 4765, 4829, 4838, 5823, 5841, 6181, 6239, 9409, 9632, 9646, 12068, 12071
<code>\@citedata@opt</code> . 6229, 6235, 6237	<code>\@filecolor</code> 2799, 7410, 7968, 7980, 8350, 8761	<code>\@ifpackagelater</code> . 744, 1848, 5360, 6442
<code>\@citedatax</code> 6244, 6249	<code>\@firstoffive</code> 3530, 3539, 6888, 6969	<code>\@ifpackageloaded</code> . 359, 639, 743, 1820, 2208, 2726, 2730, 3128, 3271, 5283, 5359, 5372, 5434, 5453, 5457, 5465, 5499, 5613,
<code>\@citedatax@opt</code> 6241, 6247	<code>\@firstofone</code> 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 463, 724, 735, 968, 972, 976, 3001, 3421, 4303, 4309, 4477, 5215, 5326, 5339, 5384, 5889, 5970, 6111, 6134, 6260, 6478, 7685, 11648, 11665, 11683	
<code>\@citeseppen</code> 6226, 6232	<code>\@firstoftwo</code> . . 481, 679, 850, 1248, 4754, 12349	
<code>\@citex</code> 6128	<code>\@footnotemark</code> 5674, 5728, 5819, 5821, 5833, 5834, 5864, 5866	
<code>\@clubpenalty</code> 5666		
<code>\@commahyperpage</code> . . 6590, 6595		
<code>\@currDisplay</code> 4391, 10568, 10630, 10846, 10860, 11024, 11087, 11365, 11431		
<code>\@currValue</code> . . 4393, 4395, 10635, 10846, 10857, 11094, 11446, 11864		
<code>\@currentHlabel</code> 5340, 5342, 5351, 5474, 5485, 5721, 5732, 5735, 5737, 5782, 5811		
<code>\@currentHref</code> 1840, 4667, 5299, 5350, 5355, 5437, 5440, 5475, 5486, 5488, 5527,		

5670, 5745, 5790, 5937, 6151,
 6224, 6383, 6441, 6483, 6484,
 6485, 6632, 6894, 7037, 7041,
 10228
 \@ifpackagewith 3129, 6407
 \@ifstar 66, 3555, 3557, 4702, 4706,
 4771, 4775, 6902, 6928, 6947
 \@ifundefined 34, 240,
 464, 507, 582, 617, 650, 651,
 652, 658, 666, 682, 685, 756,
 762, 768, 773, 778, 785, 791,
 797, 802, 808, 813, 823, 829,
 835, 841, 1090, 1184, 1185,
 1821, 1854, 1961, 2073, 2138,
 2221, 2671, 2679, 2686, 2699,
 2747, 3103, 3206, 3207, 3208,
 4043, 4363, 4866, 5225, 5287,
 5292, 5313, 5327, 5459, 5468,
 5522, 5544, 5562, 5568, 5605,
 5882, 5900, 6005, 6016, 6099,
 6115, 6138, 6380, 6422, 6430,
 6431, 6444, 6445, 6452, 6936,
 6937, 6981, 6982, 6984, 6985,
 7141, 7329, 7338, 7715, 8510,
 8645, 8699, 8785, 9104, 9105,
 9147, 9177, 9264, 9430, 9800,
 10937, 11278, 11657, 12304,
 12315
 \@indexfile 6527, 6542, 6550, 6554,
 6559
 \@inlabelfalse 5648
 \@inmathwarn 399, 400
 \@inpenc@undefined@ 1692
 \@labels 5661
 \@latex@ 4860, 4861
 \@latex@error 2291, 2309, 2319,
 2326, 5877, 5966
 \@latex@warning 3718, 6118, 6141,
 6824, 6844, 6861, 6975
 \@lbibitem 6023, 6068
 \@linkbordercolor 3076, 7346, 8669
 \@linkcolor 9431
 \@linkdim 326,
 7833, 7834, 7839, 7840, 7841,
 7901, 7902, 7911, 7912, 7913,
 7930, 7931, 7940, 7941, 7942,
 7960, 7961, 7970, 7971, 7972,
 10032, 10033, 10038, 10039,
 10040, 10292, 10293, 10302,
 10303, 10304
 \@listctr 6058, 6084
 \@m 871, 6110, 6133, 8967
 \@mainaux . 4782, 4783, 5177, 5185
 \@makecaption . 5917, 5919, 5985
 \@makefnmark 5740, 5869
 \@makefnmark 5802
 \@makeother . . 166, 167, 179, 180,
 182, 183, 188, 189, 190, 191,
 192, 193, 194, 195, 196, 197,
 198, 199, 200, 201, 202, 203,
 3595, 7073, 12157
 \@makeschapterhead 12391, 12393
 \@menubordercolor . . 3078, 7745,
 7747, 8393, 8395, 8852, 8854
 \@menucolor . . . 7758, 8399, 8858
 \@minipagefalse 5644
 \@mkboth 488, 6745, 12295, 12379,
 12381
 \@mpfn 5677, 5842, 5854
 \@mpfootnotetext 5680, 5693, 5694
 \@mycount 12133, 12143
 \@namedef 2231, 2232, 2233, 2234,
 2235, 2236, 2237, 2238, 4054,
 4055, 4056, 4057, 4379, 4380,
 5370, 5556, 5559, 6156, 6157,
 6158, 6159
 \@nameuse . 1834, 2228, 4060, 4371
 \@ne . 857, 2175, 2270, 8276, 8281,
 9019, 9825, 11311
 \@newctr 6376, 6377
 \@newl@bel 4823, 6009
 \@newlistfalse 5645
 \@nil 345, 349, 354, 358, 373, 1120,
 1138, 1156, 1172, 1174, 1177,
 1180, 1183, 1701, 1703, 1719,
 1721, 2749, 3627, 3631, 3636,
 3954, 4458, 4461, 4480, 4848,
 4851, 4858, 4860, 4861, 4946,
 4993, 4994, 4996, 5019, 5036,
 5084, 5086, 5469, 5479, 5481,
 5494, 6574, 6576, 6583, 6606,
 6609, 6619, 6828, 6831, 6983,
 7014, 7097, 7103, 7107, 7113,
 7473, 7474, 7484, 7485, 8885,
 8887, 11655, 11668, 11674
 \@nobreakfalse 4820, 5664
 \@nocnterr 6431, 6445
 \@nocounterr 6430, 6444
 \@noparitemfalse 5646
 \@number 5326, 5384, 6260
 \@nx 6434, 6448, 6451, 6453
 \@onelevel@sanitize . . 1977, 1981,
 2190, 2748, 3166, 3196, 4044,
 4281, 4364, 5046, 5048, 6325,
 6874, 8133
 \@oparg 5632, 5638
 \@outlinefile . 12037, 12076, 12166,
 12168, 12170, 12235, 12237,
 12239
 \@pagerefstar . . . 3557, 6890, 6918
 \@pagesetref 6840
 \@parboxrestore . 5800, 5909, 5980
 \@parcount 12135, 12143
 \@part 12324, 12331
 \@pdfauthor . . . 2957, 3084, 7579,
 8000, 8428, 9079, 9320, 10089
 \@pdfborder 2348, 2852, 2855,
 2857, 3502, 7290, 8151, 8667,
 9191, 9282, 9624, 9636, 9651,
 9672, 9691, 9716, 9744, 9831,
 9919, 10068
 \@pdfborderstyle 2853, 2859, 2861,
 3503, 7291, 8152, 8668, 9192,
 9283, 9625, 9637, 9652, 9673,
 9692, 9717, 9745, 9832, 9920,
 10069
 \@pdfcreationdate 2970, 3087, 7583, 7585, 7992,
 7994, 8420, 8422, 9295, 9297,
 10081, 10083
 \@pdfcreator . . . 2965, 3086, 7582,
 7991, 8419, 9082, 9319, 10080
 \@pdfdirection . . 7544, 8054, 8454,
 9052, 9364, 10136
 \@pdfduplex . . . 7550, 8060, 8460,
 9058, 9370, 10142
 \@pdfhighlight . . 2845, 3082, 7310,
 7312, 7357, 7386, 7388, 7422,
 7424, 7741, 7743, 9190, 9281,
 9623, 9671, 9690, 9715
 \@pdfhightlight 7355
 \@pdfkeywords . . 2985, 3090, 7595,
 7989, 8433, 9087, 9321, 10078
 \@pdflang 3068, 3095, 7570, 7572,
 8082, 8084, 8494, 8496, 9394,
 9396, 10166, 10168
 \@pdfm@dest . . . 8096, 8154, 8158
 \@pdfm@mark 5165, 8095,
 8146, 8166, 8180, 8182, 8196,
 8198, 8203, 8204, 8234, 8258,
 8260, 8265, 8283, 8304, 8332,
 8359, 8383, 8415, 8475, 8502,
 11281, 11282, 11283, 11300,
 11343, 11349, 11437, 11451,
 11466, 11472, 11498, 11505,
 11524, 11530, 11553, 11559,
 11582, 11588, 11593, 11625,
 11633, 12208
 \@pdfmoddate . . 2976, 3088, 7587,
 7589, 7996, 7998, 8424, 8426,
 9299, 9303, 10085, 10087
 \@pdfnonfullscreenpagemode . . . 7543, 8053, 8453, 9051, 9363,
 10135
 \@pdfnumcopies 7559, 7561, 8069,
 8071, 8469, 8471, 9067, 9069,
 9379, 9381, 10151, 10153
 \@pdfpageduration . . . 2815, 7631,
 7635, 7640, 8976, 8978, 8981,
 9227, 9229, 9237

\@pdfpagelayout	7569, 8081, 8493, 9072, 9074, 9393, 10165	\@pdfviewclip	7546, 8056, 8456, 9054, 9366, 10138		4603, 4604, 4605, 4606, 7269, 10564, 10569, 10571, 10608, 10609, 10610, 10614, 10615, 10616, 10617, 11020, 11025, 11027, 11065, 11066, 11067, 11071, 11072, 11073, 11074, 11361, 11366, 11368, 11406, 11407, 11408, 11412, 11413, 11414, 11415
\@pdfpagemode	3259, 3260, 3432, 3433, 3442, 3443, 7523, 8037, 8488, 9039, 9347, 10119	\@pdfviewparams	2993, 2995, 9141, 9159, 9747, 9834, 9922, 10179	\@tempdimb	10568, 10569, 11024, 11025, 11365, 11366
\@pdfpagescrop	3022, 3091, 7508, 7512, 8020, 8021, 8042, 8044, 8500, 8502, 9028, 9030, 9352, 9354, 10124, 10126	\@percentchar	3590, 3591, 3643, 12041	\@tempswafalse	6243
\@pdfpagetransition	2813, 7607, 7611, 7616, 8865, 8867, 8869, 9210, 9212, 9220	\@processme	4387, 4388, 7613, 7619, 7637, 7643, 7659, 7665, 9412, 9413, 9482, 9483, 9486, 9487	\@tempswatrue	6213, 6216, 6219, 6240
\@pdfpicktraybypdfsize	7551, 7553, 8061, 8063, 8461, 8463, 9059, 9061, 9371, 9373, 10143, 10145	\@protected@testopt	519	\@temptokena	2618, 2623, 2626, 2628
\@pdfprintarea	7547, 8057, 8457, 9055, 9367, 10139	\@protected@testopt@xargs	520	\@tfor	5586
\@pdfprintclip	7548, 8058, 8458, 9056, 9368, 10140	\@refstar	3555, 6887	\@the@H@page	6262, 6264
\@pdfprintpagerange	2926, 3094, 7555, 7557, 8065, 8067, 8465, 8467, 9063, 9065, 9375, 9377, 10147, 10149	\@runbordercolor	3080, 7426, 7428, 8836, 8838, 9719	\@thefnmark	5678, 5689, 5759, 5760, 5801, 5843, 5855, 5862
\@pdfprintsclaling	7549, 8059, 8459, 9057, 9369, 10141	\@runcolor	7445, 8842	\@thirdoffive	3532
\@pdfproducer	2961, 3085, 7449, 7591, 7593, 7984, 7985, 8001, 8003, 8405, 8406, 8410, 8429, 8431, 8996, 8997, 9001, 9004, 9005, 9083, 9085, 9306, 9310, 9741, 9742, 9824, 9826, 9828, 9916, 9917, 10073, 10074, 10090, 10092	\@safe@activesfalse	470, 3536	\@thm	5614
\@pdfstartpage	3010, 3012, 3093, 7529, 7533, 8024, 8029, 8477, 8481, 9032, 9036, 9334, 9339, 10106, 10111	\@safe@activestrue	469, 3535	\@topnewpage	12391
\@pdfstartview	3017, 3019, 3092, 7403, 7531, 7533, 8026, 8030, 8345, 8479, 8481, 9034, 9336, 9340, 9700, 10108, 10112	\@schapter	12292, 12293	\@topsep	5627
\@pdfsubject	2981, 3089, 7581, 8005, 8418, 9081, 9318, 10094	\@secondoffive	3150, 3531, 3544, 6850, 6851, 6891	\@topsepadd	5628
\@pdftempa	3786, 3787, 3790	\@secondoftwo	460, 487, 677, 853, 1246, 3149, 3150, 12351	\@typeset@protect	12271
\@pdftempwordfile	3777, 3787	\@sect	12346, 12347	\@undefined	525, 4755, 4787, 4807, 5008, 5026, 5065, 5876, 5939, 5951, 5956, 5965, 6882, 7267, 7453, 7462, 8639, 9007, 9021
\@pdftempwordrun	3778, 3790	\@seqncr	5557	\@undottedtocline	6809
\@pdftitle	2953, 3083, 7580, 7990, 8417, 9080, 9317, 10079	\@serial@counter	12083, 12131, 12133, 12134	\@unprocessedoptions	3381
\@pdfview	2991, 7276, 7283, 8101, 8105, 8109, 8113, 8117, 8121, 8122, 8125, 8126, 8129, 8133, 8135, 8150, 8666, 8675, 8686, 9141, 9159, 9746, 9833, 9921, 10178	\@seteqlabel	6408, 6409	\@urlbordercolor	3077, 7359, 7361, 8365, 8367, 8774, 8776, 9674
\@pdfviewarea	7545, 8055, 8455, 9053, 9365, 10137	\@setminipage	5911, 5982	\@urlcolor	7374, 7838, 7847, 7938, 7950, 8375, 8780, 10037, 10046, 10301, 10309
		\@setref	3539, 3544, 6819, 6820, 6857	\@urltype	7808, 7812, 8539, 8563, 8694, 8707, 10003, 10007, 10267, 10271
		\@sharp	5469, 5476	\@vppageref	6912
		\@skiphyperreffalse	5262, 6038, 6050	\@whilenum	1000
		\@skiphyperreftrue	6024, 6050	\@wrindex	6491, 6492, 6523
		\@spart	12337, 12338	\@writefile	6169
		\@ssect	12285, 12286	\@x@sf	5730, 5742, 5868, 5870
		\@startlos	6757, 6764, 6813	\@xfootnote	5841
		\@starttoc	4808	\@xfootnotemark	5686, 5859
		\@tempa	5631, 5637, 5641, 5747, 5751, 5754, 5770	\@xfootnotenext	5675, 5852
		\@tempb	5585, 5589	\@xp	6398, 6433, 6434, 6447, 6448, 6450, 6451
		\@tempboxa	7832, 7833, 7839, 7898, 7901, 7904, 7905, 7911, 7916, 7917, 7928, 7930, 7933, 7934, 7940, 7945, 7946, 7958, 7960, 7963, 7964, 7970, 7975, 7976, 10031, 10032, 10038, 10291, 10292, 10302	\[192, 217
		\@tempcnta	11996, 11997, 11998, 11999, 12000, 12002, 12005, 12006, 12007, 12013, 12015, 12017, 12052, 12053, 12054, 12057, 12058, 12059, 12060, 12061, 12258, 12259, 12260	\{	402
		\@tempdima	1880, 4599, 4600, 4601, 4602,	\}	403
				\]	193, 218
				\^	186, 211, 1630, 1631, 2529, 3578, 3579, 3587, 12418, 12430, 12442, 12649,

12665, 12673, 12686, 12700, 12714, 12730, 12740, 12741, 12754, 12768, 12816, 12853, 12872, 12893, 13018, 13034, 13042, 13054, 13068, 13082, 13098, 13108, 13109, 13122, 13136, 13162, 13164, 13202, 13204, 13218, 13220, 13254, 13256, 13257, 13335, 13337, 13383, 13385, 13387, 13389, 14321, 14323	12690, 12692, 12694, 12696, 12698, 12700, 12702, 12704, 12706, 12708, 12710, 12712, 12714, 12716, 12718, 12720, 12722, 12724, 12726, 12728, 12730, 12732, 12734, 12735, 12737, 12738, 12740, 12741, 12743, 12744, 12746, 12748, 12750, 12752, 12754, 12756, 12758, 12760, 12762, 12764, 12766, 12768, 12770, 12772, 12774, 12776, 12777, 12850, 13014, 13016, 13018, 13020, 13022, 13024, 13026, 13028, 13030, 13032, 13034, 13036, 13038, 13040, 13042, 13044, 13046, 13048, 13050, 13052, 13054, 13056, 13058, 13060, 13062, 13064, 13066, 13068, 13070, 13072, 13074, 13076, 13078, 13080, 13082, 13084, 13086, 13088, 13090, 13092, 13094, 13096, 13098, 13100, 13102, 13103, 13105, 13106, 13108, 13109, 13111, 13112, 13114, 13116, 13118, 13120, 13122, 13124, 13126, 13128, 13130, 13132, 13134, 13136, 13138, 13140, 13142, 13144, 13409, 13411, 13413, 13415, 13416, 13418, 13420, 13422, 13424, 13426, 13428, 13430, 13432, 13434, 13436, 13438, 13440, 13442, 13443, 13445, 13447, 13449, 13451, 13453, 13455, 13457, 13459, 13508, 13510, 13512, 13514, 13516, 13518, 13520, 13523, 13525, 13650, 13652, 13654, 13656, 13658, 13660, 13662, 13664, 13666, 13668, 13670, 13672, 13674, 13676, 13677, 13679, 13681, 13683, 13685, 13687, 13689, 13691, 13693, 13695, 14081, 14083, 14085, 14087, 14089, 14091, 14093, 14095, 14097, 14099, 14101, 14103, 14105, 14107, 14109, 14111, 14113, 14115, 14117, 14119, 14121, 14123, 14125, 14127, 14129, 14131, 14133, 14135, 14137, 14139, 14141, 14143, 14145, 14147, 14149, 14151, 14153, 14155, 14157, 14159, 14161, 14163, 14165, 14167, 14169, 14171, 14173, 14175, 14177, 14179, 14181, 14183,	14185, 14187, 14189, 14191, 14193, 14343, 14345, 14347, 14349, 14569, 14571, 14573, 14575, 14577, 14579, 14581, 14583, 14585, 14587, 14589, 14591, 14593, 14595, 14597, 14599, 14601, 14603, 14605, 14607, 14609, 14611, 14613, 14615, 14617, 14619, 14621, 14623, 14625, 14627, 14629, 14631, 14633, 14635, 14637, 14639, 14641, 14643, 14645, 14647, 14649, 14651, 14653, 14655, 14657, 14665, 14667, 14689, 14691, 14692, 14696, 14698, 14699, 14702, 14704, 14706, 14717, 14719, 14723, 14724, 14725, 14726, 14727, 14728, 14729, 14730, 14732, 14733, 14734, 14735, 14736, 14737, 14738, 14739, 14740, 14741, 14742, 14743, 14744, 14745, 14746, 14747, 14748, 14749, 14750, 14752, 14753, 14754, 14755, 14756, 14757, 14758, 14759, 14760, 14761, 14762, 14764, 14766, 14777, 14779, 14783, 14784, 14785, 14786, 14787, 14788, 14789, 14790, 14792, 14793, 14794, 14795, 14796, 14797, 14798, 14799, 14800, 14801, 14802, 14803, 14804, 14805, 14806, 14807, 14808, 14809, 14810, 14812, 14813, 14814, 14815, 14816, 14817, 14818, 14819, 14820, 14821, 14874, 14876
_ . 187, 212, 410, 3582, 3599, 3600		
\' 166, 172, 179, 182, 2465, 2599, 2602, 2604, 2612, 12416, 12428, 12440, 12645, 12661, 12669, 12682, 12696, 12710, 12726, 12734, 12735, 12750, 12764, 12812, 12851, 12870, 12891, 13014, 13030, 13038, 13050, 13064, 13078, 13094, 13102, 13103, 13118, 13132, 13449, 13451, 13697, 13725, 13862, 13890, 14293, 14295, 14343, 14345, 14704, 14709, 14714, 14719, 14724, 14729, 14734, 14739, 14744, 14749, 14754, 14759, 14764, 14769, 14774, 14779, 14784, 14789, 14794, 14799, 14804, 14809, 14814, 14819		
\ 188, 213, 1455, 1571, 2411, 3118, 6487, 7072, 7082		
\~ 409, 1002, 1680, 2523, 2531, 2532, 2533, 3210, 3603, 12419, 12431, 12443, 12651, 12680, 12688, 12716, 12748, 12756, 12818, 12854, 12873, 12894, 13020, 13048, 13056, 13084, 13116, 13124, 13226, 13228, 13229, 13359, 13361, 14289, 14291, 14339, 14341, 14347, 14349, 14706, 14711, 14716, 14721, 14726, 14731, 14736, 14741, 14746, 14751, 14756, 14761, 14766, 14771, 14776, 14781, 14786, 14791, 14796, 14801, 14806, 14811, 14816, 14821		
Numbers		
\3 . . . 387, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1794, 12152, 12645, 12647, 12649, 12651, 12653, 12655, 12657, 12659, 12661, 12663, 12665, 12667, 12669, 12671, 12673, 12675, 12677, 12678, 12680, 12682, 12684, 12686, 12688,		\9 390, 1722, 1737, 1746, 1774, 1794, 12850, 14195, 14197, 14199, 14201, 14203, 14205, 14207, 14209, 14211, 14213, 14215, 14217, 14219, 14221, 14223, 14225, 14227, 14229, 14231, 14233, 14235, 14237, 14239, 14241, 14243, 14245, 14247, 14249, 14251, 14253, 14255, 14257, 14259, 14261, 14263, 14265, 14267, 14269, 14271, 14273, 14275, 14277, 14279, 14281, 14283, 14285, 14287, 14289, 14291, 14293, 14295, 14297, 14299, 14301, 14303, 14305, 14307, 14309, 14311, 14313, 14315, 14317, 14319, 14321, 14323, 14325, 14327, 14329, 14331, 14333, 14335, 14337, 14339, 14341, 14343,

14345, 14347, 14349, 14351,
 14353, 14355, 14357, 14359,
 14361, 14363, 14365, 14367,
 14369, 14371, 14373, 14375,
 14377, 14379, 14381, 14383,
 14385, 14387, 14389, 14391,
 14393, 14395, 14397, 14399,
 14401, 14403, 14405, 14407,
 14409, 14411, 14413, 14415,
 14417, 14419, 14421, 14423,
 14425, 14427, 14429, 14431,
 14433, 14435, 14437, 14439,
 14441, 14443, 14445, 14447,
 14449, 14451, 14453, 14455,
 14457, 14459, 14461, 14463,
 14465, 14467, 14469, 14471,
 14473, 14475, 14477, 14479,
 14481, 14483, 14485, 14487,
 14489, 14491, 14493, 14495,
 14497, 14499, 14501, 14503,
 14505, 14507, 14509, 14511,
 14513, 14515, 14517, 14519,
 14521, 14523, 14525, 14527,
 14529, 14531, 14533, 14535,
 14537, 14539, 14541, 14543,
 14545, 14547, 14549, 14551,
 14553, 14555, 14557, 14559,
 14561, 14563, 14565, 14567,
 14569, 14571, 14573, 14575,
 14577, 14579, 14581, 14583,
 14585, 14587, 14589, 14591,
 14593, 14595, 14597, 14599,
 14601, 14603, 14605, 14607,
 14609, 14611, 14613, 14615,
 14617, 14619, 14621, 14623,
 14625, 14627, 14629, 14631,
 14633, 14635, 14637, 14639,
 14641, 14643, 14645, 14647,
 14649, 14651, 14653, 14655,
 14657, 14659, 14661, 14663,
 14665, 14667, 14669, 14671,
 14703, 14705, 14707, 14708,
 14709, 14710, 14711, 14712,
 14713, 14714, 14715, 14716,
 14718, 14720, 14721, 14722,
 14723, 14724, 14725, 14726,
 14728, 14730, 14733, 14735,
 14737, 14738, 14739, 14740,
 14741, 14742, 14743, 14744,
 14745, 14746, 14748, 14750,
 14752, 14753, 14754, 14755,
 14756, 14758, 14759, 14760,
 14761, 14763, 14765, 14767,
 14768, 14769, 14770, 14771,
 14772, 14773, 14774, 14775,
 14776, 14778, 14780, 14781,
 14782, 14783, 14784, 14785,

14786, 14788, 14790, 14793,
 14795, 14797, 14798, 14799,
 14800, 14801, 14802, 14803,
 14804, 14805, 14806, 14808,
 14810, 14812, 14813, 14814,
 14815, 14816, 14818, 14819,
 14820, 14821, 14875

_ . . . 504, 2546, 2549, 6110, 6133,
 12440, 12441, 12442, 12443,
 12444, 12445, 12446, 12447,
 12448, 12449, 12450, 12451,
 12870, 12871, 12872, 12873,
 12874, 12875, 12876, 12877,
 12878, 12879, 12880, 12881,
 12882, 12883, 12884, 12885,
 12886, 12887, 12888

A

\ABREVE . . 14695, 14767, 14768,
 14769, 14770, 14771
 \abreve 14688, 14707, 14708, 14709,
 14710, 14711
 \AccFancyVerbLineautorefname .
 2573
 \Accfootnoteautorefname . . 2553
 \Acctheoremautorefname . . 2577
 \ACIRCUMFLEX . 14696, 14772,
 14773, 14774, 14775, 14776
 \acircumflex . . 2604, 14689, 14712,
 14713, 14714, 14715, 14716
 \Acrobatmenu . 1869, 3146, 4752,
 7736, 8380, 8845, 9618
 \active . 980, 987, 3579, 3580, 3581,
 3582, 3583, 3584, 3587, 3589,
 3592, 3600, 12156
 \add@accent 401
 \addcontentsline 5905, 5976, 6294,
 6299, 6365, 12396
 \addtocontents 6334, 6366, 6640,
 6692, 12383, 12384
 \addtocounter . 5381, 5404, 5413,
 5424, 5428, 5607, 8285
 \addvspace 12383, 12384
 \advance 324, 325,
 1001, 3904, 4233, 4279, 4600,
 4601, 4604, 4605, 4963, 7498,
 7840, 7912, 7941, 7971, 9003,
 10039, 10303, 10571, 10615,
 10616, 11027, 11072, 11073,
 11311, 11368, 11413, 11414,
 11997, 11999, 12000, 12006,
 12015, 12060, 12259
 \AE 12657, 13026, 13453
 \ae 12722, 13090, 13455
 \afterassignment 1344, 1350, 1356

\AfterBeginDocument 240, 2248,
 2302, 3250, 3350, 3560, 4669,
 4779, 5183, 9924, 9962
 \aftergroup 5805
 \alef 14830
 \alefhamza 14826
 \aleflowerhamza 14828
 \alefmadda 14825
 \alefmaqsura 14859
 \Alph 5012, 5314, 5315
 \alph 5013, 5578, 5609
 \AMSautorefname 7046
 \anchor@spot . . 3844, 3857, 3864,
 3870, 7325, 7789, 7873, 8607,
 8678, 9138, 9984, 10249
 \appendix 5311, 5312
 \appendixautorefname 2421, 2439,
 2457, 2475, 2493, 2511, 2529,
 2561, 2562, 2587, 2605, 7056
 \arabic . . . 5009, 5220, 5223, 5226,
 5227, 5228, 5230, 5231, 5232,
 5233, 5235, 5236, 5237, 5238,
 5239, 5240, 5243, 5253, 5254,
 5293, 5388, 6374, 6380, 6429,
 6443, 6628, 6633, 6635
 \AtBeginDocument 241, 754, 2147,
 2207, 2344, 2697, 3101, 3135,
 3256, 3486, 5368, 6152, 6893,
 7040, 7236, 7683, 8244, 8661
 \AtBeginShipout 4892, 7769, 8231
 \AtBeginShipoutBox . 4896, 4899,
 7764, 7765, 8232, 8233
 \AtBeginShipoutFirst 4903, 8507,
 9797, 9912
 \AtEndDocument . . 4799, 10945
 \AtEndOfPackage 648, 1818, 2670,
 2678, 2685, 3238, 3264, 3270,
 3415, 3438
 \AtVeryEndDocument . . . 5105
 \author 4828, 4838
 \autopageref 3258, 6927
 \autoref . . . 492, 3257, 6946, 10323
 \ayn 14848

B

\b . . . 640, 644, 650, 12426, 12438,
 12450, 12842, 12865, 12884,
 14201, 14203, 14209, 14211,
 14241, 14243, 14245, 14247,
 14261, 14263, 14277, 14279,
 14285, 14287, 14325, 14327,
 14329
 \baa 14831
 \back@none . . . 2356, 2366, 2379
 \back@page 2358, 2371
 \back@section . 2357, 2363, 2369,
 2375

<code>\back@slide</code>	2359, 2368	<code>\capitalcedilla</code>	12889	<code>\color@hbox</code> 7241, 7832, 7898, 7928,	7958, 8249, 10031, 10291
<code>\backcite</code>	6170	<code>\capitalcircumflex</code>	12893	<code>\columnwidth</code>	5799
<code>\backref</code>	6201, 10327	<code>\capitaldieresis</code>	12895	<code>\comma@entry</code>	4274, 4281, 4283
<code>\baselineskip</code>	1872, 4613, 4614, 4615, 4616, 4617, 4618, 7890, 9155, 9176, 9780	<code>\capitaldotaccent</code>	12901	<code>\comma@parse</code>	4273
<code>\bbl@cite@choice</code>	6017	<code>\capitalgrave</code>	12891	<code>\contentsline</code>	4788, 4789, 4800, 6335, 6339, 6366, 6368
<code>\BeforeTeXIVht</code>	2244	<code>\capitalhungarumlaut</code>	12896	<code>\copy</code> 5481, 5490, 7251, 7765, 8233,	8259
<code>\begin</code>	10332, 14880	<code>\capitalmacron</code>	12900	<code>\count@</code>	999, 1000, 1001, 1002, 1345, 2756, 2757, 2762, 2763, 3903, 3904, 3919, 4216, 4231, 4233, 4257, 4279, 4295, 7493, 7494, 7495, 7496, 7497, 7498, 7501, 8999, 9000, 9001, 9002, 9003, 9006
<code>\belowpdfbookmark</code>	12056	<code>\capitalnewtie</code>	12903	<code>\CurrentBorderColor</code>	7314, 7316, 7330, 7332, 7339, 7341, 7346, 8669, 8700, 8702, 8713, 8715, 8734, 8736, 8786, 8788, 8805, 8807
<code>\bfseries</code>	438, 6116, 6139, 6823, 6843, 6860, 6974	<code>\capitalogonek</code>	12890	<code>\currentpdfbookmark</code>	12048
<code>\bgroup</code>	513, 3650, 5792, 5804, 8607, 9168, 10773, 10865, 10886	<code>\capitalring</code>	12897	<code>\curu</code>	13893
<code>\bibcite</code>	6008, 6014, 6018, 6043, 6058, 6074, 6084	<code>\capitaltie</code>	12902	<code>\cyr</code>	471, 2541, 2543, 2546, 2549, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2563, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578
<code>\bitsetGetDec</code>	3956, 4089, 4107, 4121, 4134, 4150, 4182, 4207	<code>\capitaltilde</code>	12894	<code>\CYRA</code>	13732, 14107, 14111
<code>\bitsetGetHex</code>	3957	<code>\caption</code>	5875, 5877, 5964, 5966	<code>\cyra</code>	2543, 2550, 2552, 2557, 2560, 2565, 2566, 2572, 2576, 13797, 14109, 14113
<code>\bitsetGetSetBitList</code>	3945	<code>\catcode</code>	172, 173, 184, 185, 186, 187, 206, 703, 980, 987, 1455, 1456, 1571, 1572, 1629, 1630, 1631, 3452, 3454, 3578, 3579, 3580, 3581, 3582, 3583, 3584, 3587, 3589, 3592, 3600, 3610, 3656, 3657, 7072, 9203, 9204, 12085, 12087, 12156	<code>\CYRABHCH</code>	14071, 14076
<code>\bitsetIsEmpty</code> 4086, 4104, 4118, 4131, 4147, 4179, 4204		<code>\cf@encoding</code>	1056	<code>\cyrabhch</code>	14073, 14079
<code>\bitsetReset</code>	4059, 4093, 4112, 4126, 4139, 4155, 4187	<code>\chapterautorefname</code>	2422, 2440, 2458, 2476, 2494, 2512, 2530, 2559, 2588, 2606, 7057	<code>\CYRABHCHDSC</code>	14075
<code>\bitsetSetValue</code>	3925, 3935	<code>\chapternumberline</code> 12028, 12032		<code>\cyrabhchdsc</code>	14078
<code>\BOOKMARK</code>	12038, 12067	<code>\char</code>	10972, 12089, 12126	<code>\CYRABHDZE</code>	14139
<code>\box</code> 4607, 4899, 7255, 8263, 9465		<code>\chardef</code>	2063, 2064, 2065, 2066, 2270, 2272	<code>\cyrabhdze</code>	14141
<code>\bullet</code>	6775, 6783, 6793, 6801	<code>\check@bmn@number</code> 12193, 12201, 12250, 12258		<code>\CYRABHHA</code>	14029
C		<code>\CheckBox</code>	4564	<code>\cyrabhha</code>	14031
<code>\C</code>	12836, 13941, 13943	<code>\CheckCommand</code>	5746	<code>\CYRAE</code>	14115
<code>\c</code>	641, 645, 651, 2523, 2531, 2532, 2533, 4851, 4858, 12424, 12436, 12448, 12659, 12724, 12844, 12859, 12878, 12889, 13028, 13092, 13214, 13216, 13259, 13261, 13269, 13271, 13289, 13291, 13323, 13325, 13339, 13341, 13347, 13349, 13494, 13496, 13996, 13999, 14213, 14215, 14233, 14235	<code>\checkcommand</code>	42, 5423, 5852, 5859, 5866, 5964, 5974, 6068, 6080, 6365, 6368, 6429, 6857	<code>\cyrae</code>	14117
<code>\c@footnote</code> 5688, 5749, 5757, 5861		<code>\checklatex</code>	4, 5851, 5963, 6067, 6364, 6856	<code>\CYRB</code>	13734
<code>\c@page</code>	4945, 4963, 4964, 4968, 4980, 4982, 4987, 4994, 4996, 4998, 5027, 6257	<code>\checkpackage</code>	9, 5422, 6428	<code>\cyrb</code>	2557, 13799
<code>\c@secnumdepth</code>	12314, 12332, 12348	<code>\ChoiceBox</code>	4283	<code>\CYRBYUS</code>	13917
<code>\c@slidesection</code>	6641, 6769, 6770	<code>\ChoiceMenu</code>	4561	<code>\cyrbyus</code>	13919
<code>\c@slidesubsection</code>	6693	<code>\citation</code>	6113, 6136, 6162	<code>\CYRC</code>	13777
<code>\c@tocdepth</code>	2740, 2745	<code>\citeauthoryear</code>	6228, 6234	<code>\cycr</code>	13842
<code>\calc@bmn@number</code>	12182, 12257	<code>\citeN</code>	6225	<code>\CYRCH</code>	13779, 14179
<code>\calculate@pdfview</code>	2987, 2990	<code>\CJK@char</code>	983	<code>\cyrch</code>	2549, 2550, 2558, 13844, 14181
<code>\capitalacute</code>	12892	<code>\CJK@charx</code>	984	<code>\CYRCHLDSC</code>	14099
<code>\capitalbreve</code>	12899	<code>\CJK@ignorespaces</code>	982	<code>\cyrchldsc</code>	14101
<code>\capitalcaron</code>	12898	<code>\CJK@punctchar</code>	985	<code>\CYRCHRDSC</code>	14059
		<code>\CJK@punctcharx</code>	986	<code>\cyrchrdsc</code>	14061
		<code>\close@pdflink</code>	7324, 7336, 7344, 7375, 7411, 7446, 7759	<code>\CYRCHVCRS</code>	14063
		<code>\closeout</code>	4782, 12076		
		<code>\clubpenalty</code>	5664, 5666		
		<code>\codeof</code>	6192		
		<code>\color@endbox</code>	7248, 7832, 7898, 7928, 7958, 8256, 10031, 10291		

\cyrchvcrs	14065	\CYRISHRT	13750	\CYROMEGATITLO	13953
\CYRD	13740	\cyrishrt	13815	\cyromegatitlo	13955
\cyrd	2546, 2549, 2560, 2565, 2566, 13805	\CYRISHRTDSC	13967	\CYROT	13957
\CYRDJE	13702	\cyrishrtdsc	13969	\cyrot	13959
\cyrdje	13867	\CYRIZH	13937, 13941	\CYROTLD	14155, 14159
\CYRDZE	13708	\cyrizh	13939, 13943	\cyrotld	14157, 14161
\cyrdze	13873	\CYRJE	13715	\CYRP	13763
\CYRDZHE	13730	\cyrje	13880	\cyrp	2546, 2549, 2550, 2554, 2555, 2561, 2563, 2567, 2568, 2569, 2570, 13828
\cyrdzhe	13895	\CYRK	13723, 13753	\CYRpalochka	14081
\CYRE	13697, 13700, 13742, 14119	\cyrk	2552, 2553, 2555, 2569, 2570, 2572, 2573, 2574, 13818, 13888	\CYRPHK	14025
\cyre	2543, 2549, 2550, 2563, 2575, 2576, 2577, 13807, 13862, 13865, 14121	\CYRKBEAK	14013	\cyrphk	14027
\cyreref	14165	\cyrkbeak	14015	\CYRPSI	13929
\CYREREV	13791, 14163	\CYRKDSC	14001	\cyrpsi	13931
\cyrerev	13856	\cyrkdsc	14003	\CYRR	13765
\CYRERY	13787, 14187	\CYRKHCERS	14009	\cyrr	2541, 2543, 2546, 2549, 2550, 2556, 2560, 2561, 2563, 2565, 2566, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 13830
\cyrery	2541, 2543, 13852, 14189	\cyrkhcrs	14011	\CYRTICK	13975
\CYRF	13773	\CYRKHK	14087	\cyrttick	13977
\cyrf	13838	\cyrkhk	14089	\CYRS	13767, 14034
\CYRFITA	13933	\CYRKOPPA	13961	\cyr	2546, 2549, 2552, 2553, 2556, 2571, 2572, 2573, 2574, 2578, 13832, 14037
\cyrfita	13935	\cyrkoppa	13963	\CYRSCHWA	14123, 14127
\CYRG	13704, 13738	\CYRKSI	13925	\cyrschw	14125, 14129
\cyrg	2559, 13803, 13869	\cyrksi	13927	\CYRSDSC	14033, 14034
\CYRGDSC	14183	\CYRKVCRS	14005	\cyrstdsc	14036
\cyrgdsc	14185	\cyrkvcrs	14007	\CYRSEMISFTSN	13971
\CYRGHCRS	13983	\CYRL	13755	\cyrsemisftsn	13973
\cyrghcrs	13985	\cyrl	2557, 2559, 2561, 2563, 13820	\CYRSFTSN	13789
\CYRGHK	13987	\CYRLDSC	14091	\cyr	13854
\cyrghk	13989	\cyrldsc	14093	\CYRSH	13781
\CYRGUP	13979	\CYRLJE	13717	\cyrsh	13846
\cyrgup	13981	\cyrlje	13882	\CYRSHCH	13783
\CYRH	13775	\CYRLYUS	13909	\cyrshch	13848
\cyrh	13840	\cyrlyus	13911	\CYRSHHA	14067
\CYRHDSC	14051	\CYRM	13757	\cyrshha	14069
\cyrhdsc	14053	\cyr	2546, 2550, 2576, 2577, 13822	\CYRT	13769
\CYRHHK	14191	\CYRMDSC	14103	\cyrt	2546, 2549, 2555, 2557, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 13834
\cyrhhk	14193	\cyrmdsc	14105	\CYRTDSC	14039
\CYRHRDSN	13785	\CYRN	13759	\cyrt	14041
\cyrhrdsn	13850	\cyrn	2543, 2549, 2550, 2552, 2553, 2555, 2563, 2569, 2570, 13824	\CYRTETSE	14055
\CYRI	13725, 13748, 13751, 14143, 14147	\CYRNDSC	14017	\cyrtetse	14057
\cyri	2543, 2546, 2550, 2556, 2561, 2563, 13813, 13816, 13890, 14145, 14149	\cyrndsc	14019	\cyrthousands	13965
\CYRIE	13706	\CYRNG	14021	\CYRTSHE	13721
\cyrie	13871	\cyrng	14023	\cyrtshe	13886
\CYRII	13710, 13713	\CYRNHK	14095	\CYRU	13728, 13771, 14167, 14171, 14175
\cyrii	13875, 13878	\cyrnhk	14097	\cyru	2553, 2555, 2569, 2570, 2573, 2577, 13836, 14169, 14173, 14177
\CYRIOTBYUS	13921	\CYRNJE	13719	\CYRUK	13945
\cyriotbyus	13923	\cyrnje	13884		
\CYRIOTE	13905	\CYRO	13761, 14151		
\cyriote	13907	\cyro	2546, 2549, 2552, 2553, 2563, 2572, 2573, 2575, 2576, 2577, 13826, 14153		
\CYRIOTLYUS	13913	\CYROMEGA	13897		
\cyriotlyus	13915	\cyromega	13899		
		\CYROMEGARND	13949		
		\cyromegarnd	13951		

\cyruk	13947	3679, 4558, 4561, 4564, 4567,	2800, 2808, 2811, 2814, 2816,
\CYRUSHRT	13727	4570, 4573, 4576, 6901, 6927,	2819, 2828, 2838, 2845, 2852,
\cyrushrt	13892	6946, 12275	2853, 2925, 2934, 2951, 2955,
\CYRV	13736	\DeclareTextAccent 12416, 12417,	2959, 2963, 2967, 2973, 2979,
\cyrv	2541, 2543, 13801	12418, 12419, 12420, 12421,	2983, 2987, 2988, 3008, 3015,
\CYRY	14043	12422, 12423, 12424, 12425,	3022, 3023, 3026, 3029, 3032,
\cyr	14045	12426, 12427	3035, 3038, 3041, 3044, 3067,
\CYRYA	13795	\DefaultHeightofCheckBox . 4613,	3070, 3073, 3897, 3985, 4041,
\cyr	13860	10723, 11199, 11568	4344, 4349, 4361, 4398, 4401,
\CYRYAT	13901	\DefaultHeightofChoiceMenu . . .	4404, 4407, 4410, 4413, 4416,
\cyrat	13903	. 4615, 10561, 11017, 11358	4420, 4423, 4426, 4429, 4432,
\CYRYHCRS	14047	\DefaultHeightofReset . . . 4611,	4435, 4438, 4441, 4444, 4447,
\cyrhcrs	14049	10697, 11172, 11536	4450, 4453, 4483, 4486, 4489,
\CYRYI	13712	\DefaultHeightofSubmit . . . 4609,	4492, 4511, 4517, 4531, 4547,
\cyr	13877	10679, 11149, 11512	4553, 5118, 5129, 9493, 9495,
\CYRYO	13699	\DefaultHeightofText 4617, 10537,	9498, 9500, 9502, 9511, 9519,
\cyr	13864	10992, 11325	9526, 9528, 9530, 9532, 9534,
\CYRYU	13793	\DefaultHeightofTextMultiline . .	9536, 9545, 9555, 9557, 9559,
\cyr	13858	. 4618, 10535, 10990, 11323	9560, 9566, 9575, 9577, 9579,
\CYRZ	13746, 13996, 14135	\DefaultOptionsofCheckBox 4623,	9581, 9583, 9585, 9587, 9589,
\cyrz	2560, 2565, 2566, 13811,	10726, 11202, 11571	9591, 9593, 9595, 9597, 9599,
	13999, 14137	\DefaultOptionsofComboBox 4626	9601, 9603, 9605, 9606, 9607,
\CYRZDSC	13995	\DefaultOptionsofListBox . 4625	9608, 9609, 9610, 9611, 9612,
\cyrz	13998	\DefaultOptionsofPopdownBox .	9613, 9614, 9615
\CYRZH	13744, 14083, 14131 4627	\df@tag 6390, 6396
\cyrzh	2543, 2563, 13809, 14085,	\DefaultOptionsofPushButton . .	\DH 12677, 13046
	14133	. 4622, 10653, 11121, 11479	\dh 12746, 13114
\CYRZHDSC	13991	\DefaultOptionsofRadio . . . 4628	\dhal 14839
\cyrzh	13993	\DefaultOptionsofReset . . . 4621,	\dimen@ 365, 366, 370, 1351, 1419,
		10700, 11175, 11539	1420, 1423, 1425, 3104, 3105,
D		\DefaultOptionsofSubmit . . 4620,	3107, 3114, 3115, 8966, 8967,
\d	642, 646, 652, 2601, 2605, 2607,	10682, 11152, 11515	8969, 9456, 9468, 9471
	2608, 2609, 2610, 2611, 2613,	\DefaultOptionsofText 4624,	\dimexpr . . 377, 1698, 1700, 1708,
	12427, 12439, 12451, 12840,	10543, 10998, 11331	1713, 1716, 1718, 1732, 1734,
	12866, 12885, 14703, 14708,	\DefaultWidthofCheckBox . 4614,	1737, 1738, 1745, 1748, 1751,
	14713, 14718, 14723, 14728,	10722, 11198, 11567	1752, 1753, 1754, 1764, 1769,
	14733, 14738, 14743, 14748,	\DefaultWidthofChoiceMenu . . .	1777, 1781, 1786, 1796, 1799,
	14753, 14758, 14763, 14768,	. 4616, 10560, 11016, 11357	1804, 1807, 1812, 1813
	14773, 14778, 14783, 14788,	\DefaultWidthofReset 4612,	\ding 4458, 4461
	14793, 14798, 14803, 14808,	10696, 11171, 11535	\DingObject 11094
	14813, 14818	\DefaultWidthofSubmit . . . 4610,	\discretionary 515
\dad	14845	10678, 11148, 11511	\divide 7494, 9000
\dal	14838	\DefaultWidthofText 4619, 10532,	\DJ 2613, 12678, 13178, 14697
\damma	14865	10987, 11320	\dj 2610, 2611, 13180, 14690
\declare@shorthand	758, 759, 764,	\define@key 1962, 1964, 2007, 2022,	\do 1000, 1979, 1984, 1989,
	765, 770, 780, 781, 782, 787,	2025, 2028, 2036, 2039, 2049,	2826, 2847, 2848, 2849, 2850,
	788, 793, 794, 799, 804, 805,	2052, 2055, 2072, 2084, 2086,	2865, 2866, 2867, 2868, 2869,
	810, 815, 816, 817, 818, 819,	2089, 2092, 2109, 2113, 2116,	2870, 2873, 2874, 2875, 2876,
	820, 825, 826, 831, 832, 837,	2119, 2122, 2125, 2128, 2163,	2877, 2878, 2881, 2882, 2885,
	838	2220, 2240, 2241, 2255, 2258,	2886, 2887, 2888, 2889, 2892,
\DeclareFontEncoding	. . . 12415,	2261, 2264, 2267, 2275, 2278,	2893, 2894, 2895, 2896, 2899,
	12810	2281, 2284, 2288, 2316, 2332,	2900, 2901, 2902, 2903, 2906,
\DeclareFontFamily	662, 670, 2142	2337, 2340, 2343, 2346, 2350,	2907, 2908, 2909, 2910, 2913,
\DeclareFontShape	663, 671, 2143	2353, 2360, 2389, 2408, 2411,	2914, 2917, 2918, 2919, 2922,
\DeclareFontSubstitution	. . . 664,	2637, 2668, 2676, 2684, 2691,	2923, 2929, 2930, 2931, 2932,
	672, 2144	2694, 2709, 2734, 2737, 2741,	3060, 3061, 3062, 3063, 3064,
\DeclareRobustCommand	. 3555,	2769, 2774, 2778, 2781, 2788,	3065, 3945, 5589, 6108, 6131,
	3556, 3649, 3666, 3668, 3670,		

10565, 10627, 10835, 10842,
10852, 11021, 11084, 11362,
11428, 12155

\documentclass 2

\dospecials 12160

\dots 413

\dp 4603, 4606, 5797, 7833,
7901, 7930, 7960, 9457, 9460,
10032, 10292, 11306

\dth@counter . . . 5629, 5630, 5655

\dth@everypar 5643

\dvipdfm@setdim . . 11303, 11345,
11443, 11468, 11500, 11526,
11555, 11584

E

\ECIRCUMFLEX . 14698, 14782,
14783, 14784, 14785, 14786

\ecircumflex . 14691, 14722, 14723,
14724, 14725, 14726

\EdefEscapeString 623

\EdefUnescapeString 619

\egroup . . 514, 8607, 9199, 10782,
10874, 10899

\em 444

\emph 423

\empty 982, 2744

\enc@html 4348, 4351

\enc@update 398

\END 1081, 1082, 1107, 1108, 1123,
1124, 1141, 1142, 1159, 1160,
1528, 1534, 1539, 1623, 1625,
7610, 7623, 7627, 7634, 7647,
7651, 7657, 7669, 7673

\end 14881

\endeqnarray . . . 5535, 5553, 5560

\endequation 5498, 5530

\endForm 4338

\endinput . . 64, 2252, 2292, 2293,
2306, 2310, 2311, 2320, 2321,
2327, 2328, 3254, 3354, 6817,
9147, 10330, 12265

\endlinechar 3577

\endNoHyper 4735

\EndPreamble 10333

\endsubeqnarray 5564, 5575

\eqnarray 5534, 5536, 5557

\equal 6189

\equation . . 5497, 5506, 5510, 5519

\equationautorefname 2415, 2433,
2451, 2469, 2487, 2505, 2523,
2541, 2542, 2581, 2599, 7046,
7050

\errmessage 2634

\es@roman 472

\escapechar . . . 383, 5582, 12179,
12180, 12231

\eTeX 419, 10338

\etex@unexpanded . . . 1283, 1290

\eTeXversion . . . 7453, 7455, 7457

\evensidemargin 6281

\everypar 5666

\ExecuteOptions 3120, 3121, 3125

\ext@figure 6625

\ext@table 6624

\extra@b@citeb 6115

\extrasvietnam 2677

\extrasvietnamese 2669

F

\fa 14851

\FancyVerbLineautorefname 2428,
2446, 2464, 2482, 2500, 2518,
2536, 2571, 2574, 2594, 2612,
7063

\farsikaf 14872

\farsiya 14874

\fatha 14864

\fbox 10976, 10979

\Field@addtoks 4386, 4408, 4411,
4532, 4555

\Field@boolkey 3898, 3986, 4381,
4402, 4405

\Field@toks . . . 4384, 4385, 4387,
10541, 10572, 10651, 10677,
10695, 10724, 10774, 10791,
10802, 10813, 10823, 10840,
10858, 10866, 10871, 10887,
10896, 10996, 11028, 11119,
11147, 11170, 11200, 11329,
11369, 11477, 11510, 11534,
11569

\Field@Width 4323, 4418

\figureautorefname . . 2418, 2436,
2454, 2472, 2490, 2508, 2526,
2556, 2584, 2602, 7053

\filename@area 3826

\filename@base 3826

\filename@ext . . 3823, 3824, 3826,
3827

\filename@parse 3822

\find@pdfink . . . 7293, 7334, 7343

\Fld@@@additionalactions . 11755,
11798, 11802

\Fld@@@DingDef . 4458, 4461, 4480

\Fld@additionalactions . . . 11755,
11837, 11869, 11903

\Fld@align 4327, 4445, 11705,
11812, 11877

\Fld@annotflags 4105, 4107, 11701,
11731, 11808, 11841, 11873,
11908, 11942

\Fld@bcolor . . . 4329, 4487, 11716,
11718, 11828, 11830, 11856,
11858, 11881, 11893, 11895

\fld@bcolor 11816

\Fld@bordercolor 4330, 4490,
11712, 11714, 11738, 11746,
11748, 11815, 11824, 11826,
11852, 11854, 11880, 11889,
11891, 11915, 11923, 11925,
11949, 11957, 11959

\Fld@bordersep 4331, 4439

\Fld@borderstyle 4333, 4436,
11706, 11736, 11813, 11846,
11878, 11913, 11965

\Fld@borderwidth . . . 4332, 4433,
4597, 4600, 4601, 4604, 4605,
10615, 10616, 11072, 11073,
11413, 11414, 11706, 11736,
11813, 11846, 11878, 11913,
11965

\Fld@calculate@code 4498, 11768,
11770

\Fld@cbsymbol 4334, 4451, 11720

\Fld@charsize . . 4324, 4325, 4430,
10614, 11071, 11412, 11722,
11834, 11862, 11899, 11947

\Fld@checkedfalse 4320

\Fld@checkequals . . . 4390, 10566,
10628, 10843, 10853, 11022,
11085, 11363, 11429

\Fld@choices . . 4213, 4221, 4223,
4227, 4236, 4244, 4249, 4297,
4299, 4307, 4308, 11836

\Fld@color 4328, 4493, 11723,
11835, 11863, 11900

\Fld@default 4238, 4241, 4243, 4442,
10530, 10547, 10558, 10599,
10720, 10772, 10790, 10804,
10812, 10819, 10845, 10855,
10885, 10895, 10985, 11003,
11014, 11056, 11196, 11318,
11336, 11355, 11397, 11565,
11864, 11865, 11901

\Fld@DingDef . . 4451, 4454, 4456

\Fld@disabledfalse 4321

\Fld@export 4050, 4053, 4060, 4353

\Fld@findlength . . . 10822, 10833

\Fld@flags 4119, 4121, 4132, 4134, 4148,
4150, 4180, 4182, 4205, 4207,
11704, 11734, 11811, 11844,
11876, 11911, 11945

\Fld@format@code . . 4496, 11760,
11762

\Fld@getmethodfalse 4372

\Fld@getmethodtrue 4374

\Fld@height . . 4427, 10533, 10550,
10561, 10617, 10632, 10644,
10679, 10697, 10723, 10732,

10988, 11007, 11017, 11074, 11099, 11112, 11149, 11172, 11199, 11210, 11321, 11338, 11358, 11415, 11426, 11461, 11512, 11536, 11568, 11577	11814, 11820, 11822, 11848, 11850, 11879, 11885, 11887, 11914, 11919, 11921, 11948, 11953, 11955	\futurelet 534, 1075 \FV@SetLineNo 5362 \FV@StepLineNo 5361, 5363, 5364
\Fld@hiddenfalse 4008 \Fld@hiddentrue 4009 \Fld@invisiblefalse 4004 \Fld@invisibletrue 4005 \Fld@keystroke@code 4499, 11756, 11758 \Fld@listcount 10626, 10629, 10640, 11083, 11086, 11100, 11106, 11424, 11430, 11434, 11439, 11450, 11457 \Fld@loc 4399 \Fld@maxlen . . 4326, 4421, 11904 \Fld@menulength . . . 4322, 4424, 10563, 10567, 10614, 10834, 10835, 10838, 11019, 11023, 11071, 11360, 11364, 11412 \Fld@name . . 4414, 10529, 10557, 10649, 10719, 10771, 10776, 10787, 10788, 10799, 10800, 10809, 10810, 10818, 10839, 10856, 10864, 10869, 10884, 10893, 10984, 11013, 11117, 11195, 11317, 11354, 11475, 11564, 11695, 11697, 11702, 11732, 11809, 11842, 11874, 11909, 11943 \Fld@norotatefalse 4021 \Fld@norotatetrue 4020 \Fld@noviewfalse 4024 \Fld@noviewtrue 4025 \Fld@nozoomfalse 4017 \Fld@nozoomtrue 4016 \Fld@onblur@code . . 4501, 11776, 11778 \Fld@onclick@code . . . 4495, 4554, 11752 \Fld@onenter@code . 4504, 11788, 11790 \Fld@onexit@code . . 4505, 11792, 11794 \Fld@onfocus@code . 4500, 11772, 11774 \Fld@onmousedown@code . 4502, 11780, 11782 \Fld@onmouseup@code . . . 4503, 11784, 11786 \Fld@printfalse 4013 \Fld@printtrue 4012 \Fld@radiosymbol . . . 4335, 4454, 11860 \Fld@rotation . . 4336, 4484, 11708, 11710, 11737, 11742, 11744,	\Fld@submitflags 4087, 4089, 11935 \Fld@temp 4457, 4459, 4462, 4463, 4472, 4473 \Fld@validate@code . 4497, 11764, 11766 \Fld@value 4239, 4246, 4248, 4448, 10531, 10547, 10559, 10598, 10599, 10986, 11003, 11015, 11055, 11056, 11319, 11336, 11356, 11396, 11397, 11902 \Fld@width . . 4417, 10532, 10546, 10550, 10560, 10597, 10608, 10610, 10632, 10644, 10665, 10678, 10686, 10696, 10710, 10722, 10729, 10732, 10987, 11002, 11007, 11016, 11054, 11065, 11067, 11099, 11112, 11134, 11148, 11156, 11171, 11185, 11198, 11206, 11210, 11320, 11335, 11338, 11357, 11395, 11406, 11408, 11426, 11461, 11493, 11511, 11519, 11535, 11549, 11567, 11575, 11577 \float@caption 5885, 5945 \float@makebox 5947, 5948 \floatingpenalty 5798 \flq 479 \flqq 477 \fmtname 7 \fmtversion 7 \fontencoding . . . 391, 395, 10968 \fontfamily 10967 \fontseries 5622, 10969 \fontshape 3518, 10970 \footins 5792 \footnote 3874 \footnoteautorefname 2416, 2434, 2452, 2470, 2488, 2506, 2524, 2545, 2548, 2582, 2600, 7047, 7051 \footnotesep 5796, 5803 \footnotesize 449, 5794 \footnotetext 5749 \Form 4337 \Form@action 4347, 10763, 11933 \Form@boolkey 4341 \Form@htmlfalse 4340, 4358 \Form@htmltrue 4352 \Form@method 4370, 4378, 10763 \frq 480 \frqq 478	\G . . . 12835, 12861, 12880, 13461, 13463, 13465, 13467, 13469, 13471, 13472, 13474, 13476, 13478, 13480, 13482, 13484 \g@addto@macro 4906, 5057, 6017, 6291, 7676, 8990, 9254, 9749, 9835, 9897, 10184, 10344 \G@refundefinedtrue . 3717, 6117, 6140, 6822, 6842, 6859, 6973 \gaf 14873 \Gauge 4570 \GenericError 522 \GenericInfo 524 \GenericWarning 523 \getpagerefnumber 5462 \getrefbykeydefault . . 5432, 5433 \gexmode 9021, 9022, 9106 \ghayn 14849 \Gin@setfile 6467, 6468 \glossary 486 \glq 475 \glqq 473 \greek@Alph 5328 \Greeknumeral 846 \greeknumeral 845 \grq 476 \grqq 474 \guill@spacing 775 \guillemotleft . . 815, 12604, 12784, 12972, 14677 \guillemotright 816, 12635, 12785, 13004, 14678 \guilsinglleft 12535, 12786, 14383, 14679 \guilsinglright 12537, 12787, 14385, 14680
G		
H		
\H . . . 12831, 12863, 12882, 12896, 13311, 13313, 13375, 13377, 14175, 14177 \h 2603, 14705, 14710, 14715, 14720, 14725, 14730, 14735, 14740, 14745, 14750, 14755, 14760, 14765, 14770, 14775, 14780, 14785, 14790, 14795, 14800, 14805, 14810, 14815, 14820 \H@footnotemark . . 5674, 5691, 5821, 5833, 5844 \H@footnotetext . . . 5673, 5683, 5710, 5775, 5822, 5836, 5844 \H@cmpfootnotetext . 5681, 5693, 5695		

<code>\H@definecounter</code>	6371, 6373	<code>\hskip</code> 1354, 1432, 1920, 1921, 4597,		<code>\Hy@@escapeform</code> .	11655, 11668,
<code>\H@endeqnarray</code>	5535, 5554	10911		11674	
<code>\H@endequation</code>	5498, 5530	<code>\hspace</code>	483, 6195, 6196	<code>\Hy@@SectionAnchor</code>	12272, 12275
<code>\H@endsubeqnarray</code>	5564, 5576	<code>\hss</code>	6285, 12282	<code>\Hy@@Temp</code>	2785, 2787, 4507, 4509
<code>\H@eqnarray</code>	5534, 5539	<code>\ht</code>	4599, 4602, 7839,	<code>\Hy@abspage</code> . .	4926, 4991, 5101,
<code>\H@equation</code>	5497, 5521		7905, 7911, 7917, 7934, 7940,	5176	
<code>\H@item</code> . .	5241, 5247, 6025, 6050		7946, 7964, 7970, 7976, 9456,	<code>\Hy@Acrobatmenu</code> . . .	3162, 3203,
<code>\H@newctr</code>	6376, 6378		10038, 10302, 11304	7737, 8381, 8846, 9619	
<code>\H@old@part</code>	12324, 12335	<code>\htmladdimg</code>	3872	<code>\Hy@activeanchorfalse</code>	3575, 7327,
<code>\H@old@schapter</code> . .	12292, 12302	<code>\htmladdnormallink</code>	3873	7791, 7805, 7874, 7883, 8161,	
<code>\H@old@sect</code> 12346, 12357, 12359		<code>\htmladdnormallinkfoot</code> . . .	3874	8593, 8609, 8679, 8691, 9162,	
<code>\H@old@spart</code>	12337, 12344	<code>\htmlref</code>	3875	9986, 10000, 10251, 10264	
<code>\H@old@ssect</code>	12285, 12290	<code>\Huge</code>	446	<code>\Hy@activeanchortrue</code>	7326, 7788,
<code>\H@refstepcounter</code> . . .	5256, 5266,	<code>\huge</code>	450	7801, 7872, 7880, 8157, 8589,	
5363, 5472, 5520, 5635, 5880,		<code>\Hurl</code>	3665, 3667, 3669	8606, 8677, 8688, 9152, 9983,	
6638, 6691		<code>\hv@pdf@char</code> 12084, 12149, 12150,		9996, 10248, 10260	
<code>\H@seteqlabel</code>	6408, 6410	12151, 12152		<code>\Hy@ActiveCarriageReturn</code>	3611,
<code>\H@subeqnarray</code>	5563, 5567	<code>\hvtex@buffer</code> .	8885, 8889, 8897,	3614	
<code>\ha</code>	14857	8900, 8909, 8913, 8929		<code>\Hy@AnchorName</code> . . .	3702, 3704,
<code>\Haa</code>	14836	<code>\hvtex@gettoken</code> 8884, 8898, 8902,		3707, 3709, 3731, 3733, 3737,	
<code>\halign</code>	495	8911, 8915		3742, 3744	
<code>\hamza</code>	14824	<code>\hvtex@gettoken@</code> . . .	8885, 8887	<code>\Hy@appendixstring</code> .	5309, 5316
<code>\HAR@checkcitations</code>	6205	<code>\hvtex@par@dimension</code>	8880, 8921	<code>\Hy@author</code>	4840, 4844
<code>\HAR@citetoaux</code>	6161	<code>\hvtex@par@direction</code>	8881, 8924	<code>\Hy@babelnormalise</code> .	3680, 3682
<code>\HAR@tempa</code> . .	6206, 6207, 6208,	<code>\hvtex@par@duration</code> .	8882, 8916	<code>\Hy@backout</code> . .	3571, 4720, 4724,
6209, 6210, 6211		<code>\hvtex@par@motion</code> . .	8883, 8918	5991	
<code>\harvardcite</code>	6155, 6192	<code>\hvtex@par@dimension</code> .	8893,	<code>\Hy@backreffalse</code>	288, 2380, 2402,
<code>\harvarditem</code>	6180	8922, 8940, 8943		3262	
<code>\hbox</code>	1343,	<code>\hvtex@par@direction</code> . .	8894,	<code>\Hy@backreftrue</code>	2373, 2377, 2399
1349, 1355, 1884, 2755, 2761,		8925, 8951, 8959		<code>\Hy@BeginAnnot</code>	8274, 8289, 8329,
4418, 4591, 4592, 4593, 4594,		<code>\hvtex@param@duration</code> . .	8895,	8357, 8382	
6145, 6276, 7764, 7834, 7841,		8917, 8964, 8966		<code>\Hy@bibcite</code>	6014, 6018
7902, 7913, 7931, 7942, 7961,		<code>\hvtex@param@motion</code>	8896, 8919,	<code>\Hy@bookmarksdepth</code>	2740, 2745,
7972, 8232, 9168, 9460, 9471,		8940, 8947		2757, 2763, 11982	
10033, 10040, 10293, 10304,		<code>\hvtex@parse@trans</code> . .	8869, 8891	<code>\Hy@bookmarksnumberedfalse</code> . .	289
10911, 11337, 11425, 11460,		<code>\hvtex@produce@trans</code>	8930, 8936	290	
11491, 11520, 11550, 11576,		<code>\hvtex@token</code> . .	8888, 8899, 8905,	<code>\Hy@bookmarkstrue</code>	291
12277		8912, 8917, 8920, 8923, 8925		<code>\Hy@bookmarkstype</code> .	2775, 2777,
<code>\hc@currentHref</code>	5896	<code>\hvtex@trans@code</code> . .	8873, 8874,	6307, 11993	
<code>\HCode</code> 10763, 10765, 10776, 10785,		8875, 8876, 8877, 8878, 8879,		<code>\Hy@boolkey</code> . .	1930, 2023, 2026,
10797, 10805, 10807, 10838,		8892, 8938, 8939, 8941, 8943,		2029, 2050, 2053, 2056, 2087,	
10844, 10849, 10854, 10868,		8945, 8947, 8949, 8951, 8953,		2090, 2093, 2110, 2114, 2117,	
10873, 10877, 10880, 10889		8954, 8955, 8956, 8957, 8959		2120, 2123, 2126, 2129, 2351,	
<code>\headerps@out</code>		<code>\hvtex@trans@effect@Blinds</code>	8873	2354, 2409, 2692, 2695, 2710,	
5151, 9739, 9750, 9822, 9836,		<code>\hvtex@trans@effect@Box</code> . .	8874	2735, 2738, 2779, 2782, 2820,	
9889, 9898, 9911, 9925, 9964,		<code>\hvtex@trans@effect@Dissolve</code> . .	8875	2935, 3024, 3027, 3030, 3033,	
10071, 10185, 10345		8875		3036, 3039, 3042, 3050, 3071,	
<code>\hfill</code> 4591, 4592, 4593, 4594, 6036,		<code>\hvtex@trans@effect@Glitter</code>	8876	3074, 5119	
6069		<code>\hvtex@trans@effect@R</code> . . .	8879	<code>\Hy@BorderArrayPatch</code> . . .	9506,
<code>\Hfootnoteautorefname</code> . . .	7047	<code>\hvtex@trans@effect@Split</code> .	8877	9509, 9748, 10183	
<code>\hhyperref</code>	3879	<code>\hvtex@trans@effect@Wipe</code> .	8878	<code>\Hy@breaklinks@unsupported</code> . .	2098, 9134
<code>\hoffset</code>	6277	<code>\hvtex@trans@par</code> . . .	8912, 8916,	292	
<code>\hphantom</code>	459	8918, 8921, 8924		<code>\Hy@breaklinksfalse</code>	292
<code>\href</code> .	487, 3649, 3873, 3874, 4760	<code>\hvtex@trans@params</code>	8906, 8908,	<code>\Hy@breaklinksunhbox</code>	9447, 9463
<code>\href@</code>	3650, 3653, 3658	8932		<code>\Hy@CatcodeWrapper</code>	3447, 3506,
<code>\href@split</code>	3658, 3659	<code>\Hy@@boolkey</code>	1930, 1931	3550, 3563	
<code>\hsize</code>	5799	<code>\Hy@@@DefNameKey</code> . .	2004, 2006		

\Hy@centerwindowfalse	293		
\Hy@chapapp	5310, 5316, 5323, 12297, 12309, 12386		
\Hy@chapterstring	5305, 5307, 5310, 5322		
\Hy@CheckOptionValue	1974, 2011		
\Hy@CJKbookmarksfalse	294		
\Hy@cjkpu	993, 995, 1014		
\Hy@colorlink	3510, 3518, 3522, 7237, 7319, 7374, 7410, 7445, 7758, 7789, 7810, 7838, 7847, 7873, 7887, 7908, 7920, 7938, 7950, 7968, 7980, 8245, 8320, 8350, 8375, 8399, 8678, 8698, 8761, 8780, 8812, 8842, 8858, 9170, 9431, 9433, 9984, 10005, 10037, 10046, 10249, 10269, 10301, 10309		
\Hy@ColorList	2825, 2826		
\Hy@CounterExists	5206, 5219, 5222		
\Hy@currentbookmarklevel	11988, 11998, 11999, 12005, 12012, 12049, 12052, 12057, 12061		
\Hy@defaultdriver	3339, 3363, 3369		
\Hy@DefFormAction	4345, 4347		
\Hy@DefNameKey	2003, 2846, 2864, 2872, 2880, 2884, 2891, 2898, 2905, 2912, 2916, 2921, 2928, 3059		
\Hy@DEST	9448, 9473		
\Hy@DestName	7283, 7287		
\Hy@DisableOption	1960, 3155, 3156, 3157, 3159, 3243, 3269, 3398, 3399, 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409, 3410, 3411, 3412, 3413, 3414, 3416, 3446, 3499, 3527, 3528, 3573, 3574, 4673, 4674, 4675, 4676, 4677, 4678, 4679, 4680, 4681, 4682, 4683, 4684, 4685, 4686, 4687, 4688, 4689, 4690, 4691, 4692, 4693, 4694, 4695, 4696, 4864, 5059, 5848, 6472, 6570, 6571, 7163, 7264, 7597, 7598, 7599, 7600, 7601, 7602, 7603, 7604, 7732, 8006, 8007, 8008, 8009, 8010, 8011, 8012, 8013, 8272, 8436, 8437, 8438, 8439, 8440, 8441, 8442, 8443, 8525, 8663, 9088, 9089, 9090, 9091, 9092, 9093, 9094, 9095, 9323, 9324, 9325, 9326, 9327, 9328, 9329, 9330, 9815, 10095, 10096, 10097, 10098, 10099, 10100, 10101, 10102		
\Hy@displaydoctitlefalse	322		
\Hy@DistillerDestFix	6253, 9099, 9101		
\Hy@draftfalse	254		
\Hy@drafttrue	255		
\Hy@driver	327, 2103, 2245, 2256, 2259, 2262, 2265, 2276, 2279, 2282, 2285, 2296, 2299, 2324, 2333, 2338, 2341, 2347, 3272, 3275, 3279, 3282, 3286, 3289, 3291, 3295, 3299, 3303, 3306, 3310, 3314, 3318, 3321, 3325, 3328, 3330, 3334, 3338, 3341, 3344, 3347, 3358, 3361, 3363, 3369, 3371, 3376, 3378, 3380		
\Hy@DvipdfmxOutlineOpentru	3388, 3395		
\Hy@EndAnnot	8280, 8323, 8353, 8378, 8402		
\Hy@endcolorlink	3514, 3519, 3523, 7246, 7324, 7789, 7824, 7842, 7849, 7873, 7895, 7909, 7921, 7938, 7950, 7968, 7980, 8254, 8282, 8678, 8744, 8761, 8780, 8812, 8842, 8858, 9196, 9440, 9984, 10021, 10041, 10048, 10249, 10283, 10301, 10309		
\Hy@EndWrap	3448, 3450, 3451, 3484		
\Hy@escapeform	10549, 10631, 10643, 10668, 10687, 10711, 10731, 11005, 11089, 11110, 11137, 11158, 11186, 11208, 11342, 11433, 11464, 11497, 11522, 11551, 11581, 11649, 11679, 11686		
\Hy@escapeformfalse	295		
\Hy@escapestring	11646, 11720, 11752, 11758, 11762, 11766, 11770, 11774, 11778, 11782, 11786, 11790, 11794, 11901, 11902, 11933		
\Hy@EveryPageAnchor	6252, 6292		
\Hy@EveryPageBoxHook	4890, 4894, 4898, 6291, 8990, 9254		
\Hy@EveryPageHook	4889, 4893, 5057, 7676		
\Hy@ExchangeLeftParenthesis	7097, 7103		
\Hy@ExchangeRightParenthesis	7107, 7113		
\Hy@false	1866, 1941, 2365, 2401		
\Hy@figuresfalse	296		
\Hy@finalfalse	255		
\Hy@finaltrue	254		
\Hy@FirstPage	3173		
\Hy@FirstPageHook	4891, 4904, 4906, 5149, 5150, 9749, 9835, 9897, 10184, 10344		
\Hy@fitwindowfalse	297		
\Hy@FixNotFirstPage	7762, 7763, 7769		
\Hy@float@caption	5886, 5936, 5938		
\Hy@float@currentHref	5939, 5941, 5943, 5951, 5954, 5956		
\Hy@footnote@currentHlabel	5721, 5735, 5767, 5811		
\Hy@footnote@currentHref	4668, 5698, 5703, 5713, 5718, 5722, 5736, 5739, 5766, 5808, 5812		
\Hy@FormObjects	10939, 11216, 11270, 11280, 11592, 11642		
\Hy@Gin@setfile	6467, 6469		
\Hy@GlobalStepCount	325, 4991, 5354, 5436, 6267, 6385, 6680, 6731, 11972, 12287, 12296, 12308, 12339, 12354, 12385		
\Hy@gtemp	636, 637, 4243, 4244, 4248, 4249, 4260, 4274, 7121, 7123, 11695, 11697		
\Hy@href	3650, 3652		
\Hy@hyperfootnotesfalse	5670		
\Hy@hyperfootnotestru	298		
\Hy@hyperindextrue	299		
\Hy@hypertextnamesfalse	1822		
\Hy@hypertextnamestru	300		
\Hy@implicittrue	301		
\Hy@Info	239, 1949, 3213, 3215, 3218, 3220, 3223, 3225, 3228, 3230, 3233, 3235, 3431, 3437, 3515, 3520, 3524, 3952, 4630, 4632, 4635, 4637, 4640, 4642, 4645, 4647, 4650, 4652, 4655, 4657, 4660, 4662, 6092, 6153, 6312		
\Hy@LastPage	3176		
\Hy@level	11994, 11996, 12007, 12012, 12013, 12014, 12039		
\Hy@levelcheck	11995, 12010		
\Hy@linkcounter	329, 331, 5354, 5355, 5436, 5437, 6385, 6386, 6411, 6680, 6681, 6685, 6731, 6732, 6736, 11972, 11973, 12287, 12288, 12296, 12297, 12308, 12309, 12339, 12340, 12354, 12355, 12385, 12386		
\Hy@linkfileprefix	2810, 3811, 3832, 7827, 8560, 10025, 10286		

\Hy@linktoc . . . 2058, 2060, 2068, 2070, 2080, 6343	\Hy@pdfmarkerrorfalse . . . 9411	\Hy@RemovePercentCr . . . 3627, 3631, 3636
\Hy@linktoc@all 2066	\Hy@pdfmarkerrortrue 9539, 9548	\Hy@RemoveTransPageAttr 7609, 7623
\Hy@linktoc@none 2063	\Hy@pdfminorversion 7130, 7136, 7139, 7147, 7152, 7154, 7157, 7161	\Hy@Reserved@a 3747, 5537, 5566, 10770, 10820, 10883
\Hy@linktoc@page . . . 2058, 2065, 2068	\Hy@pdfpagehiddenfalse . . . 310	\Hy@RestoreCatcodes 205, 3122, 3382
\Hy@linktoc@section . 2060, 2064, 2070	\Hy@pdfstringdef . 635, 4218, 4226	\Hy@RestoreLastskip 1888, 7284, 7792, 7806, 7875, 7884, 8148, 8594, 8610, 8680, 8692, 9145, 9163, 9987, 10001, 10252, 10265
\Hy@linktocpagefalse 302	\Hy@pdfstringfalse 311, 4698	\Hy@ReturnAfterElseFi 333, 3615
\Hy@LT@currentHlabel 5474, 5485	\Hy@pdfstringtrue 501, 4670	\Hy@ReturnAfterElseFiFiEnd 337, 1317
\Hy@LT@currentHref . 5475, 5486	\Hy@pdfversion 2228, 2239, 4220, 7152, 7154, 7158, 7161, 11690	\Hy@ReturnAfterFi 333, 353, 1495, 3619, 3635, 6582, 6618, 7102, 7112, 11673
\Hy@LT@footnotetext 5764, 5774	\Hy@plainpagesfalse 312	\Hy@ReturnAfterFiFiEnd . . 336, 1309, 1323, 1401, 1408
\Hy@make@anchor . . . 6384, 6391, 6397	\Hy@PrevPage 3170	\Hy@ReturnEnd . . 335, 336, 337, 1329, 1413
\Hy@make@df@tag@@ 6389, 6404	\Hy@ps@CR . . 9879, 9886, 9891, 9892, 9909, 9930, 9931, 9932, 9938, 9945, 9952, 9959	\Hy@safe@activesfalse 338, 3540, 3545, 3761, 6962
\Hy@make@df@tag@@@ 6395, 6405	\Hy@pstringB 7521, 7526, 8474, 8486, 9384, 9400, 10156, 10172	\Hy@safe@activetrue . 338, 3538, 3543, 3607, 3644, 3684, 3753, 6872, 6951
\Hy@maketitle@end . . 5825, 5830, 5832	\Hy@pstringD . 7381, 7405, 8331, 8345, 9684, 9700	\Hy@samed@currentHlabel . 5732, 5737
\Hy@maketitle@optarg 5823, 5828	\Hy@pstringdef 7067, 7282, 7303, 7349, 7380, 7381, 7416, 7417, 7521, 8099, 8298, 8330, 8331, 8358, 8474, 8697, 8766, 8819, 8820, 9384, 9537, 9546, 9665, 9683, 9684, 9708, 9709, 10156, 11672, 12191, 12207	\Hy@samed@currentHref . . 5733, 5738
\Hy@MaybeStopNow . 2287, 2292, 2310, 2320, 2327, 3126	\Hy@pstringDest 7282, 7283, 8099, 8146, 9537, 9538, 9542, 9546, 9547, 9551	\Hy@samed@footnotemark . 5819, 5834
\Hy@menubartrue 303	\Hy@pstringF . 7380, 7399, 7416, 7435, 7440, 8330, 8344, 8819, 8826, 8830, 9683, 9699, 9708, 9724, 9727	\Hy@samed@footnotetext . . 5820, 5837
\Hy@naturalnamesfalse 304	\Hy@pstringName . 12191, 12192, 12207, 12221	\Hy@samed@hook 4868, 4878
\Hy@nestingfalse 305	\Hy@pstringP . 7417, 7440, 8820, 8830, 9709, 9727	\Hy@SaveLastskip 1888, 7281, 7781, 7795, 7867, 7878, 8097, 8582, 8597, 8671, 8683, 9136, 9149, 9977, 9990, 10242, 10255
\Hy@newline@author 4883	\Hy@pstringURI 7349, 7370, 8358, 8371, 8697, 8709, 8766, 8770, 9665, 9675	\Hy@scanauthor 4838, 4843
\Hy@newline@title 4882	\Hy@PutCatalog 5053, 5061, 5165	\Hy@scanoptauthor . . 4838, 4839
\Hy@newwindowfalse 307	\Hy@raisedlink 1873, 5298, 5439, 5445, 5446, 5447, 5450, 5487, 5527, 5530, 5657, 5701, 5716, 5779, 5806, 5924, 6002, 6026, 6031, 6051, 6387, 6412, 9737, 9820, 10067, 10227, 11974, 12279, 12298, 12310, 12341, 12387	\Hy@scanopttitle 4829, 4830
\Hy@newwindowsetfalse 306, 3047	\Hy@raiselinksfalse . . . 313, 6154	\Hy@scantitle 4829, 4834
\Hy@newwindowsettrue . . 3049	\Hy@RemoveDurPageAttr . 7634, 7647	\Hy@secnum@part . 12327, 12329, 12332
\Hy@onext 5007, 5017, 5022, 12307, 12317, 12320	\Hy@RemoveHidPageAttr . 7657, 7669	\Hy@SectionAnchor . . 497, 12270, 12290, 12357
\Hy@onextfalse 3205, 6482		\Hy@SectionHShift 12269, 12278, 12289, 12356
\Hy@NextPage 3167		\Hy@seminarsslidesfalse . . . 6630
\Hy@onexttrue . 3206, 3207, 3208, 6483, 6484, 6485		\Hy@seminarslidetrue 6628
\Hy@number . . . 3000, 3004, 3012		\Hy@setbreaklinks . . . 2095, 2099, 2111, 7129, 8093
\Hy@numberline . . 11989, 12026, 12027, 12028		\Hy@SetCatcodes 181, 231, 3124
\Hy@ObsoletePaperOption 2032, 2040		
\Hy@ocgcolor . . 7240, 7254, 8248, 8262		
\Hy@ocgcolorlinksfalse 3494		
\Hy@org@chapter . . 12305, 12321		
\Hy@OutlineName . 12192, 12246		
\Hy@OutlineRerunCheck . 12073, 12167, 12236		
\Hy@pageanchortrue 308		
\Hy@pagecounter . 330, 332, 5394, 6267, 6269		
\Hy@pageheight . 3115, 9837, 9926		
\Hy@pagelabelsfalse 4913		
\Hy@pagelabelstrue 309		
\Hy@param 5321, 5322, 5323, 5351, 5355		
\Hy@pdfafalse 323		
\Hy@pdfencoding@pdfdoc . 2202		

\Hy@SetNewWindow . 3053, 7401,
7437, 8346, 8827, 9698, 9723
\Hy@setouterhbox 9446, 9452
\Hy@setpagesizetrue 314
\Hy@setpdfborder 2854, 7309,
7354, 7385, 7421, 7740, 8309,
8337, 8364, 8392, 8712, 8733,
8754, 8773, 8804, 8835, 8851
\Hy@setpdfversiontrue 2227
\Hy@setref@link 6828, 6831
\Hy@slidetitle . 6657, 6659, 6666,
6674, 6684, 6708, 6710, 6717,
6725, 6735
\Hy@StartlinkName . . 7307, 7321
\Hy@StepCount 324, 4968, 10567,
10629, 10835, 11023, 11086,
11364, 11430, 12053, 12058,
12134
\Hy@temp 529, 536, 742, 745, 753,
754, 2038, 2043, 2044, 2045,
2046, 2047, 2048, 2784, 2793,
2794, 2795, 2796, 2797, 2798,
2799, 2826, 2827, 2828, 2831,
2833, 2836, 3045, 3046, 3194,
3198, 3199, 3200, 3201, 3277,
3279, 3284, 3286, 3289, 3301,
3303, 3308, 3310, 3316, 3318,
3323, 3325, 3328, 3370, 3371,
3942, 3946, 3947, 3958, 4042,
4043, 4044, 4046, 4050, 4362,
4363, 4364, 4366, 4370, 4371,
4506, 4522, 4523, 4524, 4525,
4526, 4527, 4528, 4529, 4530,
4535, 4536, 4537, 4538, 4539,
4540, 4541, 4542, 4543, 4544,
4545, 4948, 4951, 4960, 4962,
4966, 4970, 5014, 5016, 5388,
5391, 5394, 5400, 5500, 5506,
6579, 6580, 7536, 7565, 7567,
8023, 8028, 8034, 8038, 8041,
8046, 8077, 8079, 8446, 8489,
8491, 9294, 9297, 9301, 9302,
9308, 9309, 9315, 9333, 9338,
9344, 9348, 9351, 9356, 9389,
9391, 9503, 9504, 9512, 9513,
10105, 10110, 10116, 10120,
10123, 10128, 10161, 10163,
11654, 11655, 12189, 12195,
12203, 12218
\Hy@temp@A 560, 561, 1301, 1303,
1314, 1316, 1321, 1322, 1325,
6501, 6502, 6503, 6510, 6538,
6539, 6540, 6549
\Hy@temp@B 1302, 1303
\Hy@tempa 1932, 1934,
1936, 1937, 1939, 1941, 1943,
1946, 1949, 1950, 2361, 2362,
2363, 2365, 2366, 2368, 2369,
2371, 2375, 2379, 2390, 2392,
2394, 2395, 2397, 2401, 3613,
3614, 3625, 3629, 3685, 3689,
3752, 3755, 3764, 3766, 4350,
4351, 4997, 4999, 5037, 5039,
5176, 5178, 5584, 5586, 5587,
5590, 5591, 5592, 5881, 5886,
5891, 6306, 6307, 6324, 6325,
6328, 6644, 6645, 6696, 6697,
7811, 7812, 8563, 8706, 8707,
10006, 10007, 10270, 10271,
11992, 11993, 12016, 12018,
12034, 12040, 12375, 12401,
12406, 12409, 12412
\Hy@tempb 4998, 4999, 5038, 5039,
12017, 12018, 12040
\Hy@tempcolor 9178, 9180, 9193,
9265, 9267, 9279
\Hy@TempPageAnchor . . . 6257,
6264, 6268, 6284
\Hy@testname . 7295, 7296, 7301,
7303, 7304, 7318, 8290, 8291,
8296, 8298, 8300, 8316, 8720,
8721, 8726, 8730, 8791, 8792,
8797, 8801, 9270, 9271, 9276,
9287
\Hy@texhtfalse 315
\Hy@texhttrue 2242, 3273
\Hy@title 4831, 4835
\Hy@toclevel . . . 6317, 6321, 6330
\Hy@toolbartrue 316
\Hy@true . 1865, 1937, 1939, 2395,
2397
\Hy@typexmlfalse 317
\Hy@undefinedname . 7292, 7299,
7301, 8287, 8294, 8296, 8695,
8724, 8726, 8795, 8797, 9262,
9274, 9276
\Hy@unicodefalse . 318, 625, 2158,
2159, 2167, 2969, 2975, 5390,
6261, 11692
\Hy@unicodetrue 2159, 5112, 5126
\Hy@useHidKeyfalse 2818
\Hy@useHidKeytrue 2822
\Hy@UseMaketitleInfos . . . 4884,
7577, 7988, 8414, 9078, 9293,
10077
\Hy@UseMaketitleString . . 4865,
4885, 4886
\Hy@UseNameKey
2016, 7543, 7544, 7545, 7546,
7547, 7548, 7549, 7550, 7569,
8053, 8054, 8055, 8056, 8057,
8058, 8059, 8060, 8081, 8453,
8454, 8455, 8456, 8457, 8458,
8459, 8460, 8493, 9051, 9052,
9053, 9054, 9055, 9056, 9057,
9058, 9363, 9364, 9365, 9366,
9367, 9368, 9369, 9370, 9393,
10135, 10136, 10137, 10138,
10139, 10140, 10141, 10142,
10165
\Hy@usetitlefalse 319
\Hy@varioref@undefined . . . 5456,
5460, 6957
\Hy@verbosefalse 320
\Hy@vt@PutCatalog . 5084, 5086
\Hy@VTeXversion . . . 5064, 5076,
8750, 8862, 8998, 12086
\Hy@Warning 237, 360,
1241, 1954, 1969, 1994, 2074,
2186, 2191, 2701, 2753, 3490,
3767, 3999, 5122, 6298, 6938,
6987, 7297, 8130, 8134, 8292,
8722, 8793, 9272, 9540, 9549,
12001, 12019
\Hy@WarningNoLine . 238, 2033,
2101, 2212, 2804, 2842, 2941,
3108, 3153, 3281, 3290, 3305,
3320, 3329, 3842, 4812, 4914,
5078, 5190, 5375, 6308, 6459,
9419
\Hy@WarningPageBorderColor .
. 2839, 2841, 2843
\Hy@WarningPageColor . . . 2801,
2803, 2805
\Hy@WarnOptionDisabled . 1966,
1968
\Hy@WarnOptionValue . . . 1947,
1953, 2382, 2404
\Hy@windowuitrue 321
\Hy@writebookmark . 1870, 6318,
6664, 6672, 6682, 6715, 6723,
6733, 11978, 12064
\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 354, 358
\HyCal@scan 345, 349, 373
\HyColor@FieldBColor 4487, 4490
\HyColor@FieldColor 4493
\HyColor@HyperrefBorderColor 2829
\HyColor@HyperrefColor . . 2789
\HyColor@UseColor . . 3512, 7243, 7254, 8251, 8262
\HyField@@PDFChoices . . 4238, 4239, 4254
\HyField@@SetFlag . . 3932, 3934
\HyField@@UseFlag . . 3922, 3924
\HyField@AddToFields . . 10916, 10925, 11008, 11101, 11114, 11141, 11166, 11190, 11212
\HyField@AdvanceAnnotCount . . 11310, 11340, 11435, 11465, 11494, 11523, 11552, 11579
\HyField@afields . . 10913, 10926, 10927, 10929, 10948
\HyField@AnnotCount . . . 11308, 11311, 11314
\HyField@FlagsAnnot 4092, 4111, 4125, 4138, 4154, 4186
\HyField@FlagsCheckBox . 4124, 10728, 11205, 11574
\HyField@FlagsChoice 4185, 10607, 11064, 11405
\HyField@FlagsPushButton 4110, 10664, 10684, 10709, 11133, 11154, 11184, 11492, 11517, 11548
\HyField@FlagsRadioButton 4137, 10603, 11060, 11401
\HyField@FlagsSubmit . . . 4058, 10685, 11155, 11518
\HyField@FlagsText 4153, 10545, 11001, 11334
\HyField@NewBitsetFlag . . 3890, 3893, 3901
\HyField@NewFlag . . 3888, 3964, 3965, 3966, 3967, 3968, 3969, 3970, 3971, 3972, 3973, 3974, 3975, 3976, 3977, 3978, 3979, 3980, 3981, 3982, 3983, 3988, 3989, 3990, 3991, 3992, 3993, 3994, 3995, 3996, 4029, 4031, 4032, 4034, 4035, 4037, 4038, 4039, 4040
\HyField@NewFlagOnly . . . 3892, 4030, 4033, 4036
\HyField@NewOption 3889, 3895
\HyField@PDFAFlagWarning . . . 3998, 4006, 4010, 4014, 4018, 4022, 4026
\HyField@PDFChoices 4211, 10642, 11108, 11459
\HyField@PrintFlags . . 3939, 4085, 4103, 4117, 4130, 4146, 4178, 4203
\HyField@SetFlag . . . 3931, 4071, 4077, 4082, 4116, 4144
\HyField@SetKeys . . 4315, 10542, 10574, 10577, 10596, 10652, 10681, 10699, 10725, 10997, 11030, 11033, 11052, 11120, 11151, 11174, 11201, 11330, 11371, 11374, 11393, 11478, 11514, 11538, 11570
\HyField@TheAnnotCount 11313, 11344, 11349, 11440, 11452, 11467, 11472, 11499, 11505, 11525, 11530, 11554, 11559, 11583, 11588
\HyField@UseFlag . . . 3921, 4062, 4063, 4064, 4065, 4066, 4067, 4068, 4069, 4072, 4073, 4074, 4075, 4078, 4079, 4080, 4083, 4094, 4095, 4096, 4097, 4098, 4099, 4100, 4101, 4102, 4113, 4114, 4115, 4127, 4128, 4129, 4140, 4141, 4142, 4143, 4145, 4156, 4157, 4158, 4159, 4160, 4161, 4162, 4163, 4174, 4177, 4188, 4189, 4190, 4191, 4193, 4195, 4196, 4199, 4202
\HyInd@@@wrindex . . 6497, 6500, 6531, 6537
\HyInd@@hyperpage . 6577, 6587
\HyInd@@wrindex . . . 6492, 6493
\HyInd@EncapChar . . 2412, 3118, 6487
\HyInd@hyperpage . . . 6574, 6576, 6583
\HyInd@Org@wrindex . 6491, 6495, 6505, 6511, 6513, 6516
\HyInd@pagelink 6592, 6598, 6600, 6603
\HyInd@ParenLeft . . . 6474, 6502, 6539
\HyInd@ParenRight . . 6475, 6503, 6510, 6540, 6549
\HyInd@removespaces 6606, 6609, 6619
\HyLang@addto 2616, 2638, 2669, 2677
\HyLang@afrikaans 2414
\HyLang@DeclareLang 2630, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667
\HyLang@english 2432
\HyLang@french 2450
\HyLang@german 2468
\HyLang@italian 2486
\HyLang@magyar 2504
\HyLang@portuges 2522
\HyLang@russian 2540
\HyLang@spanish 2580
\HyLang@vietnamese . 2598, 2669, 2677
\HyLinguex@OrgB 640, 644
\HyLinguex@OrgC 641, 645
\HyLinguex@OrgD 642, 646
\HyLinguex@Restore . . 643, 656, 660, 668, 2140
\HyOrg@addtoreset . . 6417, 6419, 6446
\HyOrg@appendix . . . 5311, 5317
\HyOrg@author . 4828, 4841, 4845
\HyOrg@float@makebox . . . 5947, 5949
\HyOrg@hyperpage . . 6477, 6479, 6480
\HyOrg@languageshorthands 712, 727, 738, 748
\HyOrg@make@df@tag@@ . 6402
\HyOrg@make@df@tag@@@ 6403
\HyOrg@maketitle . . . 5817, 5824, 5829
\HyOrg@subequations 5601, 5608
\HyOrg@title . . . 4827, 4832, 4836
\HyOrg@url 3664
\hyper@@@anchor 3137, 3674, 3676, 3707, 3709, 3742, 3744, 3839, 4710, 4725, 4740, 5697, 5702, 5712, 5717, 5777, 5780, 5807,

5922, 5925, 5953, 6257, 6264, 6269, 6663, 6671, 6681, 6714, 6722, 6732	\hyper@linkfile 3144, 3828, 4718, 4732, 4747, 7378, 7826, 7954, 8327, 8559, 8746, 9681, 10023, 10285	10014, 10053, 10246, 10258, 10277, 10315, 12143, 12191, 12207
\hyper@link . . . 3647, 3660, 3697, 3721, 3723, 3747, 6010, 6156, 6157, 6158, 6206, 6208, 6210, 6833, 6848, 6947	\hyper@linkstart 3141, 4715, 4729, 4744, 5739, 5992, 5999, 6347, 6351, 6355, 6357, 7328, 7809, 7886, 8288, 8325, 8562, 8696, 9165, 10004, 10268	\hypergetpageref 5433 \hypergetref 5432 \hyperimage . . . 3670, 3872, 6469 \hyperindexformat 6476 \hyperlink 3646, 4762, 6615, 6753, 6761, 6776, 6784, 6794, 6802, 6809
\hyper@normalise . . 3616, 3620, 3624	\hyper@linkurl 3143, 3669, 3803, 3810, 3831, 3835, 4717, 4731, 4746, 7347, 7827, 7829, 7854, 7924, 8355, 8547, 8560, 8764, 8816, 9260, 9663, 10024, 10028, 10053, 10286, 10288, 10315	\hyperlinkfileprefix . . 2810, 2811, 2812, 10233 \hyperpage 4768, 6477, 6478, 6480, 6573 \HyperRaiseLinkDefault . . 1872, 1881
\hyper@anchor . 3866, 4787, 7325, 7780, 7866, 8153, 8596, 8670, 9135, 9976, 10241	\hyper@livelink 4711, 4736 \hyper@makecurrent . 5295, 5319, 5473, 5526, 5548, 5572, 5636, 5734, 5898, 5940	\HyperRaiseLinkHook 1871, 1882 \HyperRaiseLinkLength . . 1880, 1881, 1884
\hyper@anchorend . . . 3140, 4697, 4714, 4728, 4743, 5299, 5440, 5488, 5530, 5549, 5573, 5658, 6004, 6029, 6032, 6052, 6185, 6387, 6413, 7327, 7803, 7882, 8160, 8591, 8690, 9154, 9998, 10262, 11974, 12065, 12280, 12299, 12311, 12342, 12388	\hyper@normalise . . . 3608, 3612 \hyper@nat@current 5993 \hyper@natanchorend 6004 \hyper@natanchorstart 6001 \hyper@natlinkbreak 5998 \hyper@natlinkend 5995 \hyper@natlinkstart 5990 \hyper@normalise . . . 3120, 3125, 3585, 3650, 3653, 3666, 3668, 3670, 3691, 4345	\hyperref . 3679, 3879, 3880, 4764, 6905, 6909, 6919, 6933 \hypersetup 2179, 2654, 3119, 3121, 4758 \hypertarget 3672, 4763 \HyPL@@@CheckThePage . 5018, 5036 \HyPL@@@CheckThePage . . 4994, 4996
\hyper@anchorstart . . 3139, 4697, 4713, 4727, 4742, 5299, 5440, 5488, 5527, 5549, 5573, 5658, 6002, 6027, 6032, 6052, 6185, 6387, 6413, 7326, 7794, 7877, 8156, 8581, 8682, 9148, 9989, 10254, 11974, 12065, 12280, 12299, 12311, 12342, 12388	\hyper@chars 3641, 7350, 7784, 7797, 7816, 7835, 7845, 7858, 7926, 7956, 8549, 8569, 8584, 8600, 8674, 8685, 8767, 9666, 9992, 10011, 10034, 10044, 10057, 10257, 10275, 10295, 10307, 10319	\HyPL@Alph 4934 \HyPL@alph 4935 \HyPL@arabic 4931 \HyPL@CheckThePage 4946, 4993 \HyPL@Entry . 5178, 5186, 5194, 5196 \HyPL@EveryPage . . . 4936, 5057 \HyPL@Format 5009, 5010, 5011, 5012, 5013, 5025 \HyPL@found . 5008, 5015, 5019, 5026, 5036, 5038 \HyPL@Labels . 4925, 5048, 5049, 5051, 5053, 5098, 5099, 5189, 5197, 5198 \HyPL@LastNumber . 4929, 4964, 4987 \HyPL@LastPrefix . . . 4930, 4958, 4989 \HyPL@LastType 4928, 4949, 4988 \HyPL@page . . 4939, 4941, 4946, 4954 \HyPL@Prefix . 4954, 4956, 4958, 4972, 4975, 4977, 4989, 5003, 5041 \HyPL@Roman 4932 \HyPL@roman 4933 \HyPL@SetPageLabels 5047, 5106, 5192
\hyper@chars 3641, 7350, 7784, 7797, 7816, 7835, 7845, 7858, 7926, 7956, 8549, 8569, 8584, 8600, 8674, 8685, 8767, 9666, 9992, 10011, 10034, 10044, 10057, 10257, 10275, 10295, 10307, 10319	\hyper@pageduration . 7630, 7678, 8975, 8992, 9226, 9256 \hyper@pagehidden . . 7654, 7679, 8985, 8993, 9243, 9257 \hyper@pagetransition 7606, 7677, 8864, 8991, 9209, 9255	
\hyper@currentanchor 9151, 9160, 9172, 9189	\hyper@quote 4666, 7786, 7799, 7813, 7818, 7836, 7846, 7859, 8543, 8553, 8565, 8587, 8604, 9981, 9994, 10008, 10014, 10035, 10045, 10058, 10246, 10258, 10272, 10277, 10297, 10308, 10320	
\hyper@currentlinktype . . . 9173, 9177, 9181	\hyper@readexternallink . . 3758, 3774	
\hyper@chash . . 3593, 3594, 3642, 3803, 3815, 3832, 3835, 4664, 8543	\hyper@refstepcounter 5274, 5277, 5284 \hyper@tilde 3602, 3603, 3604, 4665 \hyperbaseurl . . 2807, 2808, 4759 \hypercalcbp 340, 340 \hypercalcbpdef . . 342, 379, 3019 \hyperdef 3699, 4761 \HyperDestNameFilter 3100, 7282, 7304, 7786, 7799, 7818, 7854, 8099, 8299, 8543, 8553, 8570, 8587, 8604, 8675, 8686, 8729, 8800, 9537, 9546, 9981, 9994,	
\hyper@image . 3670, 3671, 7856, 8815, 9259, 10055, 10317		
\hyper@last 4803, 4807		
\hyper@link 3138, 3756, 4711, 4712, 4726, 4736, 4741, 7337, 7853, 7897, 8324, 8540, 8784, 9263, 10052, 10314		
\hyper@link@ . . 3145, 3748, 3750, 4709, 4719, 4723, 4733, 4748		
\hyper@linkend 3142, 4716, 4730, 4745, 5741, 5996, 5999, 6347, 6351, 6355, 6357, 7336, 7822, 7894, 8323, 8325, 8574, 8742, 9175, 10019, 10281		

\HyPL@storePageLabel . . . 4972,
4974, 5044, 5096, 5173
\HyPL@thisLabel 4922, 4924, 4938,
4941, 4942
\HyPL@Type . . 4944, 4949, 4953,
4971, 4979, 4988, 5002, 5040
\HyPL@Useless 5045, 5051
\HyPsd@@@autoref . . 1162, 1164,
1167
\HyPsd@@@nameref . . 1144, 1146,
1149
\HyPsd@@@pageref . . 1126, 1128,
1131
\HyPsd@@@ref . . 1110, 1112, 1115
\HyPsd@@@UTFviii@four . . 1747,
1750
\HyPsd@@@AppendItalcorr . 1331
\HyPsd@@@autoref . . . 1159, 1160
\HyPsd@@@autorefname 1180, 1183
\HyPsd@@@ConvertToUnicode . . .
. 1625
\HyPsd@@@GetNextTwoTokens . .
. 1623
\HyPsd@@@GlyphProcessWarning
. 1501, 1504
\HyPsd@@@GreekNum . . 861, 870,
969, 973, 977
\HyPsd@@@hspace . . . 1081, 1082
\HyPsd@@@LetCommand . . 1204,
1225
\HyPsd@@@nameref . . . 1141, 1142
\HyPsd@@@pageref . . . 1123, 1124
\HyPsd@@@ProtectSpacesFi . 1253,
1257, 1275, 1281, 1286
\HyPsd@@@ref 1107, 1108
\HyPsd@@@RemoveBraces . . 1299
\HyPsd@@@RemoveBracesFi 1296,
1299
\HyPsd@@@RemoveCmdPrefix . . .
. 1458, 1461
\HyPsd@@@ReplaceFi . 1528, 1534,
1539
\HyPsd@@@UTFviii@four . . 1731,
1736
\HyPsd@add@accent . . 401, 1070
\HyPsd@AfterCountRemove 1344,
1415
\HyPsd@AfterDimenRemove . . .
. 1350, 1418
\HyPsd@AfterSkipRemove . 1356,
1430
\HyPsd@AMSclassfix . 482, 1091,
1093
\HyPsd@AppendItalcorr . . 1315,
1322, 1331
\HyPsd@autoref 492, 1159
\HyPsd@autorefname . 1171, 1177
\HyPsd@babel@danish 757
\HyPsd@babel@dutch 763
\HyPsd@babel@finnish 769
\HyPsd@babel@frenchb 774
\HyPsd@babel@german 779
\HyPsd@babel@macedonian . 786
\HyPsd@babel@ngerman . . . 792
\HyPsd@babel@portuges . . . 798
\HyPsd@babel@russian 803
\HyPsd@babel@slovene 809
\HyPsd@babel@spanish 814
\HyPsd@babel@swedish 824
\HyPsd@babel@ukrainian . . . 830
\HyPsd@babel@usorbian . . . 836
\HyPsd@BabelPatch 468, 711, 747
\HyPsd@CatcodeWarning . 1360,
1377, 1380, 1383, 1386, 1442
\HyPsd@Char 1627
\HyPsd@CharOctByte 1648, 1650,
1653, 1662, 1667
\HyPsd@CharSurrogate . . 1642,
1659
\HyPsd@CharTwoByte 1640, 1647
\HyPsd@CheckCatcodes 547, 1337
\HyPsd@CJKActiveChars . . 997,
1010
\HyPsd@CJKhook 499, 979
\HyPsd@ConvertToUnicode . 615,
1573
\HyPsd@DecimalToOctal . . . 989,
1018
\HyPsd@DefCommand . 530, 531,
532, 533, 1193
\HyPsd@DisableCommands . 691,
693
\HyPsd@DoConvert . . 1575, 1585
\HyPsd@DoEscape 1599
\HyPsd@doboxspace 587, 1546
\HyPsd@empty 572, 574, 578, 579,
581, 589, 596
\HyPsd@end 547, 551, 1254, 1257,
1260, 1263, 1266, 1279, 1289,
1296, 1299, 1337, 1345, 1351,
1357, 1402, 1409, 1415, 1418,
1430
\HyPsd@endWithElse 1060, 1069
\HyPsd@fi . 1271, 1277, 1281, 1287
\HyPsd@GetNextTwoTokens 1623
\HyPsd@GetOneBye 1618
\HyPsd@GetTwoBytes 1614
\HyPsd@GLYPHERR 552, 1057,
1071, 1078
\HyPsd@GlyphProcess 554, 1489,
1502
\HyPsd@GlyphProcessWarning .
. 1496, 1500
\HyPsd@GobbleFiFi . 1062, 1068
\HyPsd@greekNum 850, 853, 855
\HyPsd@greeknumeral . 846, 852
\HyPsd@greeknumeral . . 845, 849
\HyPsd@greekNumI 873, 899, 942,
968
\HyPsd@greekNumII . . 877, 921,
965, 972
\HyPsd@greekNumIII . 880, 944,
976
\HyPsd@greekNumIV . . 889, 967
\HyPsd@greekNumV . . . 892, 971
\HyPsd@greekNumVI . . 894, 975
\HyPsd@greekPatch 467, 842, 844
\HyPsd@hspace 483, 1081
\HyPsd@hspacetest . . 1084, 1086,
1089
\HyPsd@ifnextchar 516, 517, 518,
1230
\HyPsd@ignorespaces . . 496, 702
\HyPsd@InitUnicode 665
\HyPsd@inmathwarn . . 400, 1054
\HyPsd@ITALCORR . . 508, 512,
1078
\HyPsd@langshort@system . . 718,
721
\HyPsd@LanguageShorthands . .
. 713, 719, 731
\HyPsd@LetCommand . 534, 535,
1193
\HyPsd@LetUnexpandableSpace
. . . 503, 504, 505, 506, 1074,
1077
\HyPsd@LoadStringEncoding . . 2183,
2203, 2205, 2209, 2211, 5117
\HyPsd@LoadUnicode 2135, 2137,
2145, 2148, 2150, 2157, 5111
\HyPsd@nameref 491, 1141
\HyPsd@pageref 490, 1123
\HyPsd@pdfencoding . 616, 2131,
2133, 2166, 2178, 2181, 2182,
2187, 2202, 5113, 5115, 5132,
5135
\HyPsd@pdfencoding@auto . 616,
2172, 2182, 2199, 5115, 5134
\HyPsd@pdfencoding@pdfdoc . .
. . . . 2165, 2187, 2200
\HyPsd@pdfencoding@unicode . .
. . 2169, 2201, 5113, 5131
\HyPsd@protected@testopt . 519,
520, 1234
\HyPsd@ProtectSpaces 540, 1251,
1272, 1321
\HyPsd@ref 489, 1107
\HyPsd@RemoveBraces 542, 1293,
1310, 1318, 1324
\HyPsd@RemoveCmdPrefix 1451,
1457

\HyPsd@RemoveMask	550, 1260, 1266, 1279, 1289	\HyPsd@XSPACE	510, 586, 1078	\if@skiphyperref	5260, 5270
\HyPsd@RemoveSpaceWarning	1425, 1437, 1463	\HyPsd@xspace	584, 586, 587	\if@twocolumn	12390
\HyPsd@ReplaceSpaceWarning	1420, 1432, 1476	\HyRef@@StarSetRef	6876, 6881	\if@twoside	12378
\HyPsd@Rest	1338, 1398, 1406, 1409, 1416, 1421, 1427, 1433, 1439	\HyRef@autopageref	6930, 6932	\ifcase	906, 928, 951, 1019, 1725, 2169, 2750, 4060, 4165, 4295, 4371, 6343, 6502, 6539, 6768, 6957, 9011, 11737, 11814, 11879, 11914, 11948, 12090
\HyPsd@SPACEOPTI	544, 559, 560, 562, 564, 566, 567, 606, 608, 1373, 1557	\HyRef@autopagerefname	6929, 6933, 6935	\ifcat	1339, 1366, 1371, 1376, 1379, 1382, 1385, 3850, 3852
\HyPsd@spaceopti	608, 1520	\HyRef@autoref	6947, 6949	\ifdim	1089, 1419, 1423, 1431, 1435, 1891, 1910, 3105, 3386, 7696, 7700, 7705, 7709, 7716, 7719, 7723, 7726, 8511, 8512, 8517, 8518, 8646, 8649, 8653, 8656, 9457, 9468, 9801, 9802, 9807, 9808, 10569, 10608, 10609, 11025, 11065, 11066, 11366, 11406, 11407
\HyPsd@String	541, 543, 546, 548, 553, 555, 1304, 1305, 1315, 1367, 1368, 1372, 1373, 1388, 1389, 1419, 1431, 1490, 1491	\HyRef@autosetref	6952, 6955	\ifetex@unexpanded	1245
\HyPsd@StringSubst	556, 558, 564, 570, 573, 576, 579, 598, 601, 603, 1543	\HyRef@CaseStar	7016, 7022	\ifFileExists	4811, 10330
\HyPsd@Subst	552, 561, 565, 571, 577, 581, 585, 590, 591, 592, 593, 594, 595, 599, 602, 1527, 1544	\HyRef@currentHtag	6968, 6986, 6989, 6995, 7002, 7008, 7023	\ifFld@checked	4318, 10890, 11725
\HyPsd@temp	619, 621, 623, 624, 2164, 2165, 2166, 2169, 2172, 2178, 2190, 2194, 5130, 5131, 5132, 5134, 5135, 5140	\HyRef@MakeUppercaseFirstOfFive	6896, 6898	\ifFld@comb	4164
\HyPsd@tocsection	1094, 1095, 1096, 1097, 1098, 1099, 1100, 1102	\HyRef@name	6984, 6985, 6990, 6997, 7015, 7016, 7017, 7019	\ifFld@combo	4192, 4197, 10583, 10612, 11039, 11069, 11380, 11410
\HyPsd@UnexpandableSpace	1077, 1262, 1286, 1421, 1433	\HyRef@Ref	6902, 6904	\ifFld@disabled	4319, 10891
\HyPsd@unichar	1689, 1756, 1762, 1767	\HyRef@ShowKeysInit	7025, 7038, 7042	\ifFld@edit	4198
\HyPsd@unichar@first@byte	1775, 1795	\HyRef@ShowKeysRef	6956, 7024	\ifFld@fileselect	4167
\HyPsd@unichar@octtwo	1797, 1805, 1811	\HyRef@StarSetRef	6870, 6888, 6891, 6896	\ifFld@hidden	10546, 10597, 10665, 10686, 10710, 10729, 10789, 10801, 10811, 10894, 11002, 11054, 11134, 11156, 11185, 11206, 11335, 11395, 11493, 11519, 11549, 11575
\HyPsd@unichar@second@byte	1783, 1803	\HyRef@StripStar	6983, 7014	\ifFld@multiline	4165, 10534, 10796, 10989, 11322
\HyPsd@UnicodeReplacementCharacter	1759, 1794	\HyRef@testrestype	6961, 6980	\ifFld@multiselect	4237
\HyPsd@UTFviii	392, 1677, 1682	\HyRef@thisref	6958, 6961	\ifFld@password	4166, 10777
\HyPsd@UTFviii@three	1712, 1721	\HyTmp@found	4265, 4275, 4278	\ifFld@popdown	3984, 10584, 11040, 11381
\HyPsd@UTFviii@two	1697, 1703	\HyTmp@key	4259, 4260	\ifFld@radio	10580, 10602, 10826, 11036, 11059, 11377, 11400
\HyPsd@UTFviii@ccxliv@def	1687, 1693	\HyTmp@optitem	4215, 4231, 4258, 4263, 4269, 4290, 4301	\ifFld@readonly	10798, 10808, 10892
\HyPsd@UTFviii@ccxliv@undef	1686, 1692	\HyTmp@optlist	4214, 4229, 4230, 4261, 4262, 4267, 4268, 4276, 4277, 4297, 4299, 4306, 4309	\ifForm@html	4339
\HyPsd@UTFviii@four	1685, 1730	\HyWarning	5137	\ifhmode	1909, 1918, 5615, 5730, 5742, 5868, 5870
\HyPsd@UTFviii@three	1684, 1711	\HyXeTeX@CheckUnicode	2937, 2948, 2952, 2956, 2960, 2964, 2980, 2984, 5145	\ifHy@activeanchor	244, 3863
\HyPsd@UTFviii@two	1683, 1696			\ifHy@backref	245, 3232, 3568, 4644, 6163, 6199
\HyPsd@Warning	1238, 1443, 1464, 1477, 1506, 1512			\ifHy@bookmarks	246, 3430
				\ifHy@bookmarksnumbered	247, 6656, 6707, 12025
				\ifHy@bookmarksopen	248, 3420

`\ifHy@breaklinks` 249, 2100, 9166, 9197, 9451, 9462
`\ifHy@centerwindow` . 250, 7541, 8051, 8451, 9049, 9361, 10133
`\ifHy@CJKbookmarks` . . 251, 498
`\ifHy@colorlinks` . 252, 3501, 4649, 9963
`\ifHy@displaydoctitle` . 286, 7542, 8052, 8452, 9050, 9362, 10134
`\ifHy@draft` 253, 3136
`\ifHy@DvipdfmxOutlineOpen` 3384, 12209
`\ifHy@escapeform` . . . 256, 11650, 11680
`\ifHy@figures` 257, 3212, 4629, 6466
`\ifHy@fitwindow` 258, 7540, 8050, 8450, 9048, 9360, 10132
`\ifHy@frenchlinks` 259, 3517
`\ifHy@hyperfootnotes` . 260, 5671
`\ifHy@hyperindex` 261, 3222, 4639, 6473
`\ifHy@hypertextnames` 262, 5325, 5386, 6255, 6661, 6712
`\ifHy@implicit` . . 263, 3244, 12263
`\ifHy@linktocpage` 264, 2057, 2067
`\ifHy@menubar` . 265, 7538, 8048, 8448, 9046, 9358, 10130
`\ifHy@naturalnames` . . 266, 5338, 6662, 6713
`\ifHy@nesting` . . 267, 3217, 3673, 3706, 3741, 3848, 4634, 5696, 5711, 5776, 5921
`\ifHy@newwindow` 269, 3056, 8750
`\ifHy@newwindowset` . . 268, 3054
`\ifHy@next` 755, 3209, 6490
`\ifHy@ocgcolorlinks` . . 270, 2700, 3487, 3497, 4654, 7146, 7164, 7239, 7247, 8164, 8247, 8255
`\ifHy@pageanchor` 271, 5373, 5385, 5400, 6254
`\ifHy@pagelabels` 272, 4910, 5096, 5172
`\ifHy@pdfa` 287, 3160, 3489, 3791, 3997, 4510, 4546, 4659, 7308, 7366, 7397, 7433, 7752, 8308, 8336, 8363, 8387, 8711, 8732, 8753, 8772, 8803, 8834, 8850, 9561, 10505, 10655, 10703, 10956, 11124, 11178, 11294, 11482, 11542, 11727, 11800, 11938
`\ifHy@pdfmarkerror` . . 9408, 9416
`\ifHy@pdfpagehidden` . 273, 2821, 7658, 8987, 9249
`\ifHy@pdfstring` . . 274, 676, 5264
`\ifHy@plainpages` 275, 3227, 5387, 6256
`\ifHy@psize` 276
`\ifHy@raiselinks` . 277, 7831, 7900, 7929, 7959, 10030, 10290
`\ifHy@seminarslides` 278
`\ifHy@setpagesize` 279, 7684, 8508, 8643, 9798
`\ifHy@setpdfversion` . . 2219, 7151
`\ifHy@texht` 280, 3529, 3561, 4697, 6816
`\ifHy@toolbar` . . 281, 7537, 8047, 8447, 9045, 9357, 10129
`\ifHy@typexml` . . 243, 3237, 3504, 3548, 4781, 12169, 12238
`\ifHy@unicode` . 282, 388, 557, 569, 597, 605, 614, 856, 992, 1445, 1466, 1479, 1508, 1514, 1757, 2130, 2180, 2939, 5120, 11691
`\ifHy@useHidKey` 2817, 7655, 8986, 9244
`\ifHy@usetitle` 283, 4826
`\ifHy@verbose` . . 284, 3940, 6323, 7278
`\ifHy@windowui` . 285, 7539, 8049, 8449, 9047, 9359, 10131
`\ifmeasuring@` 5283, 5296
`\ifnum` 732, 857, 860, 871, 872, 876, 884, 888, 891, 901, 923, 946, 1636, 1639, 1715, 1758, 1761, 1773, 2295, 2298, 2323, 2751, 2752, 3394, 3421, 4220, 4291, 4302, 4945, 4964, 4980, 5076, 6770, 6808, 7147, 7152, 7457, 7464, 7470, 7478, 8276, 8281, 8750, 8862, 8998, 9006, 9008, 9009, 9019, 9022, 9104, 9106, 9206, 9825, 10940, 11100, 11434, 11439, 11450, 11690, 11708, 11737, 11742, 11814, 11820, 11848, 11879, 11885, 11904, 11914, 11919, 11948, 11953, 11982, 11998, 12086, 12156, 12211, 12314, 12332, 12348
`\ifodd` 1739, 1744, 6278
`\ifpdf` 3278, 3340
`\ifpdfstringunicode` 393, 396
`\ifportrait` 7695
`\ifthenelse` 6189
`\iftrue` . . . 1252, 1274, 1538, 12316
`\ifvmode` 1874, 1890, 1899
`\ifvoid` 5481, 5490, 5651
`\ifvtexhtml` 3317, 3346
`\ifvtexpdf` 3357
`\ifvtexps` 3360
`\ifxetex` 620, 2938, 3302, 3343, 3385
`\ignorespaces` . . . 496, 5454, 5610, 5814, 5906, 5917, 5920, 5977, 5985, 6047, 6062, 6078, 6087, 6197, 6641, 6693
`\IJ` 12568, 13250
`\ij` 12777, 13252
`\immediate` . . . 4782, 4783, 4784, 4786, 4818, 5089, 5177, 5185, 5397, 5425, 6042, 6057, 6073, 6083, 6113, 6136, 6162, 6192, 7165, 7180, 7195, 9109, 9822, 10907, 10946, 12076, 12142, 12168, 12170, 12237, 12239
`\incr@eqnum` 5501, 5514
`\index` 485
`\indexentry` 6528, 6543, 6551, 6555, 6560
`\input` . 659, 667, 2139, 2672, 2680, 2687, 3380, 9740, 9823, 9914, 10072
`\InputIfFileExists` . . 3123, 12161, 12184, 12229, 12231
`\inputlineno` 3855, 6326, 7279
`\insert` 5792
`\IntCalcAdd` 1665
`\IntCalcDiv` 1649, 1655, 1661
`\intcalcDiv` 1656, 1663, 1666
`\IntCalcMod` . . 1651, 1656, 1657, 1663, 1666, 1668
`\intcalcSub` 1643
`\interfootnotelinepenalty` . . 5795
`\interlinepenalty` 5795
`\item` 5241, 5244, 6069, 6081, 6184
`\Itemautorefname` 7048
`\itemautorefname` . . . 2417, 2435, 2453, 2471, 2489, 2507, 2525, 2554, 2555, 2583, 2601, 7048, 7049, 7052
`\itemindent` 5652
`\itshape` 440

J

`\j` 13257, 13442, 13506
`\jarr` 14863
`\jeem` 14835
`\jeh` 14871
`\jobname` 4783, 4811, 4818, 10330, 12075, 12161, 12168, 12184, 12229, 12231, 12237

K

`\k` . . . 12452, 12794, 12796, 12801, 12803, 12846, 12864, 12883, 12890, 13154, 13156, 13194, 13196, 13241, 13243, 13244, 13379, 13381, 13438, 13440, 14037, 14076, 14079
`\kaf` 14853
`\kasra` 14866
`\keepPDF@SetupDoc` . 9967, 9974

<code>\kern</code> 1348, 1420, 1425, 1437, 5652, 6273, 6274, 6275, 6277, 6278, 6283, 12278	11463, 11487, 11496, 11521, 11541, 12276	<code>\MakeUppercaseUnsupportedInPdfStrings</code> 461
<code>\kernel@ifnextchar</code> 517	<code>\limits</code> 3633	<code>\MathBSuppress</code> 8551, 8555
<code>\kha</code> 14837	<code>\listofslides</code> 6742	<code>\mathdisplay</code> 5504, 5513
<code>\KV@Hyp@draft</code> 2031	<code>\listslidenam</code> 6741, 6744, 6746, 6748	<code>\mathdisplay@push</code> 5502, 5511
<code>\KV@Hyp@nolinks</code> 2031	<code>\literalps@out</code> 1867, 9098, 9103, 9150, 9155, 9171, 9176, 9426, 9437, 9458, 9460, 9469, 9471, 9738, 9821, 9884, 10070	<code>\mathversion</code> 456
<code>\kv@key</code> 4218, 4221, 4223, 4227, 4231	<code>\lower</code> 7834, 7902, 7931, 7961, 9460, 10033, 10293	<code>\maxdimen</code> 2772, 10911
<code>\kv@parse</code> 4217	<code>\lowercase</code> 1003, 1681, 1933, 2361, 2391, 3889, 3890, 3893, 3898, 3922, 3932, 3986, 4042, 4362, 4402, 4405, 4471, 6489, 9205	<code>\MaybeStopEarly</code> 328, 2246, 2300, 3248, 3348, 5205
<code>\kv@value</code> 4219, 4226, 4227	<code>\lslide@flag</code> 6768, 6771, 6789, 6808, 6812	<code>\mbox</code> 494, 6116, 6139, 7249, 8257
L	<code>\LT@array</code> 5467	<code>\mddefault</code> 5622
<code>\L</code> 12561, 13281	<code>\LT@firsthead</code> 5481, 5490	<code>\mdseries</code> 439
<code>\l</code> 12574, 13283	<code>\LT@p@ftn</code> 5748, 5751, 5755, 5769	<code>\meaning</code> 62, 153, 159, 1830, 4850, 5351, 5587, 12195, 12203, 12218
<code>\l@slide</code> 6641, 6751, 6756, 6760, 6767	<code>\LT@p@ftntext</code> 5746, 5753	<code>\measuring@false</code> 5283
<code>\l@subslide</code> 6693, 6756, 6763, 6807	<code>\LT@start</code> 5483, 5494	<code>\mediaheight</code> 8639, 8641, 8647, 8654
<code>\label</code> 484, 6296	<code>\luatexrevision</code> 7501	<code>\mediawidth</code> 8650, 8657
<code>\label@hyperref</code> 3713, 3715	<code>\luatexversion</code> 7493, 7498	<code>\meem</code> 14855
<code>\label@hyperdef</code> 3699, 3727	M	<code>\message</code> 6769
<code>\label@hyperref</code> 3680, 3712, 3876	<code>\m@ne</code> 3904, 5413, 5582, 8285, 12231, 12314, 12329	<code>\MessageBreak</code> 361, 1451, 1472, 1485, 1508, 1513, 1515, 1955, 1956, 1970, 1992, 1995, 1997, 2075, 2076, 2102, 2103, 2152, 2153, 2154, 2192, 2193, 2213, 2223, 2383, 2702, 2942, 3110, 3282, 3283, 3291, 3292, 3306, 3307, 3321, 3322, 3330, 3331, 3491, 3943, 3948, 3957, 4000, 4046, 4170, 4284, 4366, 4915, 5123, 5139, 5376, 6300, 6461, 7298, 8293, 8723, 8794, 9273, 10919, 10921, 12003, 12021, 12078
<code>\labelsep</code> 6196	<code>\make@df@tag@@</code> 6402, 6404	<code>\MF</code> 421, 10339
<code>\labelwidth</code> 6195	<code>\make@df@tag@@@</code> 6403, 6405	<code>\MP</code> 422, 10340
<code>\lam</code> 14854	<code>\make@stripped@name</code> 5288, 5523, 5545, 5569, 5580	<code>\multiply</code> 7497, 8967, 9002
<code>\language@group</code> 465	<code>\makeatletter</code> 3, 690, 4810	N
<code>\languageshorthands</code> 712, 713, 748	<code>\MakeButtonField</code> 4595, 10661, 10669, 10688, 10707, 10712, 11130, 11139, 11164, 11182, 11188, 11488, 11491, 11520, 11546, 11550	<code>\name@of@eq</code> 5257, 5286
<code>\LARGE</code> 447	<code>\MakeCheckField</code> 4592, 10732, 11210, 11577	<code>\name@of@slide</code> 5258, 5268
<code>\Large</code> 448	<code>\MakeChoiceField</code> 4594, 10644, 11112, 11461	<code>\nameref</code> 491
<code>\large</code> 451, 6773, 6781, 6791, 6799	<code>\MakeFieldObject</code> 10906, 10965, 10975, 10978	<code>\nasb</code> 14861
<code>\lastbox</code> 5650	<code>\MakeLowerCase</code> 462	<code>\netscape</code> 7865
<code>\lastpage@putlabel</code> 5368	<code>\MakeLowerCaseUnsupportedInPdfStrings</code> 462	<code>\new@ifnextchar</code> 518
<code>\lastskip</code> 1891, 1895, 1902, 1910, 1914, 1921	<code>\MakeRadioField</code> 4591, 10632, 11099, 11426	<code>\new@pdfink</code> 7277, 7325, 7326
<code>\LaTeX</code> 417, 418, 10336, 10337	<code>\makeslideheading</code> 6651	<code>\new@refstepcounter</code> 5496, 5528
<code>\LaTeXe</code> 418, 10337	<code>\makeslidesubheading</code> 6703	<code>\newblock</code> 6200
<code>\LayoutCheckField</code> 4585, 10730, 11207, 11580	<code>\maketag@@@</code> 6391	<code>\newcommand</code> 4, 9, 42, 1868, 4756, 5220, 5223, 5226, 5227, 5228, 5230, 5231, 5232, 5233, 5235, 5236, 5237, 5238, 5239, 5240, 5249, 5250, 5251, 5252, 5253, 5254, 5578, 6429, 6628, 6633, 6634, 12048, 12051, 12056
<code>\LayoutChoiceField</code> 4582, 10601, 11058, 11399	<code>\MakeTextField</code> 4593, 10550, 11007, 11338	
<code>\LayoutPushButtonField</code> 4588, 10659, 10666, 11128, 11135, 11486, 11495	<code>\maketitle</code> 5817, 5818	
<code>\LayoutTextField</code> 4579, 10548, 11004, 11341	<code>\MakeUppercase</code> 461, 6746, 6748, 6899	
<code>\lccode</code> 1002, 1680, 4470, 6487, 6488		
<code>\ldots</code> 412		
<code>\leavevmode</code> 493, 1869, 3146, 3163, 3203, 3796, 4752, 5729, 5867, 6103, 6908, 6916, 7294, 7351, 7382, 7418, 7830, 7899, 7927, 7957, 8328, 8356, 8541, 8550, 8601, 8747, 8768, 8790, 8821, 9168, 9450, 9667, 9685, 9710, 10029, 10289, 10660, 10667, 10702, 11088, 11109, 11129, 11136, 11157, 11177, 11432,		

<code>\newcount</code> . . . 329, 330, 4322, 4926, 10640, 11106, 11308, 11457, 12083	11035, 11373, 11374, 11375, 11376, 11652	<code>\OBJ@OCG@view</code> . . . 7179, 7197, 7230, 8165, 8167, 8180, 8200, 8237
<code>\newcounter</code> . . . 5242, 5672, 8163, 12047	<code>\nofrenchguillemets</code> 525, 527	<code>\OBJ@OCGs</code> . . . 7200, 7203, 7209, 7214, 7219, 8197, 8199, 8203, 8207, 8213, 8218, 8223
<code>\newdimen</code> 326, 4323, 4324	<code>\NoHy@OrgPageRef</code> . . 4704, 4706, 4773, 4775	<code>\OBJ@pdfdocencoding</code> . . . 10941, 11250, 11266
<code>\newif</code> 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 755, 2219, 2817, 3384, 3896, 3984, 4318, 4319, 4339, 5259, 5260, 5283, 5532, 8531, 9408	<code>\NoHy@OrgRef</code> 4700, 4702, 4769, 4771	<code>\OBJ@ZaDb</code> 10942, 10951, 11259
<code>\newlabel</code> . 1833, 3737, 4793, 4794, 4801, 4823, 5398, 5426	<code>\NoHyper</code> 4708	<code>\OCIRCUMFLEX</code> . 14699, 14797, 14798, 14799, 14800, 14801
<code>\newlabelxx</code> 4795, 4796	<code>\nohyperpage</code> . . 4751, 6572, 6574, 6576	<code>\ocircumflex</code> 14692, 14737, 14738, 14739, 14740, 14741
<code>\newlength</code> 12269	<code>\nolinkurl</code> 3666	<code>\oddsidemargin</code> 6279
<code>\newline</code> 415, 4871	<code>\nolinkurl@</code> 3666, 3667	<code>\OE</code> 12563, 13315
<code>\newname</code> 5289, 5524, 5546, 5570, 5583, 5592	<code>\NomFancyVerbLineautorefname</code> 2572	<code>\oe</code> 12576, 13317
<code>\newsavebox</code> 8094, 9445	<code>\Nomfootnoteautorefname</code> . 2552	<code>\offinterlineskip</code> 4897
<code>\newtie</code> 12454, 12455, 12838, 12868, 12887, 12903	<code>\Nomtheoremautorefname</code> . 2576	<code>\OHORN</code> . . . 14700, 14802, 14803, 14804, 14805, 14806
<code>\newtoks</code> 90, 4384, 9291, 9478, 9479	<code>\nonumber</code> 5557, 5560	<code>\ohorn</code> . . 2599, 2606, 14693, 14742, 14743, 14744, 14745, 14746
<code>\newwrite</code> . . . 4817, 12166, 12235	<code>\normalfont</code> 434, 5618	<code>\oldb</code> 650
<code>\next</code> 6190, 6191, 6192, 8930, 8932, 8934	<code>\normalsize</code> 452, 5913, 5984	<code>\oldc</code> 651
<code>\nfss@text</code> . 6823, 6843, 6860, 6974	<code>\NR@getttitle</code> 5903	<code>\oldcontentsline</code> . 4788, 4791, 4800
<code>\NG</code> 13299	<code>\null</code> 6181, 6189, 6865, 6970	<code>\oldd</code> 652
<code>\ng</code> 13301	<code>\number</code> 874, 878, 881, 889, 892, 894, 1640, 1698, 1699, 1700, 1701, 1705, 1706, 1707, 1708, 1709, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1723, 1724, 1725, 1726, 1727, 1728, 1731, 1733, 1737, 1738, 1740, 1742, 1744, 1747, 1751, 1752, 1753, 1754, 1763, 1764, 1768, 1769, 1776, 1777, 1781, 1784, 1785, 1786, 1796, 1798, 1799, 1804, 1806, 1807, 1812, 1813, 3001, 3386, 3422, 3910, 7158, 7161, 7890, 7904, 7905, 7916, 7917, 7933, 7934, 7945, 7946, 7963, 7964, 7975, 7976	<code>\oldnewlabel</code> . . . 4793, 4798, 4801
<code>\noboundary</code> 14876	<code>\numberline</code> . . . 5906, 5977, 12026, 12030	<code>\OMEGA</code> 10335
<code>\nobreak</code> . 1892, 1900, 1911, 1919, 5730, 5868	<code>\numberwithin</code> 6426	<code>\openout</code> 4783, 4818, 12168, 12237
<code>\nobreakspace</code> . . 506, 6911, 6940, 6943	<code>\numexpr</code> . 1705, 1706, 1707, 1709, 1715, 1723, 1724, 1725, 1726, 1727, 1728, 1732, 1734, 1738, 1740, 1742, 1744, 1748, 1751, 1752, 1754, 1763, 1768, 1785, 1799, 1807, 1813, 3005	<code>\OpMode</code> . 2295, 2298, 2309, 2323, 2326, 9019, 9106, 9825
<code>\noexpand</code> 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 700, 1014, 1199, 1216, 1339, 1694, 1898, 1899, 1900, 1903, 1917, 1918, 1919, 1922, 2633, 2635, 2637, 2638, 2654, 2828, 2829, 2831, 3627, 3687, 3767, 3850, 3852, 3952, 5018, 5019, 5028, 5030, 5033, 5151, 5410, 5411, 5413, 5586, 5749, 5757, 5758, 5759, 5760, 5761, 5763, 5877, 5966, 6041, 6056, 6072, 6421, 6423, 6876, 6877, 6990, 6991, 6996, 6998, 7003, 7004, 7009, 7010, 7500, 8035, 9345, 9412, 9881, 10117, 10576, 10577, 10578, 10579, 11032, 11033, 11034,	<code>\nun</code> 14856	<code>\or</code> 908, 909, 910, 911, 912, 913, 914, 915, 916, 930, 931, 932, 933, 934, 935, 936, 937, 938, 953, 954, 955, 956, 957, 958, 959, 960, 961, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 4070, 4076, 4081, 4296, 6345, 6349, 6788, 6797, 9012, 12091, 12092, 12093, 12094, 12095, 12096, 12097, 12098, 12099, 12100, 12101, 12102, 12103, 12104, 12105, 12106, 12107, 12108, 12109, 12110, 12111, 12112, 12113, 12114, 12115, 12116, 12117, 12118, 12119, 12120, 12121, 12122
	O	P
	<code>\O</code> 12694, 13062, 13457	<code>\P</code> 411
	<code>\o</code> 12762, 13130, 13459	<code>\p@</code> . 1764, 1769, 4325, 4331, 5624, 7840, 7912, 7941, 7971, 8966, 10039, 10303, 10571, 11027, 11368, 12383, 12384
	<code>\obeylines</code> 9880	
	<code>\OBJ@acroform</code> . . . 10962, 10963	
	<code>\OBJ@Helv</code> . 10943, 10952, 11269	
	<code>\OBJ@OCG@print</code> . . . 7194, 7197, 7205, 7231, 8181, 8183, 8196, 8200, 8209, 8238	

<code>\p@equation</code> 6398	<code>\pdf@linktype</code> . 9430, 9434, 9495, 9496	<code>\pdfliteral</code> 7250, 7252, 7257
<code>\PackageError</code> 61, 2151, 3187, 3792, 4045, 4169, 4365, 4512, 4548, 10656, 10704, 11125, 11179, 11483, 11543	<code>\pdf@rect</code> 9422, 9436, 9449	<code>\pdfm@box</code> . . 8094, 11304, 11305, 11306, 11337, 11348, 11425, 11449, 11460, 11471, 11491, 11504, 11520, 11529, 11550, 11558, 11576, 11587
<code>\PackageInfo</code> . . . 239, 7142, 7156, 10917	<code>\PDF@SetupDoc</code> 3096, 3147, 4671, 4672, 4749, 7507, 7774, 8015, 8445, 8533, 9027, 9332, 9969, 10104, 10235	<code>\pdfmark</code> 5168, 8035, 8044, 8074, 9138, 9156, 9184, 9216, 9233, 9245, 9278, 9314, 9345, 9354, 9385, 9409, 9620, 9634, 9649, 9661, 9668, 9686, 9711, 10117, 10126, 10157, 10550, 10632, 10644, 10669, 10688, 10712, 10732, 12199
<code>\PackageWarning</code> . 237, 2222, 4282	<code>\PDF@SetupDox</code> 7507	<code>\pdfmark@</code> 9409, 9410
<code>\PackageWarningNoLine</code> . . . 238	<code>\pdf@strcmp</code> 732	<code>\pdfminorversion</code> 7139
<code>\pageautorefname</code> . . . 2430, 2448, 2466, 2484, 2502, 2520, 2538, 2578, 2596, 2614, 6943, 7065	<code>\pdf@toks</code> 9412, 9427, 9438, 9478, 9482, 9486	<code>\PDFNextPage</code> 9632
<code>\pagename</code> 6940	<code>\pdf@type</code> 9414, 9418, 9427, 9438, 9473, 9493	<code>\PDFNextPage@</code> 9632, 9633
<code>\pageref</code> . . . 490, 3258, 3556, 4704, 4705, 4773, 4774, 5376, 6929, 6933	<code>\pdfannotlink</code> 7268	<code>\pdfobj</code> . 7165, 7180, 7195, 10946, 11217, 11251, 11260
<code>\paperheight</code> . . 3103, 7700, 7702, 7705, 7707, 7719, 7720, 8512, 8513, 8646, 8647, 8649, 9802, 9803	<code>\pdfbookmark</code> . 1868, 4755, 4756, 12049, 12054, 12059, 12063	<code>\PDFOpen</code> 9660
<code>\paperwidth</code> . . . 7696, 7698, 7709, 7711, 7716, 7717, 8511, 8513, 8650, 9801, 9803	<code>\pdfcatalog</code> 5061, 7201, 7522, 7564, 10963	<code>\pdfoptionpdfminorversion</code> 7136
<code>\par</code> . 5616, 5905, 5933, 5975, 5985, 6183, 6203	<code>\PDFdefaults</code> 9489	<code>\pdfoutline</code> 12247
<code>\paragraphautorefname</code> . . . 2426, 2444, 2462, 2480, 2498, 2516, 2534, 2567, 2569, 2592, 2610, 7061	<code>\pdfdest</code> 7288	<code>\pdfpageattr</code> . . 7610, 7614, 7615, 7625, 7634, 7638, 7639, 7649, 7657, 7660, 7661, 7671
<code>\partautorefname</code> 2420, 2438, 2456, 2474, 2492, 2510, 2528, 2558, 2586, 2604, 7055	<code>\pdfendlink</code> . . 7324, 11007, 11099, 11113, 11140, 11165, 11189, 11211	<code>\pdfpageheight</code> 7702, 7711, 7720, 7727
<code>\partnumberline</code> . . . 12027, 12031	<code>\pdfescapestring</code> 11681	<code>\pdfpageresources</code> 7228
<code>\PassOptionsToPackage</code> . . . 2335, 2372, 2376, 2398, 3130, 3373	<code>\pdfform</code> 7270	<code>\pdfpagesattr</code> . . . 7511, 7513, 7515
<code>\pdf@addtoks</code> . . 9481, 9500, 9506, 9515, 9522, 9526, 9528, 9530, 9532, 9534, 9542, 9551, 9555, 9557, 9559, 9562, 9571, 9575, 9577, 9579, 9581, 9583, 9585, 9587, 9589, 9591, 9593, 9595, 9597, 9599, 9601, 9603, 9605, 9606, 9607, 9608, 9609, 9610, 9611, 9612, 9613, 9614, 9615	<code>\PDFForm@Check</code> . 10731, 10733, 11208, 11209, 11581, 11585, 11699	<code>\pdfpagewidth</code> . 7698, 7707, 7717, 7724
<code>\pdf@addtoksxx</code> . . 9475, 9485, 9498	<code>\PDFForm@List</code> . . . 10643, 10645, 11110, 11111, 11464, 11469, 11806	<code>\PDFPreviousPage</code> 9645
<code>\pdf@box</code> . 9445, 9452, 9454, 9456, 9457, 9460, 9467	<code>\PDFForm@Name</code> . 11000, 11053, 11123, 11204, 11333, 11394, 11481, 11573, 11688	<code>\PDFPreviousPage@</code> . 9646, 9648
<code>\pdf@defaulttoks</code> 9412, 9479, 9480, 9490	<code>\PDFForm@Push</code> . . 10668, 10670, 11137, 11138, 11497, 11501, 11727	<code>\pdfrefform</code> 7272
<code>\pdf@docset</code> 9291	<code>\PDFForm@Radio</code> . 10631, 10635, 11089, 11091, 11433, 11445, 11839	<code>\pdfrefobj</code> . . 10941, 10942, 10943
<code>\pdf@endanchor</code> . 7286, 7325, 7327	<code>\PDFForm@Reset</code> . 10711, 10713, 11186, 11187, 11551, 11556, 11938	<code>\pdfrefxform</code> 7272, 10911
<code>\pdf@escapestring</code> 7121	<code>\PDFForm@Submit</code> 10687, 10690, 11158, 11160, 11522, 11527, 11906	<code>\pdfstartlink</code> 7267, 7268, 7322, 7352, 7383, 7419, 7738, 11006, 11090, 11111, 11138, 11159, 11187, 11209
<code>\PDF@FinishDoc</code> 2249, 2250, 2303, 2304, 3097, 3148, 3251, 3252, 3351, 3352, 4750, 4907, 4908, 7576, 7773, 7987, 8413, 8532, 9077, 9292, 10076, 10234	<code>\PDFForm@Text</code> . . 10549, 10551, 11005, 11006, 11342, 11345, 11871	<code>\pdfstringdef</code> 381, 636, 2953, 2957, 2961, 2965, 2970, 2976, 2981, 2985, 4243, 4248, 4274, 4874, 4954, 4956, 5391, 6262, 11695, 12034
	<code>\pdfhorigin</code> 7692	<code>\pdfstringdefDisableCommands</code> 649, 688, 4753, 4869
	<code>\pdfinfo</code> 7578	<code>\pdfstringdefPostHook</code> . . 632, 682
	<code>\pdflastform</code> 7271	<code>\pdfstringdefPreHook</code> . 502, 682, 694, 696, 4868, 4878
	<code>\pdflastlink</code> 10932	<code>\pdfstringdefWarn</code> . 414, 415, 495, 699, 1207, 1212, 1231, 1235
	<code>\pdflastobj</code> 7179, 7194, 7200, 10962, 11250, 11259, 11269	<code>\pdftexrevision</code> . 7467, 7475, 7486
	<code>\pdflastxform</code> . 7271, 10909, 10911	<code>\pdftexversion</code> . 7462, 7464, 7467, 7470, 7473, 7474, 7478, 7484, 7485, 10940
	<code>\pdflinkmargin</code> . . 7266, 7269, 7274	

<code>\pdfvorigin</code>	7693	<code>\ra</code>	14840	10031, 10291, 11337, 11425,
<code>\pdfxform</code>	7270, 10907	<code>\raff</code>	14862	11460, 11491, 11520, 11550,
<code>\peh</code>	14869	<code>\raise</code> 1884, 7841, 7913, 7942, 7972,		11576
<code>\penalty</code>	1342, 1877, 6110, 6133	9471, 10040, 10304		
<code>\phantom</code>	457	<code>\ReadBookmarks</code> 3133, 3151, 3265,		<code>\setkeys</code>
<code>\phantomsection</code> 3098, 4757, 6302,		3439, 3564, 12147, 12177		2243, 2334, 2945, 3119, 3161,
11971, 12023, 12333		<code>\real@setref</code>	6819, 6885	3372, 3488, 4316, 7148, 9415,
<code>\Preamble</code>	10331	<code>\realfootnote</code>	5840	10522, 10762, 10775, 10824,
<code>\process@me</code>	4848, 4860, 4861,	<code>\Ref</code>	6901, 6905, 6910	10867, 10888, 10938, 11279
7510, 7519		<code>\ref</code>	489, 3257, 3555, 3884, 4700,	<code>\setlength</code>
<code>\ProcessKeyvalOptions</code>	3134	4701, 4769, 4770, 6920, 10323		365, 366, 1881,
<code>\protect</code>	1340, 3717, 5906, 5977,	<code>\ref@one</code>	3693, 3694	7692, 7693, 7698, 7702, 7707,
6041, 6056, 6072, 6188, 6195,		<code>\rEfLiNK</code>	10324, 10325	7711, 7717, 7720, 7724, 7727,
6196, 6335, 6366, 6641, 6693,		<code>\refstepcounter</code> 5256, 5263, 5449,		8647, 8650, 8654, 8657, 8966,
6822, 6842, 6848, 6859, 6973,		5469, 5496, 5520, 5528, 5969		12289, 12356
7783, 7869, 8599, 8673, 9979,		<code>\rem@ptetc</code>	9206, 9208	<code>\setpdfinkmargin</code> 2988, 2989, 7266
10244, 12038, 12271, 12383,		<code>\renewcommand</code> 1824, 5948, 6443,		<code>\settowidth</code>
12384		12063		10568, 11024, 11365
<code>\protected@edef</code> 3752, 5014, 5584,		<code>\RequirePackage</code>	22, 232,	<code>\sffamily</code>
5604, 7295, 8290, 8720, 8791,		233, 234, 235, 236, 715, 1244,		436
9270		1627, 1818, 2204, 3127, 3239,		<code>\shadda</code>
<code>\protected@write</code> 1832, 3736, 6168,		3240, 3507, 3551, 3569, 3663,		14867
6527, 6542, 6550, 6554, 6559,		3887, 4210, 4888, 5104, 7068,		<code>\sheen</code>
12037		8530, 10231, 12073		14843
<code>\protected@xdef</code>	5758, 5760, 5843	<code>\RerunFileCheck</code>	12075	<code>\shortciteN</code>
<code>\providecommand</code>	1849,	<code>\Reset</code>	4576	6231
1850, 2348, 2727, 2728, 2731,		<code>\reset@font</code> 6116, 6139, 6823, 6843,		<code>\SK@</code>
2732, 3339, 3535, 3536, 3641,		6860, 6974		7032
3671, 5044, 5063, 5186, 6006,		<code>\revtex@checking</code>	6093	<code>\SK@@ref</code>
6007, 6022, 6100, 6624, 6625,		<code>\Rightarrow</code>	6775	7032
6741, 7046, 7047, 7048, 7049,		<code>\rlap</code>	7251, 8259	<code>\SK@ref</code>
7050, 7051, 7052, 7053, 7054,		<code>\rm</code>	445	7029
7055, 7056, 7057, 7058, 7059,		<code>\rmfamily</code>	435	<code>\skip@</code> 1357, 1431, 1432, 1435, 1437,
7060, 7061, 7062, 7063, 7064,		<code>\Roman</code>	5010	1895, 1901, 1914, 1920
7065, 7128, 7276, 7290, 7291,		<code>\roman</code>	5011	<code>\slide@cline</code> 6761, 6774, 6782, 6792,
7772, 7864, 7865, 8092, 8150,		<code>\romannumeral</code>	706, 707	6800
8151, 8152, 8529, 8644, 8666,		<code>\rule</code>	5803	<code>\Slide@contents</code>
8667, 8668, 9099, 9446, 9447,				6766
9736, 9744, 9745, 9746, 9747,				<code>\slide@contents</code>
9819, 9831, 9832, 9833, 9834,				6759
9878, 9919, 9920, 9921, 9922,				<code>\slide@heading</code>
10066, 10068, 10069, 10178,				6637
10179, 10226				<code>\slide@subheading</code>
<code>\PushButton</code>	4567			6690
<code>\put@me@back</code>	3845, 3858, 3868			<code>\slide@undottedcline</code>
				6752
				<code>\slidenumberline</code> 6753, 6761, 6775,
				6783, 6793, 6801
				<code>\SliTeX</code>
				420
				<code>\slshape</code>
				442
				<code>\small</code>
				454
				<code>\smash</code>
				1878
				<code>\spacefactor</code> 5730, 5742, 5868, 5870
				<code>\special@paper</code>
				3099
				<code>\SpecialDvipdfmxOutlineOpen</code> .
			
				2270, 2272, 3394
				<code>\splitmaxdepth</code>
				5797
				<code>\splittopskip</code>
				5796
				<code>\SS</code>
				12778, 14672
				<code>\ss</code>
				2470, 12708, 12793, 13076
				<code>\st@rredfalse</code>
				5503, 5512
				<code>\stepcounter</code>
				5273, 5411, 5603,
				5731, 5842, 8275, 12036
				<code>\stockheight</code>
				3103, 7726, 7727,
				8518, 8519, 8653, 8654, 9808,
				9809
				<code>\stockwidth</code> 7723, 7724, 8517, 8519,
				8656, 8657, 9807, 9809
				<code>\stop@hyper</code>
				4722
				<code>\StringEncodingConvertTest</code> 621
				<code>\strip@period</code>
				1837

<code>\strip@prefix</code>	62, 1830, 4850, 5351, 5587, 12195, 12203, 12218	<code>\textasciicute</code>	12990	14629, 14631, 14633, 14635, 14637, 14639, 14641, 14643, 14645, 14647, 14649, 14651, 14653	
<code>\strip@pt</code>	370, 377, 3115, 7698, 7702, 7707, 7711, 8969, 11722, 11834, 11862, 11899, 11947	<code>\textasciibreve</code>	12464, 12860, 12879, 13510		
<code>\strip@pt@and@otherjunk</code>	9155, 9176, 9208	<code>\textasciicaron</code>	12422, 12434, 12446, 12466, 12857, 12876, 13508	<code>\textcircledP</code>	14471
<code>\strutbox</code>	5797	<code>\textasciicircum</code>	12418, 12430, 12442, 12502, 12853, 12872, 12935	<code>\textcircledcirc</code>	12468
<code>\sub@label</code>	1824	<code>\textasciidieresis</code>	12420, 12432, 12444, 12598, 12855, 12874, 12966	<code>\textcolonmonetary</code>	14449
<code>\subeqnarray</code>	5563, 5565	<code>\textasciigrave</code>	12416, 12428, 12440, 12507, 12851, 12870, 12939	<code>\textcolor</code>	460, 10937, 10976, 10979, 11278
<code>\subequations</code>	5601, 5602	<code>\textasciimacron</code>	12425, 12437, 12449, 12611, 12862, 12881, 12979	<code>\textcompwordmark</code>	14351
<code>\subfig@oldlabel</code>	1826	<code>\textasciitilde</code>	409, 3604, 12517, 12950	<code>\textcopyright</code>	12600, 12968
<code>\Submit</code>	4573	<code>\textasteriskcentered</code>	12927	<code>\textCR</code>	12462, 12909
<code>\SubmitObject</code>	11161	<code>\textbackslash</code>	404, 556, 12500, 12933	<code>\textcurrency</code>	12590, 12958
<code>\SubmitPObj</code>	11161	<code>\textbaht</code>	14195	<code>\textdagger</code>	12521, 14371
<code>\subparagraphautorefname</code>	2427, 2445, 2463, 2481, 2499, 2517, 2535, 2568, 2570, 2593, 2611, 7062	<code>\textbar</code>	12513, 12946	<code>\textdaggerdbl</code>	12523, 14373
<code>\subpdfbookmark</code>	12051	<code>\textbardbl</code>	14357	<code>\textdegree</code>	12613, 12779, 12981
<code>\subsection</code>	10062	<code>\textBeta</code>	909, 13559	<code>\textDelta</code>	911, 13563
<code>\subsectionautorefname</code>	2424, 2442, 2460, 2478, 2496, 2514, 2532, 2565, 2590, 2608, 7059	<code>\textbeta</code>	909, 12793, 13622	<code>\textdelta</code>	911, 13626
<code>\subsubsectionautorefname</code>	2425, 2443, 2461, 2479, 2497, 2515, 2533, 2566, 2591, 2609, 7060	<code>\textbf</code>	428	<code>\textDigammagreek</code>	13685
<code>\sukun</code>	14868	<code>\textbigcircle</code>	12869, 12888, 14657	<code>\textdigammagreek</code>	13687
<code>\surd</code>	6783	<code>\textblank</code>	14505	<code>\textdiscount</code>	14397
T		<code>\textbracketleft</code>	402, 12511, 12944	<code>\textdiv</code>	12790, 14683
<code>\T</code>	14832	<code>\textbracketright</code>	403, 12515, 12948	<code>\textdivide</code>	12760, 12790, 13128, 14683
<code>\t</code>	12453, 12848, 12867, 12886, 12902	<code>\textbrokenbar</code>	12594, 12962	<code>\textdivorced</code>	14663
<code>\T@pageref</code>	3542, 3557, 6918	<code>\textbullet</code>	12519, 14375	<code>\textdollar</code>	406, 12484, 12915
<code>\T@ref</code>	3537, 3555	<code>\textcdot</code>	12792, 14685	<code>\textdong</code>	14459
<code>\T@temp</code>	6094, 6097	<code>\textcedilla</code>	12424, 12436, 12448, 12629, 12859, 12878, 12998	<code>\textdotaccent</code>	12423, 12435, 12447, 12470, 12858, 12877, 13512
<code>\Ta</code>	14846	<code>\textcelsius</code>	12779, 14467	<code>\textdotbelow</code>	12427, 12439, 12451, 12494, 12866, 12885, 13531
<code>\taa</code>	14833	<code>\textcent</code>	12586, 12954	<code>\textdoublegrave</code>	12861, 12880, 13527
<code>\tableautorefname</code>	2419, 2437, 2455, 2473, 2491, 2509, 2527, 2557, 2585, 2603, 7054	<code>\textChi</code>	958, 13599	<code>\textdownarrow</code>	14495
<code>\tagform@</code>	6397	<code>\textchi</code>	958, 13664	<code>\textheightinferior</code>	14441
<code>\tatweel</code>	14850	<code>\textcircled</code>	12850, 12869, 12888, 14509, 14511, 14513, 14515, 14517, 14519, 14521, 14523, 14525, 14527, 14529, 14531, 14533, 14535, 14537, 14539, 14541, 14543, 14545, 14547, 14549, 14551, 14553, 14555, 14557, 14559, 14561, 14563, 14565, 14567, 14569, 14571, 14573, 14575, 14577, 14579, 14581, 14583, 14585, 14587, 14589, 14591, 14593, 14595, 14597, 14599, 14601, 14603, 14605, 14607, 14609, 14611, 14613, 14615, 14617, 14619, 14621, 14623, 14625, 14627,	<code>\textheightsuperior</code>	14409
<code>\tcheh</code>	14870			<code>\textellipsis</code>	412, 413, 12525, 14377
<code>\TeX</code>	416, 417, 419, 420, 10334, 10336, 10338			<code>\textemdash</code>	590, 12527, 14355
<code>\texorpdfstring</code>	675, 4754			<code>\textendash</code>	591, 12529, 14353
<code>\textacute</code>	12417, 12429, 12441, 12621, 12852, 12871, 12989			<code>\textEpsilon</code>	912, 13543, 13565
<code>\textacutedbl</code>	13521			<code>\textepsilon</code>	912, 13612, 13628
<code>\textaleph</code>	14487			<code>\textequalsuperior</code>	14417
<code>\textAlpha</code>	908, 13541, 13557			<code>\textestimated</code>	14485
<code>\textalpha</code>	908, 13610, 13620			<code>\textEta</code>	915, 13545, 13569
<code>\textampersand</code>	408, 12488, 12919			<code>\texteta</code>	915, 13614, 13632
<code>\textangstrom</code>	14483			<code>\texteuro</code>	12582, 14461
				<code>\texttexclamdown</code>	594, 819, 12584, 12952
				<code>\textfi</code>	592, 12557, 14669
				<code>\TextField</code>	4558
				<code>\textfiveinferior</code>	14435
				<code>\textfivesuperior</code>	14403
				<code>\textfl</code>	593, 12559, 14671
				<code>\textflorin</code>	12531, 13407
				<code>\textflq</code>	479, 12786, 14679
				<code>\textflqq</code>	477, 12784, 14677
				<code>\textfourinferior</code>	14433

<code>\textfoursuperior</code>	14401	<code>\textmusicalnote</code>	14659	<code>\textquotedbl</code>	12480, 12911
<code>\textfractionsolidus</code>	12533, 14391	<code>\textnaira</code>	14453	<code>\textquotedblleft</code>	12545, 12781, 14365, 14674
<code>\textfrq</code>	480, 12787, 14680	<code>\textnapostrophe</code>	13297	<code>\textquotedblright</code>	12547, 14367
<code>\textfrqq</code>	478, 12785, 14678	<code>\textneg</code>	12788, 14681	<code>\textquoteleft</code>	12549, 12783, 14359, 14676
<code>\textGamma</code>	910, 13561	<code>\textnewtie</code>	12868, 12887, 13529	<code>\textquoteright</code>	12551, 14361
<code>\textgamma</code>	910, 13624	<code>\textnineinferior</code>	14443	<code>\textquotesingle</code>	12921
<code>\textglq</code>	475, 12782, 14675	<code>\textninesuperior</code>	14411	<code>\texttriangle</code>	14503
<code>\textglqq</code>	473, 12780, 14673	<code>\textnormal</code>	424	<code>\texttrbrackdbl</code>	14667
<code>\textgravedbl</code>	13523	<code>\textnsuperior</code>	14423	<code>\textrecipe</code>	14473
<code>\textgreater</code>	12498, 12931	<code>\textNu</code>	934, 13581	<code>\textreferencemark</code>	14387
<code>\textgrq</code>	476, 12783, 14676	<code>\textnu</code>	934, 13644	<code>\textregistered</code>	12609, 12977
<code>\textgrqq</code>	474, 12781, 14674	<code>\textnumbersign</code>	405, 12482, 12913	<code>\textRho</code>	953, 13589
<code>\textGslash</code>	13426	<code>\textnumeralsigngreek</code>	885, 13537	<code>\textrho</code>	953, 13652
<code>\textgslash</code>	13428	<code>\textnumeralsignlowergreek</code>	902, 924, 947, 13539	<code>\textrightarrow</code>	14493
<code>\textguarani</code>	14465	<code>\textnumero</code>	14469	<code>\texttring</code>	12421, 12433, 12445, 12476, 12856, 12875, 13514
<code>\textHslash</code>	13222	<code>\textogonek</code>	12474, 12864, 12883, 13516	<code>\textrm</code>	425
<code>\textthslash</code>	13224	<code>\textohm</code>	14479	<code>\textrquill</code>	14395
<code>\textHT</code>	12458, 12905	<code>\textOmega</code>	960, 13553, 13603	<code>\textSampigreek</code>	961, 13693
<code>\texthungarumlaut</code>	12472, 12863, 12882, 13520, 13521	<code>\textomega</code>	960, 13668, 13679	<code>\textsampigreek</code>	961, 13695
<code>\textinterrobang</code>	14389	<code>\textOmicron</code>	936, 13549, 13585	<code>\textsc</code>	431
<code>\textIota</code>	930, 13547, 13573, 13606	<code>\textomicron</code>	936, 13648, 13674	<code>\textsection</code>	12596, 12964
<code>\textiota</code>	930, 13616, 13636, 13670	<code>\textonehalf</code>	12639, 13008	<code>\textservicemark</code>	14475
<code>\textlotadieresis</code>	13555, 13605	<code>\textoneinferior</code>	14427	<code>\textseveninferior</code>	14439
<code>\textit</code>	430	<code>\textonequarter</code>	12637, 13006	<code>\textsevensuperior</code>	14407
<code>\textKappa</code>	931, 13575	<code>\textonesuperior</code>	12631, 13000	<code>\textsf</code>	426, 10976, 10979
<code>\textkappa</code>	931, 13638	<code>\textopenbullet</code>	14655	<code>\textSigma</code>	954, 13591
<code>\textKoppagreek</code>	938, 13689	<code>\textordfeminine</code>	12602, 12970	<code>\textsigma</code>	954, 13656
<code>\textkoppagreek</code>	938, 13691	<code>\textordmasculine</code>	12633, 13002	<code>\textsixinferior</code>	14437
<code>\textkra</code>	13263	<code>\textparagraph</code>	411, 12625, 12994	<code>\textsixsuperior</code>	14405
<code>\textLambda</code>	932, 13577	<code>\textparenleft</code>	598, 599, 12490, 12923	<code>\textsl</code>	432
<code>\textlambda</code>	932, 13640	<code>\textparenleftinferior</code>	14445	<code>\textsterling</code>	12588, 12956
<code>\textlangle</code>	14501	<code>\textparenleftsuperior</code>	14419	<code>\textStigmagreek</code>	913, 13681
<code>\textlatin</code>	463, 5339	<code>\textparenright</code>	12492, 12925	<code>\textstigmagreek</code>	913, 13683
<code>\textlbrackdbl</code>	14665	<code>\textparenrightinferior</code>	14447	<code>\textsurd</code>	14499
<code>\textleftarrow</code>	14489	<code>\textparenrightsuperior</code>	14421	<code>\TextSymbolUnavailable</code>	12452, 12453, 12455
<code>\textless</code>	12496, 12929	<code>\textpercent</code>	407, 12486, 12917	<code>\textTau</code>	955, 13593
<code>\textLF</code>	12460, 12907	<code>\textperiodcentered</code>	12627, 12792, 12996, 14685	<code>\texttau</code>	955, 13658
<code>\textlira</code>	14451	<code>\textpertenthousand</code>	14381	<code>\textTheta</code>	916, 13571
<code>\textlnot</code>	12607, 12975	<code>\textperthousand</code>	12541, 14379	<code>\texttheta</code>	916, 13634
<code>\textlogicalnot</code>	12606, 12788, 12974, 14681	<code>\textpeseta</code>	14455	<code>\textthreeinferior</code>	14431
<code>\textlongs</code>	13405, 14337	<code>\textpeso</code>	14463	<code>\textthreequarters</code>	12641, 13010
<code>\textlquill</code>	14393	<code>\textPhi</code>	957, 13597	<code>\textthreesuperior</code>	12619, 12987
<code>\textmacronbelow</code>	12426, 12438, 12450, 12505, 12865, 12884, 13533	<code>\textphi</code>	957, 13662	<code>\texttie</code>	12867, 12886, 13535
<code>\textmarried</code>	14661	<code>\textPi</code>	937, 13587	<code>\texttilde</code>	3210, 12419, 12431, 12443, 12478, 12854, 12873, 13518
<code>\textmd</code>	429	<code>\textpi</code>	937, 13650	<code>\texttildelow</code>	13525
<code>\textmho</code>	14481	<code>\textplusminus</code>	12615, 12791, 12983, 14684	<code>\texttimes</code>	12789, 14682
<code>\textminus</code>	12539, 14497	<code>\textplussuperior</code>	14413	<code>\texttrademark</code>	12555, 14477
<code>\textminussuperior</code>	14415	<code>\textpm</code>	12791, 14684	<code>\textTslash</code>	13355
<code>\textMu</code>	933, 13579	<code>\textPsi</code>	959, 13601	<code>\texttslash</code>	13357
<code>\textmu</code>	933, 12623, 12992	<code>\textpsi</code>	959, 13666	<code>\texttt</code>	427
<code>\textmugreek</code>	13642	<code>\textquestiondown</code>	595, 820, 12643, 13012	<code>\texttwoinferior</code>	14429
<code>\textmultiply</code>	12692, 12789, 13060, 14682				

<code>\texttwo superior</code> . . .	12617, 12985	<code>\theHtable</code>	5228, 5232	<code>\tocparagraph</code>	1100
<code>\textunderscore</code> . . .	410, 3598, 3599, 3601, 12504, 12937	<code>\theHtheorem</code>	5239	<code>\tocpart</code>	1094
<code>\textup</code>	433	<code>\theHthm</code>	5240	<code>\tocsection</code>	1097
<code>\textuparrow</code>	14491	<code>\thelisting</code>	2731	<code>\tocsubsection</code>	1098
<code>\textUpsilon</code>	956, 13551, 13595, 13608	<code>\thelstlisting</code>	2727	<code>\tocsubsubsection</code>	1099
<code>\textupsilon</code>	956, 13660, 13672, 13677	<code>\thempfn</code>	5678, 5759, 5761, 5843, 5855	<code>\toks</code>	694, 695, 696, 3756, 3758, 3760, 3764, 3769, 6833, 6834, 6836
<code>\textupsilonacute</code> . . .	13618, 13676	<code>\theoremautorefname</code>	2429, 2447, 2465, 2483, 2501, 2519, 2537, 2575, 2595, 2613, 7064	<code>\toks@</code>	171, 208, 344, 347, 350, 368, 369, 981, 1004, 1007, 1008, 1267, 1268, 2625, 2626, 2628, 5016, 5018, 5098, 5100, 5149, 5161, 5408, 5412, 6398, 6399, 6605, 6610, 6612, 6615
<code>\textvarsigma</code>	13654	<code>\thepage</code>	1835, 3719, 4916, 4939, 5391, 5399, 5426, 6119, 6142, 6171, 6262, 6335, 6366, 6528, 6545, 6551, 6555, 6562, 6825, 6845, 6862, 6976	<code>\topmargin</code>	6274
<code>\textvisiblespace</code>	14507	<code>\theslideheading</code>	6654	<code>\trivlist</code>	5619
<code>\textwon</code>	14457	<code>\theslide section</code>	6642, 6649, 6657, 6663, 6665, 6667, 6673, 6683	<code>\tryhyper@link</code>	3694, 3696
<code>\textXi</code>	935, 13583	<code>\theslidesubheading</code>	6655, 6706	<code>\ttfamily</code>	437
<code>\textxi</code>	935, 13646	<code>\theslidesubsection</code>	6694, 6701, 6708, 6714, 6716, 6718, 6724, 6734	<code>\ttl@b</code>	5445, 5450
<code>\textyen</code>	12592, 12960	<code>\This@name</code>	5267, 5268, 5285, 5286	<code>\ttl@gobblecontents</code>	5454
<code>\textzero inferior</code>	14425	<code>\thispdfpagelabel</code>	4921	<code>\ttl@Hy@refstepcounter</code>	5444
<code>\textzerosuperior</code>	14399	<code>\ThisShouldNotHappen</code>	11659	<code>\ttl@Hy@saveanchor</code>	5438, 5447
<code>\textZeta</code>	914, 13567	<code>\thm@headpunct</code>	5623	<code>\ttl@Hy@steplink</code>	5435
<code>\textzeta</code>	914, 13630	<code>\thm@headsep</code>	5624	<code>\typeout</code>	5, 6, 7, 19, 26, 27, 36, 131, 155, 158, 159, 160, 2247, 2301, 3245, 3247, 3249, 3349, 3376, 3378, 3854, 4355, 6326, 7279, 8613, 8617, 8620, 8623, 8626, 8629, 8632, 8635, 10229, 10526, 10740, 10743, 10746, 10749, 10752, 10755, 10757, 10758, 10767, 10904, 11275, 12377, 14879
<code>\TH</code>	12706, 13074	<code>\thm@notefont</code>	5622		
<code>\th</code>	12774, 13142	<code>\thm@postskip</code>	5628		
<code>\thaa</code>	14834	<code>\thm@preskip</code>	5627		
<code>\thebookmark@seq@number</code>	12041	<code>\thm@space@setup</code>	5625		
<code>\theequation</code>	5288, 5523, 5545, 5569, 5605	<code>\thm@swap</code>	5621		
<code>\thefootnote</code>	5689, 5862	<code>\thmheadnl</code>	5620		
<code>\theHchapter</code>	5230, 5231, 5232, 5233, 5315	<code>\tiny</code>	455		
<code>\theHenumi</code>	5249	<code>\title</code>	4827, 4829		
<code>\theHenumii</code>	5250	<code>\TMP@EnsureCode</code>	3449, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482		
<code>\theHenumiii</code>	5251	<code>\tocappendix</code>	1096		
<code>\theHenumiv</code>	5252	<code>\tocchapter</code>	1095		
<code>\theHequation</code>	5220, 5289, 5524, 5546, 5570, 5578, 5605, 5609	<code>\toclevel@chapter</code>	2718		
<code>\theHfigure</code>	5227, 5231	<code>\toclevel@figure</code>	2724		
<code>\theHHfootnote</code>	5253, 5255	<code>\toclevel@listing</code>	2732		
<code>\theHHmpfootnote</code>	5255	<code>\toclevel@lstlisting</code>	2728		
<code>\theHItem</code>	5243, 5249, 5250, 5251, 5252	<code>\toclevel@paragraph</code>	2722		
<code>\theHlisting</code>	2731	<code>\toclevel@part</code>	2714, 2716		
<code>\theHlstlisting</code>	2727	<code>\toclevel@section</code>	2719		
<code>\theHmpfootnote</code>	5254	<code>\toclevel@subfigure</code>	1849		
<code>\theHparagraph</code>	5237, 5238	<code>\toclevel@subparagraph</code>	2723		
<code>\theHparentequation</code>	5604, 5609	<code>\toclevel@subsection</code>	2720		
<code>\theHpart</code>	5223	<code>\toclevel@subsubsection</code>	2721		
<code>\theHsection</code>	5220, 5226, 5233, 5235, 5239, 5240, 5314	<code>\toclevel@subtable</code>	1850		
<code>\theHslide</code>	6628	<code>\toclevel@table</code>	2725		
<code>\theHslide section</code>	6633, 6635, 6671, 6675				
<code>\theHslidesubsection</code>	6634, 6722, 6726				
<code>\theHsubequation</code>	5578				
<code>\theHsubparagraph</code>	5238				
<code>\theHsubsection</code>	5235, 5236				
<code>\theHsubsubsection</code>	5236, 5237				

`\upshape` 443, 5622
`\Url` 3665
`\url` 3664, 3668
`\url@` 3668, 3669
`\use@file` . . . 3826, 3828, 3832, 3835
`\usepackage` 2244
`\UTFviii@four@octets` 1685, 1694
`\UTFviii@three@octets` 1684
`\UTFviii@two@octets` 1683

V
`\v` . . . 12422, 12434, 12446, 12565,
12570, 12578, 12580, 12833,
12857, 12876, 12898, 13170,
13172, 13174, 13176, 13198,
13200, 13273, 13275, 13293,
13295, 13327, 13329, 13343,
13345, 13351, 13353, 13401,
13403, 13409, 13411, 13413,
13415, 13416, 13418, 13420,
13422, 13424, 13430, 13432,
13434, 13436, 13442, 13443,
13486, 13488
`\V@@@footnotetext` 5805
`\V@@footnotetext` 5791
`\value` 6058, 6084, 6278, 6423, 8276,
8281
`\vbox` 4591, 4592, 4593, 4594, 4896,
6272
`\vfill` 4591, 4592, 4593, 4594
`\voffset` 6273
`\vpageref` 6921
`\vphantom` 458
`\Vr@f` 6907
`\vr@f` 6915
`\vref@pagenum` 5458
`\vref@space` 6908, 6911, 6916
`\vskip` 1901, 1902
`\vss` 6287
`\vtex@trans@special` . . 8937, 8939,
8942, 8946, 8950, 8954, 8956,
8958, 8962, 8968, 8969, 8972
`\VTeXInitMediaSize` . 8644, 8661

`\VTeXOS` . . 9007, 9008, 9009, 9011
`\VTeXversion` . 5065, 5068, 5071,
8999, 9003

W
`\waw` 14858
`\wawhamza` 14827
`\wd` . 7904, 7916, 7933, 7945, 7963,
7975, 11305
`\write` . . . 4784, 4786, 5177, 5185,
5397, 5425, 6042, 6057, 6073,
6083, 6113, 6136, 6162, 6192,
12170, 12239
`\WriteBookmarks`
. . . . 3152, 3266, 3418, 3440,
11980, 12163, 12185, 12186,
12228, 12232
`\wwwbrowser` . . . 7865, 7935, 7947

X
`\x` . . . 21, 25, 92, 98, 168, 169, 176,
178, 206, 209, 210, 211, 212,
213, 214, 215, 216, 217, 218,
219, 220, 221, 222, 223, 224,
225, 226, 227, 228, 367, 372,
704, 710, 1194, 1222, 1632,
1634, 1896, 1906, 1915, 1925,
1976, 1977, 1982, 1998, 2632,
2642, 2743, 2744, 2747, 2748,
2749, 2753, 2756, 2762, 3103,
3104, 3109, 3110, 3165, 3166,
3167, 3170, 3173, 3176, 3754,
3765, 3769, 3772, 3905, 3919,
3944, 3948, 3951, 3961, 4849,
4850, 4855, 5409, 5416, 5469,
5479, 5481, 5494, 6612, 6613,
6835, 6838, 6873, 6874, 6875,
6877, 6879, 7227, 7235, 7495,
7496, 7499, 7501, 7504, 8100,
8101, 8102, 8104, 8105, 8106,
8108, 8109, 8110, 8112, 8113,
8114, 8116, 8117, 8118, 8120,
8121, 8122, 8124, 8125, 8126,

8128, 8129, 8131, 8137,
9103, 9108, 9112, 9568,
10575, 10595, 11031,
11372, 11392
`\XeTeXrevision` 3386
`\XeTeXversion` 3386
`\XR@dURL` 1856
`\XR@addURL`
`\XR@ext` 2084, 2085,
3827, 5063, 7128, 7772,
8092, 8529, 9736, 9819,
10066, 10226
`\XR@URL`
`\xspace` 50

Y
`\y` . . 1978, 1983, 1988, 2749,
2751, 2752, 3168, 3171,
3177, 3179, 3185, 4850,
5467, 5468, 5471, 5479
`\ya`
`\yahamza`

Z
`\z` 1980, 1981
`\z@` 732, 88,
923, 946, 1089, 1343,
1355, 1419, 1423, 1431,
1891, 1910, 2170, 2173,
2755, 2761, 3105, 3394,
5069, 5650, 5651, 5803,
7700, 7705, 7709, 7716,
7723, 7726, 8511, 8512,
8518, 8998, 9022, 9206,
9468, 9801, 9802, 9807,
10564, 11020, 11309,
11708, 11737, 11742,
11820, 11848, 11879,
11904, 11914, 11919,
11953, 12211, 12327
`\za`
`\zay`
`\ZWJ`