

Hypertext marks in \LaTeX

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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 Euro \TeX 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 \LaTeX ”

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	21
6.2.3	Postprocessing	23
6.3	Encodings	27
6.3.1	PD1 encoding	27
6.3.2	PU encoding	27
6.4	Additional user commands	27
6.4.1	<code>\texorpdfstring</code>	27
6.4.2	Hooks for <code>\pdfstringdef</code>	27
6.5	Help macros for expansion	28
6.5.1	Babel languages	28
6.5.2	CJK bookmarks	32
6.5.3	<code>\@inmathwarn-Patch</code>	34
6.5.4	Unexpandable spaces	35
6.5.5	Marker for commands	36
6.5.6	<code>\hspace fix</code>	36
6.5.7	Fix for AMS classes	36
6.5.8	Reference commands	36
6.5.9	Redefining the defining commands	39
6.5.10	<code>\ifnextchar</code>	40
6.5.11	<code>\@protected@testoptifnextchar</code>	40
6.6	Help macros for postprocessing	40
6.6.1	Generic warning.	40
6.6.2	Protecting spaces	41
6.6.3	Remove grouping braces	42
6.6.4	Catcode check	43
6.6.5	Check for wrong glyphs	46
6.6.6	Replacing tokens	47
6.6.7	Support for package <code>xspace</code>	47
6.6.8	Converting to Unicode	48
6.6.9	Support for UTF-8 input encoding	49

7	Support of other packages	53
7.1	Class memoir	53
7.2	Package subfigure	53
7.3	Package xr and xr-hyper	54
8	Help macros for links	54
9	Options	55
9.1	Help macros	55
9.2	Defining the options	57
10	Options for different drivers	62
11	Options to add extra features	64
12	Language options	65
13	Options to change appearance of links	71
14	Bookmarking	72
15	PDF-specific options	73
15.1	PDF/A	80
15.2	Patch for babel's <code>\texttilde</code>	81
15.3	Patch for babel 3.8j	81
15.3.1	Driver loading	82
15.3.2	Bookmarks	85
16	User hypertext macros	88
17	Underlying basic hypertext macros	91
18	Compatibility with the <i>BT_EX2html</i> package	94
19	Forms creation	95
19.1	Field flags	95
19.1.1	Declarations of field flags	97
19.1.2	Set submit flags	99
19.1.3	Set annot flags in fields	99
19.1.4	Pushbutton field	100
19.1.5	Check box field	100
19.1.6	Radio button field	101
19.1.7	Text fields	101
19.1.8	Choice fields	102
19.2	Choice field	102
19.3	Forms	104
20	Setup	109
21	Low-level utility macros	110
22	Localized nullifying of package	111
23	Package nohyperref	111

24 The Mangling Of Aux and Toc Files	112
25 Title strings	113
26 Page numbers	115
27 Every page	115
27.1 PDF /PageLabels	115
27.1.1 pdfTeX and VTeX	119
27.1.2 pdfmarkbase, dvipdfm	120
28 Automated L^AT_EX hypertext cross-references	121
29 Package lastpage support	125
30 Package ifthen support	126
31 Package titlesec and titletoc support	126
32 Package varioref support	127
33 Package longtable support	127
34 Equations	128
35 Footnotes	131
36 Float captions	135
37 Bibliographic references	137
37.1 Package harvard	140
37.2 Package chicago	142
38 Page numbers	143
39 Table of contents	144
40 New counters	145
41 AMSL^AT_EX compatibility	146
41.1 \@addtoreset and \numberwithin patches	147
42 Included figures	148
43 hyperindex entries	148
44 Compatibility with foiltex	150
45 Compatibility with seminar slide package	150
46 Configuration files	158
46.1 PS/PDF strings	158
46.2 pdftex	160
46.3 hypertext	172
46.4 dviwindo	174
46.5 dvipdfm dvi to PDF converter	179

46.6	VTeX typesetting system	186
46.7	Fix for Adobe bug number 466320	197
46.8	Direct pdfmark support	198
46.9	Rokicki's dvips	209
46.10	VTeX's vtexpdfmark driver	211
46.11	Textures	213
46.12	dvipsone	216
46.13	TeX4ht	219
47	Driver-specific form support	222
47.1	pdfmarks	222
47.2	HyperTeX	229
47.3	TeX4ht	229
47.4	pdfTeX	231
47.5	dvipdfm	238
47.6	Common forms part	245
48	Bookmarks in the PDF file	251
48.1	Bookmarks	252
49	Compatibility with koma-script classes	258
50	Encoding definition files for encodings of PDF strings	259
50.1	PD1 encoding	259
50.2	PU encoding	267
50.2.1	NFSS2 accents	267
50.2.2	Basic Latin: U+0000 to U+007F	269
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	270
50.2.4	Latin Extended-A: U+0080 to U+017F	274
50.2.5	Latin Extended-B: U+0180 to U+024F	279
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	280
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	281
50.2.8	Greek and Coptic: U+0370 to U+03FF	281
50.2.9	Cyrillic: U+0400 to U+04FF	284
50.2.10	Thai: U+0E00 to U+0E7F	293
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	293
50.2.12	General Punctuation: U+2000 to U+206F	296
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	297
50.2.14	Currency Symbols: U+20A0 to U+20CF	298
50.2.15	Letterlike Symbols: U+2100 to U+214F	298
50.2.16	Arrows: U+2190 to U+21FF	298
50.2.17	Mathematical Operators: U+2200 to U+22FF	298
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	299
50.2.19	Control Pictures: U+2400 to U+243F	299
50.2.20	Enclosed Alphanumerics: U+2460 to U+24FF	299
50.2.21	Box Drawing: U+2500 to U+257F	301
50.2.22	Miscellaneous Symbols: U+2600 to U+26FF	301
50.2.23	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	302
50.2.24	Alphabetic Presentation Forms: U+FB00 to U+FB4F	302
50.2.25	Miscellaneous	302
50.2.26	Aliases	302
50.3	PU encoding, additions for VnTeX	302
50.4	PU encoding, additions for Arabi	305

51 End of file hycheck.tex	306
52 Index	307

3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19   \typeout{}%
20   \begingroup
21     \edef\x{\endgroup
22       \noexpand\RequirePackage{\HyC@package}%
23       \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi%
24     }%
25   \x
26   \typeout{}%
27   \typeout{%
28     * Package '\HyC@package'%
29     \ifx\HyC@date\@empty
30       \else
31         \space\HyC@date
32       \fi
33   }%
34   \@ifundefined{ver@\HyC@package.sty}{%
35     }{%
36     \typeout{%
37       \space\space Loaded: '\HyC@package' %
38       \csname ver@\HyC@package.sty\endcsname
39     }%
40   }%
41 }
```

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a L^AT_EX 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#1{%
126   \HyC@Toks={#1}%

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```

231 \Hy@SetCatcodes

```

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
`\Hy@ReturnAfterFi` `\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).

`\hypercalcbp` The user macro `\hypercalcbp` can be used, for example, inside option values:
`pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in}}`

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

Example (T_EX):

```

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

\hypercalcbp
340 \begingroup\expandafter\expandafter\expandafter\endgroup
341 \expandafter\ifx\csname dimexpr\endcsname\relax
342   \def\hypercalcbpdef#1#2{%
343     \begingroup
344       \toks@{}%
345       \HyCal@scan#2\hypercalcbp\@nil
346       \expandafter\endgroup
347       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
348   }%
349   \def\HyCal@scan#1\hypercalcbp#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\hypercalcbp\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.

Email: oberdiek@uni-freiburg.de.

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

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

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

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by \TeX , 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 \TeX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard \LaTeX behaviour.

```
383 \escapechar'\%
```

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

```
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\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{La\TeX}%
418 \def\LaTeXe{LaTeX2e}%
419 \def\eTeX{e-\TeX}%
420 \def\SliTeX{Sli\TeX}%
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

```

Package color.

```

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

```

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

```

458 \let\textlatin\@firstofone
459 \@ifundefined{language@group}{\}%
460 \csname HyPsd@babel@language@group\endcsname
461 }%
462 \HyPsd@GreekPatch
463 \let\@safe@activetrue\relax
464 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

465 \let\cyr\relax

```

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

```

466 \let\es@roman\@Roman

```

Package german.

```

467 \let\glqq\textglqq
468 \let\grqq\textgrqq
469 \let\glq\textglq
470 \let\grq\textgrq
471 \let\flqq\textflqq
472 \let\frqq\textfrqq
473 \let\flq\textflq
474 \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}

475 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

476 \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.

```

477 \let\hspace\HyPsd@hspace

```

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

```

478 \let\label\@gobble
479 \let\index\@gobble
480 \let\glossary\@gobble
481 \let\href\@secondoftwo
482 \let\@mkboth\@gobbletwo

```

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

```

483 \let\ref\HyPsd@ref
484 \let\pageref\HyPsd@pageref
485 \let\nameref\HyPsd@nameref
486 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

487 \let\leavevmode\@empty
488 \let\mbox\@empty

```

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

```

489 \def\halign{\pdfstringdefWarn\halign\@gobble}%

```

Patch for cjk bookmarks.

```

490 \ifHy@CJKbookmarks
491 \HyPsd@CJKhook
492 \fi

```

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

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

```
493 \Hy@pdfstringtrue
494 \pdfstringdefPreHook
```

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

```
495 \HyPsd@LetUnexpandableSpace\space
496 \HyPsd@LetUnexpandableSpace\ %
497 \HyPsd@LetUnexpandableSpace~%
498 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
499 \@ifundefined{@xspace}{%
500   \let\xspace\HyPsd@ITALCORR
501 }{%
502   \let\xspace\HyPsd@XSPACE
503 }%
504 \let\/\HyPsd@ITALCORR
505 \let\bgroup\/%
506 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
507 \let\discretionary\@gobbletwo
    \@ifstar is defined in  $\LaTeX$  as follows:
```

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

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

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

```
508 \let\@ifnextchar\HyPsd@ifnextchar
509 \let\@ifnextchar\HyPsd@new@ifnextchar
510 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
511 \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).

```

512   \begingroup
513     \let\GenericError\@gobblefour
514     \let\GenericWarning\@gobbletwo
515     \let\GenericInfo\@gobbletwo

```

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

```

516   \ifx\nofrenchguillemets\@undefined
517     \else
518       \nofrenchguillemets
519   \fi

```

Definition commands and expansion. Redefining the defining commands (see sec. 6.5.9). The original meaning of `\xdef` is saved in `\Hy@temp`.

```

520   \let\Hy@temp\xdef
521   \let\def\HyPsd@DefCommand
522   \let\gdef\HyPsd@DefCommand
523   \let\edef\HyPsd@DefCommand
524   \let\xdef\HyPsd@DefCommand
525   \let\futurelet\HyPsd@LetCommand
526   \let\let\HyPsd@LetCommand
527   \Hy@temp#1{#2}%
528   \endgroup

```

6.2.3 Postprocessing

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

```
529 \ifx#1\@empty
530 \else
```

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

- T_EX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't found by T_EX's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- T_EX 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.

```
531 \HyPsd@ProtectSpaces#1%
532 \let\HyPsd@String\@empty
533 \expandafter\HyPsd@RemoveBraces\expandafter{#1}%
534 \global\let#1\HyPsd@String
```

Check tokens. After removing the spaces and the grouping characters the string now should only consist 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.

```
535 \let\HyPsd@SPACEOPTI\relax
536 {%
537 \let\HyPsd@String\@empty
538 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
539 \global\let#1\HyPsd@String
540}%
541 \expandafter\HyPsd@RemoveMask\expandafter
542 |\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.

```
543 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
544 \let\HyPsd@String\@empty
545 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
546 \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.

```
547 \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.lfd can produce an additional space before \guillemotright, because \lastskip and \unskip do not work. Therefore it is removed here.

```
548 \ifHy@unicode
549 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
550 \HyPsd@SPACEOPTI#1%
551 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
552 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
553 {\HyPsd@SPACEOPTI\80\273}#1%
554 \else
555 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
556 \expandafter\HyPsd@Subst\expandafter{%
557 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
558 \string\273}\HyPsd@SPACEOPTI\273}#1%
559 \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.

```
560 \ifHy@unicode
561 \HyPsd@StringSubst{\)}{\80\051}#1%
562 \HyPsd@Subst){\80\051}#1%
563 \let\HyPsd@empty\relax
564 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
565 {\HyPsd@empty\80\051}#1%
566 \else
567 \HyPsd@StringSubst{\)}{\051}#1%
568 \HyPsd@Subst){\051}#1%
569 \let\HyPsd@empty\relax
```



```

570      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
571      \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`.

```

572      \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
573      \@ifundefined{xspace}{%
574      }{%
575      \let\HyPsd@xspace\relax
576      \expandafter\HyPsd@Subst\expandafter
577      {\HyPsd@XSPACE}\HyPsd@xspace#1%
578      \let\HyPsd@xspace\HyPsd@doxspace
579      }%
580      \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 6.781.

```

581      \HyPsd@Subst{---}\textemdash#1%
582      \HyPsd@Subst{--}\textendash#1%
583 %      \HyPsd@Subst{fi}\textfi#1%
584 %      \HyPsd@Subst{fl}\textfl#1%
585      \HyPsd@Subst{!'}\textexclamdown#1%
586      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

587      \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.

```

588      \ifHy@unicode
589      \HyPsd@StringSubst{\( \textparenleft#1%
590      \HyPsd@Subst(\textparenleft#1%
591      \else

```

```

592      \HyPsd@StringSubst\({\050}#1%
593      \HyPsd@Subst({\050}#1%
594      \HyPsd@StringSubst{\050}{\string\()}#1%
595      \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.

```

596      \ifHy@unicode
597      \edef\HyPsd@SPACEOPTI{\80\040}%
598      \else
599      \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
600      \fi
601      \xdef#1{#1\@empty}%
602      \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.

```

603 \endgroup
604 \begingroup
605 \ifHy@unicode
606 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

607 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
608 \@ifundefined{StringEncodingConvertTest}{%
609   {%
610     \EdefUnescapeString\HyPsd@temp#1%
611     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
612                                   {utf16be}{pdfdoc}{%
613       \EdefEscapeString\HyPsd@temp\HyPsd@temp
614       \global\let#1\HyPsd@temp
615       \Hy@unicodedefalse
616     }{%}%
617   }%
618 \fi
619 \fi

```

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

```

620 \pdfstringdefPostHook#1%
621 \endgroup
622 }

```

\Hy@pdfstringdef

```

623 \def\Hy@pdfstringdef#1#2{%
624 \pdfstringdef\Hy@gtemp{#2}%
625 \let#1\Hy@gtemp
626 }

```

6.3 Encodings

6.3.1 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.

```
627 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
628 \DeclareFontFamily{PD1}{pdf}{}
629 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
630 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.2 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.

```
631 \def\HyPsd@InitUnicode{%
632   \ifundefined{T@PU}{\input{puenc.def}}{}%
633   \DeclareFontFamily{PU}{pdf}{}%
634   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
635   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
636   \let\HyPsd@InitUnicode\relax
637 }
```

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.

```
638 \def\texorpdfstring{%
639   \ifHy@pdfstring
640     \expandafter\@secondoftwo
641   \else
642     \expandafter\@firstoftwo
643   \fi
644 }
```

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`.

```
645 \@ifundefined{pdfstringdefPreHook}{%
646   \let\pdfstringdefPreHook\@empty
647 }{}
648 \@ifundefined{pdfstringdefPostHook}{%
```

```

649 \let\pdfstringdefPostHook\@gobble
650 }{}

```

`\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`.

```

651 \def\pdfstringdefDisableCommands{%
652   \begingroup
653     \makeatletter
654     \HyPsd@DisableCommands
655 }

```

`\HyPsd@DisableCommands`

```

656 \long\def\HyPsd@DisableCommands#1{%
657   \toks0=\expandafter{\pdfstringdefPreHook}%
658   \toks1={#1}%
659   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
660   \endgroup
661 }

```

`\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`.

```

662 \def\pdfstringdefWarn#1{%
663   \expandafter\noexpand\csname\<>-string#1\endcsname
664 }

```

6.5 Help macros for expansion

6.5.1 Babel languages

```

665 \newif\ifHy@next

```

Nothing to do for english.

```

666 \ifundefined{danish@sh@}{sel}{}{%
667   \def\HyPsd@babel@danish{%
668     \declare@shorthand{danish}{|}{|}%
669     \declare@shorthand{danish}{~}{-}%
670   }%

```

```

671 }
672 \@ifundefined{dutch@sh@"@sel}{-}{%
673   \def\HyPsd@babel@dutch{%
674     \declare@shorthand{dutch}{-}{-}%
675     \declare@shorthand{dutch}{-}{-}%
676   }%
677 }
678 \@ifundefined{finnish@sh@"@sel}{-}{%
679   \def\HyPsd@babel@finnish{%
680     \declare@shorthand{finnish}{-}{-}%
681   }%
682 }
683 \@ifundefined{french@sh@"@sel}{-}{%
684   \def\HyPsd@babel@frenchb{%
685     \def\guill@spacing{ }%
686   }%
687 }
688 \@ifundefined{german@sh@"@sel}{-}{%
689   \def\HyPsd@babel@german{%
690     \declare@shorthand{german}{f}{f}%
691     \declare@shorthand{german}{-}{-}%
692     \declare@shorthand{german}{-}{-}%
693   }%
694 }
695 \@ifundefined{macedonian@sh@"@sel}{-}{%
696   \def\HyPsd@babel@macedonian{%
697     \declare@shorthand{macedonian}{-}{-}%
698     \declare@shorthand{macedonian}{-}{-}%
699   }%
700 }{-}
701 \@ifundefined{ngerman@sh@"@sel}{-}{%
702   \def\HyPsd@babel@ngerman{%
703     \declare@shorthand{ngerman}{-}{-}%
704     \declare@shorthand{ngerman}{-}{-}%
705   }%
706 }
707 \@ifundefined{portuges@sh@"@sel}{-}{%
708   \def\HyPsd@babel@portuges{%
709     \declare@shorthand{portuges}{-}{-}%
710   }%
711 }
712 \@ifundefined{russian@sh@"@sel}{-}{%
713   \def\HyPsd@babel@russian{%
714     \declare@shorthand{russian}{-}{-}%
715     \declare@shorthand{russian}{-}{-}%
716   }%
717 }
718 \@ifundefined{slovene@sh@"@sel}{-}{%
719   \def\HyPsd@babel@slovene{%
720     \declare@shorthand{slovene}{-}{-}%
721   }%
722 }

```

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

```

723 \@ifundefined{spanish@sh@>@sel}{-}{%
724   \def\HyPsd@babel@spanish{%
725     \declare@shorthand{spanish}{<<}{\guillemotleft}%
726     \declare@shorthand{spanish}{>>}{\guillemotright}%

```

```

727 \declare@shorthand{spanish}{"}{-}%
728 \declare@shorthand{spanish}{"}{-}%
729 \declare@shorthand{spanish}{"}{\textexclamdown}%
730 \declare@shorthand{spanish}{"}{\textquestiondown}%
731 }%
732 }
733 \@ifundefined{swedish@sh@"@sel}{-}{%
734 \def\HyPsd@babel@swedish{%
735 \declare@shorthand{swedish}{"}{-}%
736 \declare@shorthand{swedish}{"}{-}%
737 }%
738 }
739 \@ifundefined{ukrainian@sh@"@sel}{-}{%
740 \def\HyPsd@babel@ukrainian{%
741 \declare@shorthand{ukrainian}{"}{-}%
742 \declare@shorthand{ukrainian}{"}{-}%
743 }%
744 }
745 \@ifundefined{usorbian@sh@"@sel}{-}{%
746 \def\HyPsd@babel@usorbian{%
747 \declare@shorthand{usorbian}{"}{-}%
748 \declare@shorthand{usorbian}{"}{-}%
749 }%
750 }
751 \@ifundefined{greek@sh@\string~@sel}{-}{%
752 \let\HyPsd@GreekPatch\empty
753 }{-}%
754 \def\HyPsd@GreekPatch{%
755 \let\greeknumeral\HyPsd@greeknumeral
756 \let\Greeknatural\HyPsd@greeknatural
757 }%
758 }
759 \def\HyPsd@greeknumeral#1{%
760 \HyPsd@GreekNum\@firstoftwo{#1}%
761 }
762 \def\HyPsd@greeknumeral#1{%
763 \HyPsd@GreekNum\@secondoftwo{#1}%
764 }
765 \def\HyPsd@GreekNum#1#2{%
766 \ifHy@unicode
767 \ifnum#2<\@ne
768 \@arabic{#2}%
769 \else
770 \ifnum#2<1000000 %
771 \HyPsd@@GreekNum#1{#2}%
772 \else
773 \@arabic{#2}%
774 \fi
775 \fi
776 \else
777 \@arabic{#2}%
778 \fi
779 }
780 \def\HyPsd@@GreekNum#1#2{%
781 \ifnum#2<\@m
782 \ifnum#2<10 %
783 \expandafter\HyPsd@GreekNumI

```

```

784         \expandafter \@gobble \expandafter #1 \number #2%
785     \else
786         \ifnum #2 < 100 %
787             \expandafter \HyPsd@GreekNumII
788             \expandafter \@gobble \expandafter #1 \number #2%
789         \else
790             \expandafter \HyPsd@GreekNumIII
791             \expandafter \@gobble \expandafter #1 \number #2%
792         \fi
793     \fi
794     \ifnum #2 > \z@
795         \textnumeralsigngreek
796     \fi
797 \else
798     \ifnum #2 < \@M
799         \expandafter \HyPsd@GreekNumIV \expandafter #1 \number #2%
800     \else
801         \ifnum #2 < 100000 %
802             \expandafter \HyPsd@GreekNumV \expandafter #1 \number #2%
803         \else
804             \expandafter \HyPsd@GreekNumVI \expandafter #1 \number #2%
805         \fi
806     \fi
807 \fi
808 }
809 \def \HyPsd@GreekNumI#1#2#3{%
810     #1{%
811         \ifnum #3 > \z@
812             \textnumeralsignlowergreek
813         \fi
814     }%
815     \expandafter #2%
816     \ifcase #3 %
817         {}{}%
818         \or \textalpha \textAlpha
819         \or \textbeta \textBeta
820         \or \textgamma \textGamma
821         \or \textdelta \textDelta
822         \or \textepsilon \textEpsilon
823         \or \textstigmagreek \textStigmagreek
824         \or \textzeta \textZeta
825         \or \texteta \textEta
826         \or \texttheta \textTheta
827     \else
828         {}{}%
829     \fi
830 }
831 \def \HyPsd@GreekNumII#1#2#3#4{%
832     #1{%
833         \ifnum #3 > \z@
834             \textnumeralsignlowergreek
835         \fi
836     }%
837     \expandafter #2%
838     \ifcase #3 %
839         {}{}%
840         \or \textiota \textIota

```

```

841 \or\textkappa\textKappa
842 \or\textlambda\textLambda
843 \or\textmu\textMu
844 \or\textnu\textNu
845 \or\textxi\textXi
846 \or\textomicron\textOmicron
847 \or\textpi\textPi
848 \or\textkoppagreek\textKoppagreek
849 \else
850   {}{}%
851 \fi
852 \HyPsd@GreekNumI#1#2#4%
853 }
854 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
855   #1{%
856     \ifnum#3>\z@
857       \textnumeralsignlowergreek
858     \fi
859   }%
860   \expandafter#2%
861   \ifcase#3 %
862     {}{}%
863     \or\textrho\textRho
864     \or\textsigma\textSigma
865     \or\texttau\textTau
866     \or\textupsilon\textUpsilon
867     \or\textphi\textPhi
868     \or\textchi\textChi
869     \or\textpsi\textPsi
870     \or\textomega\textOmega
871     \or\textsampigreek\textSampigreek
872   \else
873     {}{}%
874   \fi
875   \HyPsd@GreekNumII#1#2#4#5%
876 }
877 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
878   \HyPsd@GreekNumI\@firstofone#1#2%
879   \HyPsd@@GreekNum#1{#3#4#5}%
880 }
881 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
882   \HyPsd@GreekNumII\@firstofone#1#2#3%
883   \HyPsd@@GreekNum#1{#4#5#6}%
884 }
885 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
886   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
887   \HyPsd@@GreekNum#1{#5#6#7}%
888 }

```

6.5.2 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 ($\geq 0x40$).

```

889 \begingroup
890 \catcode"7F=\active
891 \toks@{%
892   \let\CJK@ignorespaces\empty
893   \def\CJK@char#1{\@gobbletwo}%
894   \let\CJK@charx\@gobblefour
895   \let\CJK@punctchar\@gobblefour
896   \def\CJK@punctcharx#1{\@gobblefour}%
897   \catcode"7F=\active
898   \def^^7f#1^^7f#2^^7f{%
899     \string #1\HyPsd@DecimalToOctal{#2}%
900   }%
901   % ... ?
902   \ifHy@unicode
903     \def\Hy@cjkpu{\80}%
904   \else
905     \let\Hy@cjkpu\@empty
906   \fi
907   \HyPsd@CJKActiveChars
908 }%
909 \count@=127 %
910 \@whilenum\count@<255 \do{%
911   \advance\count@ by 1 %
912   \lccode'\~= \count@
913   \lowercase{%
914     \toks@\expandafter{\the\toks@ ~}%
915   }%
916 }%
917 \toks@\expandafter{\the\toks@ !}%
918 \xdef\HyPsd@CJKhook{\the\toks@}%
919 \endgroup

```

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

```

920 \def\HyPsd@CJKActiveChars#1{%
921   \ifx#1!%
922     \let\HyPsd@CJKActiveChars\relax
923   \else
924     \edef#1{\noexpand\Hy@cjkpu\string#1}%
925   \fi
926   \HyPsd@CJKActiveChars
927 }

```

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

```

928 \def\HyPsd@DecimalToOctal#1{%
929   \ifcase #1 %
930     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
931     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
932     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
933     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
934     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
935     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
936     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
937     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
938     \or @\or A\or B\or C\or D\or E\or F\or G%

```

```

939 \or H\or I\or J\or K\or L\or M\or N\or O%
940 \or P\or Q\or R\or S\or T\or U\or V\or W%
941 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
942 \or \140\or a\or b\or c\or d\or e\or f\or g%
943 \or h\or i\or j\or k\or l\or m\or n\or o%
944 \or p\or q\or r\or s\or t\or u\or v\or w%
945 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
946 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
947 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
948 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
949 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
950 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
951 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
952 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
953 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
954 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
955 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
956 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
957 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
958 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
959 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
960 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
961 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
962 \fi
963 }

```

6.5.3 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@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\endcsname\expandafter\endcsname
      \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname

```

```

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

964 \def\HyPsd@inmathwarn#1#2{%
965   \ifx#2\expandafter
966     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
967       \HyPsd@GLYPHERR
968       \expandafter\@gobble\string#1%
969       >%
970       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
971     \else
972       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
973     \fi
974   \else
975     \expandafter#2%
976   \fi
977 }
978 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
979 \def\HyPsd@EndWithElse#1\else\else}

```

\HyPsd@add@accent

```

980 \def\HyPsd@add@accent#1#2{%
981   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
982   #2%
983 }%

```

6.5.4 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.

```

984 \def\HyPsd@LetUnexpandableSpace#1{%
985   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
986 }

```

\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.

```

987 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.5 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.

```
988 \edef\HyPsd@XSPACE{\string#\string X}
989 \edef\HyPsd@ITALCORR{\string#\string I}
990 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.6 `\hspace` fix

`\HyPsd@hspace`

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

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

```
992 \def\HyPsd@@hspace#1*#2\END{%
993   \ifx\#2\%
994     \HyPsd@hspacetest{#1}%
995   \else
996     \expandafter\HyPsd@hspacetest
997   \fi
998 }
```

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

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

6.5.7 Fix for AMS classes

```
1000 \@ifundefined{tocsection}{%
1001   \let\HyPsd@AMSclassfix\relax
1002 }{%
1003   \def\HyPsd@AMSclassfix{%
1004     \let\tocpart\HyPsd@tocsection
1005     \let\tocchapter\HyPsd@tocsection
1006     \let\tocappendix\HyPsd@tocsection
1007     \let\tocsection\HyPsd@tocsection
1008     \let\tocsubsection\HyPsd@tocsection
1009     \let\tocsubsubsection\HyPsd@tocsection
1010     \let\tocparagraph\HyPsd@tocsection
1011   }%
1012   \def\HyPsd@tocsection#1#2#3{%
1013     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1014     #3%
1015   }%
1016 }
```

6.5.8 Reference commands

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

```
1017 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1018 \def\HyPsd@@ref#1*#2\END{%
```

```

1019 \ifx\|#2\%
1020 \HyPsd@@@ref{#1}%
1021 \else
1022 \expandafter\HyPsd@@@ref
1023 \fi
1024 }%

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

1025 \def\HyPsd@@@ref#1{%
1026 \expandafter\ifx\csname r@#1\endcsname\relax
1027 ??%
1028 \else
1029 \expandafter\expandafter\expandafter
1030 \@car\csname r@#1\endcsname\@nil
1031 \fi
1032 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1033 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

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

1034 \def\HyPsd@@pageref#1*#2END{%
1035 \ifx\|#2\%
1036 \HyPsd@@@pageref{#1}%
1037 \else
1038 \expandafter\HyPsd@@@pageref
1039 \fi
1040 }

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

1041 \def\HyPsd@@@pageref#1{%
1042 \expandafter\ifx\csname r@#1\endcsname\relax
1043 ??%
1044 \else
1045 \expandafter\expandafter\expandafter\expandafter
1046 \expandafter\expandafter\expandafter\@car
1047 \expandafter\expandafter\expandafter\@gobble
1048 \csname r@#1\endcsname{}\@nil
1049 \fi
1050 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1051 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

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

1052 \def\HyPsd@@nameref#1*#2END{%
1053 \ifx\|#2\%
1054 \HyPsd@@@nameref{#1}%
1055 \else
1056 \expandafter\HyPsd@@@nameref
1057 \fi
1058 }

```

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

```

1059 \def\HyPsd@@@nameref#1{%
1060   \expandafter\ifx\csname r@#1\endcsname\relax
1061     ??%
1062   \else
1063     \expandafter\expandafter\expandafter\expandafter
1064     \expandafter\expandafter\expandafter\@car
1065     \expandafter\expandafter\expandafter\@gobbletwo
1066     \csname r@#1\endcsname\}\}\@nil
1067   \fi
1068 }
```

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

```

1069 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1070 \def\HyPsd@@autoref#1*#2\END{%
1071   \ifx\#2\%
1072     \HyPsd@@@autoref{#1}%
1073   \else
1074     \expandafter\HyPsd@@@autoref
1075   \fi
1076 }
```

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

```

1077 \def\HyPsd@@@autoref#1{%
1078   \expandafter\ifx\csname r@#1\endcsname\relax
1079     ??%
1080   \else
1081     \expandafter\expandafter\expandafter\HyPsd@autorefname
1082     \csname r@#1\endcsname\}\}\}\@nil
1083     \expandafter\expandafter\expandafter
1084     \@car\csname r@#1\endcsname\@nil
1085   \fi
1086 }
```

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

```

1087 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1088   \ifx\#4\%
1089   \else
1090     \HyPsd@@autorefname#4.\@nil
1091   \fi
1092 }
```

`\HyPsd@@autorefname`

```

1093 \def\HyPsd@@autorefname#1.#2\@nil{%
1094   \@ifundefined{#1autorefname}{%
1095     \@ifundefined{#1name}{%
1096       }{%
1097         \csname#1name\endcsname\space
1098       }%
1099     }{%
1100       \csname#1autorefname\endcsname\space
1101     }%
1102 }
```

6.5.9 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
1103 \begingroup
1104   \def\x#1#2{%
1105     \endgroup
1106     \let#1\def
1107     \def\HyPsd@DefCommand##1##2##{%
1108       #1%
1109       \expandafter\noexpand
1110         \csname\expandafter@gobble\string##1\@empty\endcsname
1111       \@gobble
1112     }%
1113     \let#2\let
1114     \def\HyPsd@@LetCommand##1{%
1115       \expandafter\ifx\csname##1\expandafter\endcsname
1116         \csname iftrue\endcsname
1117       \pdfstringdefWarn\let
1118       \expandafter\@gobble
1119     \else
1120       \expandafter\ifx\csname##1\expandafter\endcsname
1121         \csname iffalse\endcsname
1122       \pdfstringdefWarn\let
1123       \expandafter\expandafter\expandafter\@gobble
1124     \else
1125       #2%
1126       \expandafter\noexpand
1127       \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1128         \fi
1129     \fi
1130 }%
1131 }%
1132 \expandafter\x\csname <def>-command\expandafter\endcsname
1133         \csname <let>-command\endcsname
1134 \def\HyPsd@LetCommand#1{%
1135     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1136     \expandafter\expandafter\expandafter{%
1137     \expandafter\@gobble\string#1\@empty
1138 }%
1139 }

```

6.5.10 \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.

```

1140 \def\HyPsd@ifnextchar{%
1141     \pdfstringdefWarn\@ifnextchar
1142     \expandafter\@gobbletwo\@gobble
1143 }

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\@ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report latex/3662.

```

1144 \def\HyPsd@new@ifnextchar{%
1145     \pdfstringdefWarn\new@ifnextchar
1146     \expandafter\@gobbletwo\@gobble
1147 }

```

6.5.11 \@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`.

```

1148 \def\HyPsd@protected@testopt#1{%
1149     \pdfstringdefWarn#1%
1150     \@gobbletwo
1151 }

```

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:

```

1152 \def\HyPsd@Warning#1{%
1153     \begingroup
1154     \def\space{ }%
1155     \Hy@Warning{#1}%
1156 \endgroup
1157 }

```


6.6.2 Protecting spaces

```

1158 \RequirePackage{etexcmds}[2007/09/09]
1159 \ifetex@unexpanded
1160   \expandafter\@secondoftwo
1161 \else
1162   \expandafter\@firstoftwo
1163 \fi
1164 {%

```

`\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`.

```

1165   \def\HyPsd@ProtectSpaces#1{%
1166     \iftrue
1167       \expandafter\HyPsd@@ProtectSpacesFi
1168       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1169     \fi
1170   }%

```

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

```

1171   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1172     \fi
1173     \ifx\scrollmode#2\scrollmode
1174       \HyPsd@RemoveMask#1\HyPsd@End#3%
1175     \else
1176       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1177       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1178     \fi
1179   }%

```

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.

```

1180   \def\HyPsd@RemoveMask#1|\HyPsd@End#2{%
1181     \toks@\expandafter{#1}%
1182     \xdef#2{\the\toks@}%
1183   }%

1184 }{%
1185   \let\HyPsd@fi\fi
1186   \def\HyPsd@ProtectSpaces#1{%
1187     \xdef#1{%
1188       \iftrue
1189         \expandafter\HyPsd@@ProtectSpacesFi
1190         \expandafter|\expandafter\@empty#1| %
1191       \HyPsd@fi
1192     }%
1193     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1194   }%
1195   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1196     \fi
1197     \etex@unexpanded{#1}%
1198     \ifx\scrollmode#2\scrollmode
1199     \else
1200       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1201 \HyPsd@fi
1202 }%
1203 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1204 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1205 }%
1206 }

```

6.6.3 Remove grouping braces

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

```

1207 \def\HyPsd@RemoveBraces#1{%
1208 \ifx\scrollmode#1\scrollmode
1209 \else
1210 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1211 \fi
1212 }

```

`\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`.

```

1213 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1214 \fi
1215 \def\Hy@temp@A{#1#2}%
1216 \def\Hy@temp@B{#3}%
1217 \ifx\Hy@temp@A\Hy@temp@B
1218 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1219 \HyPsd@String#1%
1220 }%
1221 \ifx\scrollmode#2\scrollmode
1222 \else
1223 \Hy@ReturnAfterFiFiEnd{%
1224 \HyPsd@RemoveBraces{#2}%
1225 }%
1226 \fi
1227 \else
1228 \def\Hy@temp@A{#1}%
1229 \HyPsd@AppendItalcorr\HyPsd@String
1230 \ifx\Hy@temp@A\empty
1231 \Hy@ReturnAfterElseFiFiEnd{%
1232 \HyPsd@RemoveBraces{#2}%
1233 }%
1234 \else
1235 \HyPsd@ProtectSpaces\Hy@temp@A
1236 \HyPsd@AppendItalcorr\Hy@temp@A
1237 \Hy@ReturnAfterFiFiEnd{%
1238 \expandafter\HyPsd@RemoveBraces\expandafter
1239 {\Hy@temp@A#2}%
1240 }%
1241 \fi
1242 \fi

```

```

1243 \Hy@ReturnEnd
1244 }

```

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

```

1245 \def\HyPsd@AppendItalcorr#1{%
1246 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1247 }
1248 \def\HyPsd@@AppendItalcorr#1#2{%
1249 \expandafter\def\expandafter#2\expandafter{#2#1}%
1250 }

```

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).

```

1251 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1252 \global\let\HyPsd@Rest\relax
1253 \ifcat\relax\noexpand#1\relax
1254 \ifx#1\protect
1255 \else
1256 \ifx#1\penalty
1257 \setbox\z@=\hbox{%
1258 \afterassignment\HyPsd@AfterCountRemove
1259 \count@=#2\HyPsd@End
1260 }%
1261 \else
1262 \ifx#1\kern
1263 \setbox\z@=\hbox{%
1264 \afterassignment\HyPsd@AfterDimenRemove
1265 \dimen@=#2\HyPsd@End
1266 }%
1267 \else
1268 \ifx#1\hskip
1269 \setbox\z@=\hbox{%
1270 \afterassignment\HyPsd@AfterSkipRemove
1271 \skip@=#2\HyPsd@End
1272 }%
1273 \else
1274 \HyPsd@CatcodeWarning{#1}%
1275 \fi
1276 \fi
1277 \fi
1278 \fi
1279 \else
1280 \ifcat#1A% letter
1281 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1282     \HyPsd@String#1%
1283   }%
1284   \else
1285     \ifcat#1 % SPACE
1286       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1287         \HyPsd@String\HyPsd@SPACEOPTI
1288       }%
1289   \else
1290     \ifcat$#1%
1291       \HyPsd@CatcodeWarning{math shift}%
1292   \else
1293     \ifcat&#1%
1294       \HyPsd@CatcodeWarning{alignment tab}%
1295   \else
1296     \ifcat^#1%
1297       \HyPsd@CatcodeWarning{superscript}%
1298   \else
1299     \ifcat_#1%
1300       \HyPsd@CatcodeWarning{subscript}%
1301   \else
1302     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1303       \HyPsd@String#1%
1304     }%
1305   \fi
1306 \fi
1307 \fi
1308 \fi
1309 \fi
1310 \fi
1311 \fi
1312 \ifx\HyPsd@Rest\relax
1313   \ifx\scrollmode#2\scrollmode
1314   \else
1315     \Hy@ReturnAfterFiFiEnd{%
1316       \HyPsd@CheckCatcodes#2\HyPsd@End
1317     }%
1318   \fi
1319 \else
1320   \ifx\HyPsd@Rest\@empty
1321   \else
1322     \Hy@ReturnAfterFiFiEnd{%
1323       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1324     }%
1325   \fi
1326 \fi
1327 \Hy@ReturnEnd
1328 }

```

Remove counts, dimens, skips.

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

```

1329 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1330   \gdef\HyPsd@Rest{#1}%
1331 }

```

\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.

```

1332 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1333   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1334     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1335     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1336   \else
1337     \ifdim\dimen@=\z@
1338     \else
1339       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1340     \fi
1341     \gdef\HyPsd@Rest{#1}%
1342   \fi
1343 }

```

\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).

```

1344 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1345   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1346     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1347     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1348   \else
1349     \ifdim\skip@=\z@
1350     \else
1351       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1352     \fi
1353     \gdef\HyPsd@Rest{#1}%
1354   \fi
1355 }

```

Catcode warnings.

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

```

1356 \def\HyPsd@CatcodeWarning#1{%
1357   \HyPsd@Warning{%
1358     Token not allowed in a PDF string (%
1359     \ifHy@unicode
1360       Unicode%
1361     \else
1362       PDFDocEncoding%
1363     \fi
1364     ):%
1365     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1366   }%
1367 }
1368 \begingroup
1369   \catcode‘\|=0 %
1370   \catcode‘\|=12 %
1371   \gdef\HyPsd@RemoveCmdPrefix#1{%
1372     \expandafter\HyPsd@@RemoveCmdPrefix
1373     \string#1\@empty\<>-|@empty|@empty
1374   }%
1375   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1376 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1377 \def\HyPsd@RemoveSpaceWarning#1{%
1378   \HyPsd@Warning{%
1379     Token not allowed in a PDF string (
1380     \ifHy@unicode
1381       Unicode%
1382     \else
1383       PDFDocEncoding%
1384     \fi
1385   ):%
1386   \MessageBreak #1\MessageBreak
1387   removed%
1388 }%
1389 }

```

\HyPsd@ReplaceSpaceWarning

```

1390 \def\HyPsd@ReplaceSpaceWarning#1{%
1391   \HyPsd@Warning{%
1392     Token not allowed in a PDF string (
1393     \ifHy@unicode
1394       Unicode%
1395     \else
1396       PDFDocEncoding%
1397     \fi
1398   ):%
1399   \MessageBreak #1\MessageBreak
1400   replaced by space%
1401 }%
1402 }

```

6.6.5 Check for wrong glyphs

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

```

1403 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1404   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1405     \HyPsd@String#1%
1406   }%
1407   \ifx\#2\%
1408   \else
1409     \Hy@ReturnAfterFi{%
1410       \HyPsd@GlyphProcessWarning#2\@empty
1411     }%
1412   \fi
1413 }
1414 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1415   \HyPsd@@GlyphProcessWarning#1++>%
1416   \HyPsd@GlyphProcess#2\@empty
1417 }
1418 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1419   \ifx\#2\%
1420     \HyPsd@Warning{%
1421       Glyph not defined in %
1422       P\ifHy@unicode U\else D\fi\space encoding,\MessageBreak
1423       removing '@@backslashchar#1'%
1424     }%
1425   \else
1426     \HyPsd@Warning{%

```

```

1427     Composite letter '@backslashchar#1+#2'\MessageBreak
1428     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1429     \MessageBreak
1430     removing '@backslashchar#1'%
1431 }%
1432 \fi
1433 }

```

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`.

```

1434 \def\HyPsd@spaceopti#1{ % first space
1435   \ifx\HyPsd@spaceopti#1%
1436     \040%
1437   \else
1438     #1%
1439   \fi
1440 }%

```

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.

```

1441 \def\HyPsd@Subst#1#2#3{%
1442   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1443     \fi
1444     ##1%
1445     \ifx\scrollmode##2\scrollmode
1446     \else
1447       #2%
1448       \HyPsd@@ReplaceFi##2\END
1449     \fi
1450   }%
1451   \xdef#3{%
1452     \iftrue
1453       \expandafter\HyPsd@@ReplaceFi#3#1\END
1454     \fi
1455   }%
1456 }

```

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

```

1457 \def\HyPsd@StringSubst#1{%
1458   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1459 }

```

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.

```

1460 \def\HyPsd@doxspace#1{%
1461   \ifx#1\relax\else
1462     \ifx#1.\else
1463       \ifx#1:\else
1464         \ifx#1,\else
1465         \ifx#1;\else
1466         \ifx#1!\else
1467         \ifx#1?\else
1468         \ifx#1/\else
1469         \ifx#1-\else
1470         \ifx#1'\else
1471         \HyPsd@SPACEOPTI
1472       \fi
1473     \fi
1474   \fi
1475 \fi
1476 \fi
1477 \fi
1478 \fi
1479 \fi
1480 \fi
1481 \fi
1482 #1%
1483 }%

```

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.

```

1484 \begingroup
1485   \catcode'\|=0 %
1486   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1487 |gdef|HyPsd@ConvertToUnicode#1{%
1488   |xdef#1{%
1489     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1490   }%
1491   |ifx#1|@empty
1492   |else
1493     |xdef#1{%
1494       \376\377%
1495       #1%
1496     }%
1497   |fi
1498 }%

```

\HyPsd@DoConvert

```

1499 |gdef|HyPsd@DoConvert#1{%
1500   |ifx#1|@empty
1501   |else
1502     |Hy@ReturnAfterFi{%
1503       |ifx#1\%%
1504       \%%
1505       |expandafter|HyPsd@DoEscape

```



```

1506         |else
1507         \000#1%
1508         |expandafter|HyPsd@DoConvert
1509         |fi
1510     }%
1511 |fi
1512 }%

```

\HyPsd@DoEscape

```

1513 |gdef|HyPsd@DoEscape#1{%
1514     |ifx#19%
1515     |expandafter|HyPsd@GetTwoBytes
1516     |else
1517     |Hy@ReturnAfterFi{%
1518     |ifx#18%
1519     00%
1520     |expandafter|HyPsd@GetTwoBytes
1521     |else
1522     #1%
1523     |expandafter|HyPsd@GetOneByte
1524     |fi
1525     }%
1526 |fi
1527 }%

```

\HyPsd@GetTwoBytes

```

1528 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1529     #1\#2#3#4%
1530     |HyPsd@DoConvert
1531     }%

```

\HyPsd@GetOneByte

```

1532 |gdef|HyPsd@GetOneByte#1#2{%
1533     #1#2%
1534     |HyPsd@DoConvert
1535     }%
1536 |endgroup

```

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

```

1537 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1538     \xdef#4{#4#1#2}%
1539     \HyPsd@@ConvertToUnicode#3\END#4%
1540 }

```

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 \TeX 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

```

```

1541 \begingroup\expandafter\expandafter\expandafter\endgroup
1542 \expandafter\ifx\csname numexpr\endcsname\relax
1543   \let\HyPsd@UTFviii\relax
1544 \else
1545   \begingroup
1546     \lccode'\~='^f4\relax
1547   \lowercase{\endgroup
1548     \def\HyPsd@UTFviii{%
1549       \let\UTFviii@two@octets\HyPsd@UTFviii@two
1550       \let\UTFviii@three@octets\HyPsd@UTFviii@three
1551       \let\UTFviii@four@octets\HyPsd@UTFviii@four
1552       \ifx~\HyPsd@UTFviii@ccxliv@undef
1553         \let~\HyPsd@UTFviii@ccxliv@def
1554       \fi
1555       \let\unichar\HyPsd@unichar
1556     }%
1557   }%
1558   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1559   \edef\HyPsd@UTFviii@ccxliv@def{%
1560     \noexpand\UTFviii@four@octets\string ~^f4%
1561   }%

```

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.

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

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

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

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

$$(5)$$

```

1562 \def\HyPsd@UTFviii@two#1#2{%
1563   \expandafter\HyPsd@UTFviii@two
1564   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1565   \number'#1\expandafter|%
1566   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1567   \number'#2 \@nil
1568 }%
1569 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1570   \expandafter\8%
1571   \number\dimexpr #1-48\expandafter\relax
1572   \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
1573   \number\dimexpr #3-8*%
1574   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1575   \number\dimexpr #4-8*#3\relax
1576 }%

```

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

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

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

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

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

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

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

(12)

```

1577 \def\HyPsd@UTFviii@three#1#2#3{%
1578   \expandafter\HyPsd@UTFviii@three
1579   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1580   \number'#1\expandafter|
1581   \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1582   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1583   \number'#2\expandafter|
1584   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1585   \number'#3 \@nil
1586 }%
1587 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1588   \expandafter\%
1589   \number\dimexpr #1-56\expandafter\relax
1590   \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1591   \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1592   \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1593   \number\dimexpr #6-16\expandafter\relax
1594   \number\dimexpr #7-8*#6\relax
1595 }%

```

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

```

UTF-8:  11110uuu    10uuzzzz    10yyyyyy    10xxxxxx
www =  uuuu - 1
UTF-16: 110110ww    wwzzzzyy    11011yy    yyxxxxxx
octal:  011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1596 \def\HyPsd@UTFviii@four#1#2{%
1597   \expandafter\HyPsd@UTFviii@four\number
1598   \dimexpr-1+('1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1599   \expandafter|\number
1600   \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
1601 }%
1602 \def\HyPsd@UTFviii@four#1|#2|#3{%
1603   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1604   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1605   \ifodd#2 %
1606     \number\dimexpr(#2-1)/2\relax
1607   \else
1608     \number\dimexpr#2/2\relax
1609   \fi
1610   \number\dimexpr\ifodd#2 4+\fi
1611   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1612   \933%
1613   \expandafter\HyPsd@UTFviii@four\number
1614   \dimexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|
1615 }%
1616 \def\HyPsd@UTFviii@four#1|#2{%
1617   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1618   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1619   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1620   \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1621 }%

```

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

```

1622 \def\HyPsd@unichar#1{%
1623   \ifHy@unicode
1624     \ifnum#1>"10FFFF %
1625       \HyPsd@UnicodeReplacementCharacter % illegal
1626     \else
1627       \ifnum#1>"FFFF %

```

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

```

1628     \expandafter\HyPsd@unichar\expandafter{%
1629       \number\numexpr 55296+%
1630       \dimexpr.0009765625\dimexpr\number#1sp-\p@
1631       \relax\relax\relax
1632     }%

```

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

```

1633     \expandafter\HyPsd@unichar\expandafter{%
1634       \number\numexpr#1-9216%
1635       -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1636       \relax\relax\relax
1637     }%
1638   \else
1639     \ifnum#1>"7FF %
1640       \9%
1641       \expandafter\HyPsd@unichar@first@byte\expandafter{%
1642         \number
1643         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1644       }%
1645     \else
1646       \8%
1647       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1648     \fi
1649     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1650       \number
1651       \numexpr#1-256*\number
1652       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1653     }%
1654   \fi
1655 \fi
1656 \else
1657   .% unsupported (Unicode -> PDF Doc Encoding)
1658 \fi
1659 }%
1660 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1661 \def\HyPsd@unichar@first@byte#1{%
1662   \number\dimexpr.015625\dimexpr#1sp\relax\relax
1663   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1664     \number
1665     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1666     \relax\relax\relax
1667   }%
1668 }%
1669 \def\HyPsd@unichar@second@byte#1{%
1670   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1671   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1672     \number
1673     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%

```

```

1674     \relax\relax\relax
1675   }%
1676 }%
1677 \def\HyPsd@unichar@octtwo#1{%
1678   \number\dimexpr.125\dimexpr#1sp\relax\relax
1679   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1680   \relax\relax\relax
1681 }%
1682 \fi

```

7 Support of other packages

7.1 Class memoir

```

1683 \@ifclassloaded{memoir}{%
1684   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1685 }{}

```

7.2 Package subfigure

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

```

1686 \@ifpackageloaded{subfigure}{%
1687   \@ifundefined{sub@label}{%
1688     \Hy@hypertexnamesfalse
1689   }{%
1690     \renewcommand*{\sub@label}[1]{%
1691       \bsphack
1692       \subfig@oldlabel{#1}%
1693       \if@filesw
1694         \begingroup
1695         \edef\@currentlabstr{%
1696           \expandafter\strip@prefix\meaning\@currentlabelname
1697         }%
1698         \protected@write\@auxout{}{%
1699           \string\newlabel{sub@#1}{%
1700             {\@nameuse{@@thesub\@capttype}}%
1701             {\thepage}%
1702             {%
1703               \expandafter\strip@period\@currentlabstr
1704               \relax.\relax\@@%
1705             }%
1706             {\@currentHref}%
1707             {}%
1708           }%
1709         }%
1710       \endgroup
1711     }%
1712     \esphack
1713   }%
1714   \@ifpackagelater{subfigure}{2002/03/26}{%
1715     \providecommand*{\toclevel@subfigure}{1}%
1716     \providecommand*{\toclevel@subtable}{1}%
1717   }%
1718 }%
1719 }{}

```

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:

```
1720 \@ifundefined{XR@addURL}{%
1721 }{%
```

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.

```
1722 \def\xR@addURL#1{\XR@dURL#1{}{}{}{}\\}%
1723 \def\xR@dURL#1#2#3#4#5\{%
1724   {#1}-{#2}%
1725   \if!#4!%
1726   \else
1727     {#3}-{#4}{\XR@URL}%
1728   \fi
1729 }%
1730 }

1731 \def\Hy@true{true}
1732 \def\Hy@false{false}
```

Providing dummy definitions.

```
1733 \let\literalps@out@gobble
1734 \newcommand\pdfbookmark[3][]{ }
1735 \def\Acrobatmenu#1#2{\leavevmode#2}
1736 \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

```
1737 \let\HyperRaiseLinkHook\@empty
1738 \def\HyperRaiseLinkDefault{\baselineskip}
```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```
1739 \def\Hy@raisedlink#1{%
1740   \ifvmode
1741     #1%
1742   \else
1743     \penalty\@M
1744     \smash{%
1745       \begingroup
1746         \let\HyperRaiseLinkLength\@tempdima
1747         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1748         \HyperRaiseLinkHook
1749       \expandafter\endgroup
1750       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%

```

```

1751 }%
1752 \fi
1753 }

```

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

```

\Hy@RestoreLastskip
1754 \def\Hy@SaveLastskip{%
1755   \let\Hy@RestoreLastskip\relax
1756   \ifvmode
1757     \ifdim\lastskip=\z@
1758       \let\Hy@RestoreLastskip\nobreak
1759     \else
1760       \begingroup
1761         \skip@=-\lastskip
1762         \edef\x{%
1763           \endgroup
1764           \def\noexpand\Hy@RestoreLastskip{%
1765             \noexpand\ifvmode
1766               \noexpand\nobreak
1767               \vskip\the\skip@
1768               \vskip\the\lastskip\relax
1769             \noexpand\fi
1770           }%
1771         }%
1772       \x
1773     \fi
1774   \else
1775     \ifhmode
1776       \ifdim\lastskip=\z@
1777         \let\Hy@RestoreLastskip\nobreak
1778       \else
1779         \begingroup
1780           \skip@=-\lastskip
1781           \edef\x{%
1782             \endgroup
1783             \def\noexpand\Hy@RestoreLastskip{%
1784               \noexpand\ifhmode
1785                 \noexpand\nobreak
1786                 \hskip\the\skip@
1787                 \hskip\the\lastskip\relax
1788               \noexpand\fi
1789             }%
1790           }%
1791         \x
1792       \fi
1793     \fi
1794   \fi
1795 }%

```

9 Options

9.1 Help macros

```

\Hy@boolkey
1796 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1797 \def\Hy@@boolkey[#1]#2#3{%
1798   \lowercase{\def\Hy@tempa{#3}}%

```

```

1799 \ifx\Hy@tempa\@empty
1800   \let\Hy@tempa\Hy@true
1801 \fi
1802 \ifx\Hy@tempa\Hy@true
1803 \else
1804   \ifx\Hy@tempa\Hy@false
1805   \else
1806     \let\Hy@tempa\relax
1807   \fi
1808 \fi
1809 \ifx\Hy@tempa\relax
1810   \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1811 \else
1812   \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1813   \csname Hy@#2\Hy@tempa\endcsname
1814 \fi
1815 }

```

\Hy@WarnOptionValue

```

1816 \def\Hy@WarnOptionValue#1#2#3{%
1817   \Hy@Warning{%
1818     Unexpected value ‘#1’\MessageBreak
1819     of option ‘#2’ instead of\MessageBreak
1820     #3%
1821   }%
1822 }

```

\Hy@DisableOption

```

1823 \def\Hy@DisableOption#1{%
1824   \@ifundefined{KV@Hyp@#1@default}{%
1825     \define@key{Hyp}{#1}%
1826   }{%
1827     \define@key{Hyp}{#1}[]%
1828   }%
1829   {\Hy@WarnOptionDisabled{#1}}%
1830 }

```

\Hy@WarnOptionDisabled

```

1831 \def\Hy@WarnOptionDisabled#1{%
1832   \Hy@Warning{%
1833     Option ‘#1’ has already been used,\MessageBreak
1834     setting the option has no effect%
1835   }%
1836 }

```

\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.

```

1837 \def\Hy@CheckOptionValue#1#2#3{%
1838   \begingroup
1839   \edef\x{#1}%
1840   \@onelevel@sanitize\x
1841   \let\y=%
1842   \def\do##1##2{%
1843     \def\z{##1}%
1844     \@onelevel@sanitize\z
1845     \ifx\x\z
1846       \let\y=n%

```



```

1847         \let\do\@gobbletwo
1848     \fi
1849 }%
1850 #3%
1851 \ifx\y y%
1852     \def\do##1##2{%
1853         * '##1'%
1854         \ifx\##2\\\else\space(##2)\fi
1855         \MessageBreak
1856     }%
1857     \Hy@Warning{%
1858         Values of option '#2':\MessageBreak
1859         #3%
1860         * An empty value disables the option.\MessageBreak
1861         Unknown value '\x'%
1862     }%
1863 \fi
1864 \endgroup
1865 }

```

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

```

1866 \def\Hy@DefNameKey#1{%
1867     \expandafter\Hy@DefNameKey\csname @#1\endcsname{#1}%
1868 }

```

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

```

1869 \def\Hy@@DefNameKey#1#2#3{%
1870     \define@key{Hyp}{#2}{%
1871         \edef#1{##1}%
1872         \ifx#1\@empty
1873             \else
1874                 \Hy@CheckOptionValue{##1}{#2}{#3}%
1875             \fi
1876     }%
1877     \let#1\@empty
1878 }

```

`\Hy@UseNameKey`

```

1879 \def\Hy@UseNameKey#1#2{%
1880     \ifx#2\@empty
1881     \else
1882         /#1/#2%
1883     \fi
1884 }

```

9.2 Defining the options

```

1885 \define@key{Hyp}{implicit}[true]{%
1886     \Hy@boolkey{implicit}{#1}%
1887 }
1888 \define@key{Hyp}{draft}[true]{%
1889     \Hy@boolkey{draft}{#1}%

```

```

1890 }
1891 \define@key{Hyp}{final}[true]{%
1892   \Hy@boolkey{final}{#1}%
1893 }
1894 \let\KV@Hyp@nolinks\KV@Hyp@draft
1895 \define@key{Hyp}{a4paper}[true]{%
1896   \def\special@paper{210mm,297mm}%
1897   \def\Hy@pageheight{842}%
1898 }
1899 \define@key{Hyp}{a5paper}[true]{%
1900   \def\special@paper{148mm,210mm}%
1901   \def\Hy@pageheight{595}%
1902 }
1903 \define@key{Hyp}{b5paper}[true]{%
1904   \def\special@paper{176mm,250mm}%
1905   \def\Hy@pageheight{709}%
1906 }
1907 \define@key{Hyp}{letterpaper}[true]{%
1908   \def\special@paper{8.5in,11in}%
1909   \def\Hy@pageheight{792}%
1910 }
1911 \define@key{Hyp}{legalpaper}[true]{%
1912   \def\special@paper{8.5in,14in}%
1913   \def\Hy@pageheight{1008}%
1914 }
1915 \define@key{Hyp}{executivepaper}[true]{%
1916   \def\special@paper{7.25in,10.5in}%
1917   \def\Hy@pageheight{720}%
1918 }
1919 \define@key{Hyp}{setpagesize}[true]{%
1920   \Hy@boolkey{setpagesize}{#1}%
1921 }
1922 \define@key{Hyp}{debug}[true]{%
1923   \Hy@boolkey{debug}{verbose}{#1}%
1924 }
1925 \define@key{Hyp}{linktocpage}[true]{%
1926   \Hy@boolkey{linktocpage}{#1}%
1927   \ifHy@linktocpage
1928     \let\Hy@linktoc\Hy@linktoc@page
1929   \else
1930     \let\Hy@linktoc\Hy@linktoc@section
1931   \fi
1932 }
1933 \chardef\Hy@linktoc@none=0 %
1934 \chardef\Hy@linktoc@section=1 %
1935 \chardef\Hy@linktoc@page=2 %
1936 \chardef\Hy@linktoc@all=3 %
1937 \ifHy@linktocpage
1938   \let\Hy@linktoc\Hy@linktoc@page
1939 \else
1940   \let\Hy@linktoc\Hy@linktoc@section
1941 \fi
1942 \define@key{Hyp}{linktoc}{%
1943   \@ifundefined{Hy@linktoc@#1}{%
1944     \Hy@Warning{%
1945       Unexpected value ‘#1’ of\MessageBreak
1946       option ‘linktoc’ instead of ‘none’,\MessageBreak

```

```

1947      'section', 'page' or 'all'%
1948    }%
1949  }{%
1950    \expandafter\let\expandafter\Hy@linktoc
1951    \csname Hy@linktoc@#1\endcsname
1952  }%
1953 }
1954 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1955 \let\XR@ext\relax
1956 \define@key{Hyp}{verbose}[true]{%
1957   \Hy@boolkey{verbose}{#1}%
1958 }
1959 \define@key{Hyp}{typexml}[true]{%
1960   \Hy@boolkey{typexml}{#1}%
1961 }

```

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.

```

1962 \define@key{Hyp}{raiselinks}[true]{%
1963   \Hy@boolkey{raiselinks}{#1}%
1964 }

```

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

```

1965 \def\Hy@setbreaklinks#1{%
1966   \csname breaklinks#1\endcsname
1967 }
1968 \def\Hy@breaklinks@unsupported{%
1969   \ifx\Hy@setbreaklinks@gobble
1970     \ifHy@breaklinks
1971       \Hy@WarningNoLine{%
1972         You have enabled option 'breaklinks'.\MessageBreak
1973         But driver '\Hy@driver.def' does not support this.\MessageBreak
1974         Expect trouble with the link areas of broken links%
1975       }%
1976     \fi
1977   \fi
1978 }
1979 \define@key{Hyp}{breaklinks}[true]{%
1980   \Hy@boolkey{breaklinks}{#1}%
1981   \let\Hy@setbreaklinks@gobble
1982 }

```

Determines whether an automatic anchor is put on each page

```

1983 \define@key{Hyp}{pageanchor}[true]{%
1984   \Hy@boolkey{pageanchor}{#1}%
1985 }

```

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.

```

1986 \define@key{Hyp}{plainpages}[true]{%
1987   \Hy@boolkey{plainpages}{#1}%
1988 }

```

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

```

1989 \define@key{Hyp}{naturalnames}[true]{%
1990   \Hy@boolkey{naturalnames}{#1}%

```

1991 }

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

```
1992 \define@key{Hyp}{hypertexnames}[true]{%
1993   \Hy@boolkey{hypertexnames}{#1}%
1994 }
```

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

```
1995 \define@key{Hyp}{nesting}[true]{%
1996   \Hy@boolkey{nesting}{#1}%
1997 }

1998 \define@key{Hyp}{unicode}[true]{%
1999   \Hy@boolkey{unicode}{#1}%
2000   \ifHy@unicode
2001     \def\HyPsd@pdfencoding{unicode}%
2002   \else
2003     \def\HyPsd@pdfencoding{pdfdoc}%
2004   \fi
2005   \HyPsd@LoadUnicode
2006 }

2007 \def\HyPsd@LoadUnicode{%
2008   \@ifundefined{T@PU}{\input{puenc.def}}{}%
2009   \DeclareFontFamily{PU}{pdf}{}%
2010   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2011   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2012   \global\let\HyPsd@LoadUnicode\relax
2013 }

2014 \AtBeginDocument{%
2015   \ifx\HyPsd@LoadUnicode\relax
2016   \else
2017     \def\HyPsd@LoadUnicode{%
2018       \PackageError{hyperref}{%
2019         Unicode support for bookmarks is not available.\MessageBreak
2020         Activate unicode support by using one of the options\MessageBreak
2021         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2022         in the preamble%
2023       }@ehc
2024       \global\let\HyPsd@LoadUnicode\relax
2025       \global\Hy@unicodetrue
2026       \global\let\Hy@unicodetrue\Hy@unicodetrue
2027     }%
2028   \fi
2029 }

2030 \define@key{Hyp}{pdfencoding}{%
2031   \edef\HyPsd@temp{#1}%
2032   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2033     \let\HyPsd@pdfencoding\HyPsd@temp
2034     \Hy@unicodetrue
2035   \else
2036     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2037       \z@
2038     \else
2039       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2040         \z@
2041       \else
2042         \@ne
2043       \fi
```

```

2044         \fi
2045     \let\HyPsd@pdfencoding\HyPsd@temp
2046     \hypersetup{unicode}%
2047     \ifHy@unicode
2048         \def\HyPsd@pdfencoding{#1}%
2049         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2050             \HyPsd@LoadStringEnc
2051         \fi
2052     \else
2053         \Hy@Warning{Cannot switch to unicode bookmarks}%
2054         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2055     \fi
2056 \else
2057     \@onelevel@sanitize\HyPsd@temp
2058     \Hy@Warning{%
2059         Values of option 'pdfencoding':\MessageBreak
2060         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2061         Ignoring unknown value '\HyPsd@temp'%
2062     }%
2063 \fi
2064 \fi
2065 }
2066 \def\HyPsd@pdfencoding@auto{auto}
2067 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2068 \def\HyPsd@pdfencoding@unicode{unicode}
2069 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2070 \def\HyPsd@LoadStringEnc{%
2071     \RequirePackage{stringenc}[2007/06/14]%
2072     \let\HyPsd@LoadStringEnc\relax
2073 }
2074 \AtBeginDocument{%
2075     \@ifpackageloaded{stringenc}{%
2076         \let\HyPsd@LoadStringEnc\relax
2077     }{%
2078         \def\HyPsd@LoadStringEnc{%
2079             \Hy@WarningNoLine{%
2080                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2081                 in the preamble or load the package there%
2082             }%
2083         }%
2084     }%
2085 }
2086 \newif\ifHy@setpdfversion
2087 \define@key{Hyp}{pdfversion}{%
2088     \@ifundefined{Hy@pdfversion@#1}{%
2089         \PackageWarning{hyperref}{%
2090             Unsupported PDF version '#1'.\MessageBreak
2091             Valid values: 1.2 until 1.9%
2092         }%
2093     }{%
2094         \Hy@setpdfversiontrue
2095         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2096     }%
2097 }
2098 \@namedef{Hy@pdfversion@1.2}{2}%
2099 \@namedef{Hy@pdfversion@1.3}{3}%
2100 \@namedef{Hy@pdfversion@1.4}{4}%

```

```

2101 \@namedef{Hy@pdfversion@1.5}{5}%
2102 \@namedef{Hy@pdfversion@1.6}{6}%
2103 \@namedef{Hy@pdfversion@1.7}{7}%
2104 \@namedef{Hy@pdfversion@1.8}{8}%
2105 \@namedef{Hy@pdfversion@1.9}{9}%
2106 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2107 \define@key{Hyp}{hyperref}[true]{%
2108 \define@key{Hyp}{tex4ht}[true]{%
2109   \Hy@texhttrue
2110   \setkeys{Hyp}{colorlinks=true}%
2111   \def\BeforeTeXIVht{\usepackage{color}}%
2112   \def\Hy@driver{htex4ht}%
2113   \def\MaybeStopEarly{%
2114     \typeout{Hyperref stopped early}%
2115     \AfterBeginDocument{%
2116       \PDF@FinishDoc
2117       \gdef\PDF@FinishDoc{}%
2118     }%
2119     \endinput
2120   }%
2121 }
2122 \define@key{Hyp}{pdftex}[true]{%
2123   \def\Hy@driver{hpdftex}%
2124 }
2125 \define@key{Hyp}{nativepdf}[true]{%
2126   \def\Hy@driver{hdvips}%
2127 }
2128 \define@key{Hyp}{dvipdfm}[true]{%
2129   \def\Hy@driver{hdvipdfm}%
2130 }
2131 \define@key{Hyp}{dvipdfmx}[true]{%
2132   \def\Hy@driver{hdvipdfm}%
2133 }
2134 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2135   \expandafter\ifx\csname if#1\expandafter\endcsname
2136     \csname iftrue\endcsname
2137     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2138   \else
2139     \chardef\SpecialDvipdfmxOutlineOpen\z@
2140   \fi
2141 }
2142 \define@key{Hyp}{xetex}[true]{%
2143   \def\Hy@driver{hdvipdfm}%
2144 }
2145 \define@key{Hyp}{pdfmark}[true]{%
2146   \def\Hy@driver{hdvips}%
2147 }
2148 \define@key{Hyp}{dvips}[true]{%
2149   \def\Hy@driver{hdvips}%
2150 }
2151 \define@key{Hyp}{hypertex}[true]{%
2152   \def\Hy@driver{hypertex}%
2153 }
2154 \let\Hy@MaybeStopNow\relax

```

```

2155 \define@key{Hyp}{vtex}[true]{%
2156   \begingroup\expandafter\expandafter\expandafter\endgroup
2157   \expandafter\ifx\csname OpMode\endcsname\relax
2158     \@latex@error{Non-VTeX processor}{}%
2159     \global\let\Hy@MaybeStopNow\endinput
2160     \endinput
2161   \else
2162     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2163     \def\Hy@driver{hvtex}%
2164   \else
2165     \ifnum\OpMode=10\relax
2166       \def\Hy@driver{hvtexhtm}%
2167       \def\MaybeStopEarly{%
2168         \typeout{Hyperref stopped early}%
2169         \AfterBeginDocument{%
2170           \PDF@FinishDoc
2171           \gdef\PDF@FinishDoc{}%
2172         }%
2173       \endinput
2174     }%
2175   \else
2176     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2177     \global\let\Hy@MaybeStopNow\endinput
2178     \endinput
2179   \fi
2180 \fi
2181 \fi
2182 }
2183 \define@key{Hyp}{vtexpdfmark}[true]{%
2184   \begingroup\expandafter\expandafter\expandafter\endgroup
2185   \expandafter\ifx\csname OpMode\endcsname\relax
2186     \@latex@error{Non-VTeX processor}{}%
2187     \let\Hy@MaybeStopNow\endinput
2188     \endinput
2189   \else
2190     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2191     \def\Hy@driver{hvtexmrk}%
2192   \else
2193     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2194     \let\Hy@MaybeStopNow\endinput
2195     \endinput
2196   \fi
2197 \fi
2198 }
2199 \define@key{Hyp}{dviwindo}[true]{%
2200   \def\Hy@driver{hdvwind}%
2201   \setkeys{Hyp}{colorlinks}%
2202   \PassOptionsToPackage{dviwindo}{color}%
2203 }
2204 \define@key{Hyp}{dvipsone}[true]{%
2205   \def\Hy@driver{hdvipson}%
2206 }
2207 \define@key{Hyp}{textures}[true]{%
2208   \def\Hy@driver{htexture}%
2209 }
2210 \define@key{Hyp}{latex2html}[true]{%
2211   \AtBeginDocument{\@latextohtmlX}%

```

```
2212 }
```

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

```
2213 \define@key{Hyp}{ps2pdf}[true]{%
2214   \def\Hy@driver{hdvips}%
2215   \providecommand*\@pdfborder{0 0 1}%
2216 }
```

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.

```
2217 \define@key{Hyp}{hyperfigures}[true]{%
2218   \Hy@boolkey[hyperfigures]{figures}{#1}%
2219 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2220 \define@key{Hyp}{hyperfootnotes}[true]{%
2221   \Hy@boolkey[hyperfootnotes]{#1}%
2222 }
```

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

```
2223 \def\back@none{none}
2224 \def\back@section{section}
2225 \def\back@page{page}
2226 \def\back@slide{slide}
2227 \define@key{Hyp}{backref}[section]{%
2228   \lowercase{\def\Hy@tempa{#1}}%
2229   \ifx\Hy@tempa\@empty
2230     \let\Hy@tempa\back@section
2231   \fi
2232   \ifx\Hy@tempa\Hy@false
2233     \let\Hy@tempa\back@none
2234   \fi
2235   \ifx\Hy@tempa\back@slide
2236     \let\Hy@tempa\back@section
2237   \fi
2238   \ifx\Hy@tempa\back@page
2239     \PassOptionsToPackage{hyperpageref}{backref}%
2240     \Hy@backreftrue
2241   \else
2242     \ifx\Hy@tempa\back@section
2243       \PassOptionsToPackage{hyperref}{backref}%
2244       \Hy@backreftrue
2245     \else
2246       \ifx\Hy@tempa\back@none
2247         \Hy@backreffalse
2248       \else
2249         \Hy@WarnOptionValue{#1}{backref}{%
2250           'section', 'slide', 'page', 'none', \MessageBreak
2251           or 'false'}%
2252       \fi
2253     \fi
2254   \fi
2255 }
2256 \define@key{Hyp}{pagebackref}[true]{%
2257   \lowercase{\def\Hy@tempa{#1}}%
2258   \ifx\Hy@tempa\@empty
```



```

2259 \let\Hy@tempa\Hy@true
2260 \fi
2261 \ifx\Hy@tempa\Hy@true
2262 \PassOptionsToPackage{hyperpageref}{backref}%
2263 \Hy@backreftrue
2264 \else
2265 \ifx\Hy@tempa\Hy@false
2266 \Hy@backreffalse
2267 \else
2268 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2269 \fi
2270 \fi
2271 }

```

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

```

2272 \define@key{Hyp}{hyperindex}[true]{%
2273 \Hy@boolkey{hyperindex}{#1}%
2274 }

```

Configuration of encap char.

```

2275 \define@key{Hyp}{encap}[\l]{%
2276 \def\HyInd@EncapChar{#1}%
2277 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2278 \def\HyLang@afrikaans{%
2279 \def\equationautorefname{Vergelyking}%
2280 \def\footnoteautorefname{Voetnota}%
2281 \def\itemautorefname{Item}%
2282 \def\figureautorefname{Figuur}%
2283 \def\tableautorefname{Tabel}%
2284 \def\partautorefname{Deel}%
2285 \def\appendixautorefname{Bylae}%
2286 \def\chapterautorefname{Hoofstuk}%
2287 \def\sectionautorefname{Afdeling}%
2288 \def\subsectionautorefname{Subafdeling}%
2289 \def\subsubsectionautorefname{Subsubafdeling}%
2290 \def\paragraphautorefname{Paragraaf}%
2291 \def\subparagraphautorefname{Subparagraaf}%
2292 \def\FancyVerbLineautorefname{Lyn}%
2293 \def\theoremautorefname{Teorema}%
2294 \def\pageautorefname{Bladsy}%
2295 }
2296 \def\HyLang@english{%
2297 \def\equationautorefname{Equation}%
2298 \def\footnoteautorefname{footnote}%
2299 \def\itemautorefname{item}%
2300 \def\figureautorefname{Figure}%
2301 \def\tableautorefname{Table}%
2302 \def\partautorefname{Part}%
2303 \def\appendixautorefname{Appendix}%
2304 \def\chapterautorefname{chapter}%
2305 \def\sectionautorefname{section}%
2306 \def\subsectionautorefname{subsection}%

```

```

2307 \def\subsubsectionautorefname{subsubsection}%
2308 \def\paragraphautorefname{paragraph}%
2309 \def\subparagraphautorefname{subparagraph}%
2310 \def\FancyVerbLineautorefname{line}%
2311 \def\theoremautorefname{Theorem}%
2312 \def\pageautorefname{page}%
2313 }
2314 \def\HyLang@french{%
2315 \def\equationautorefname{'Equation}%
2316 \def\footnoteautorefname{note}%
2317 \def\itemautorefname{item}%
2318 \def\figureautorefname{Figure}%
2319 \def\tableautorefname{Tableau}%
2320 \def\partautorefname{Partie}%
2321 \def\appendixautorefname{Appendice}%
2322 \def\chapterautorefname{chapitre}%
2323 \def\sectionautorefname{section}%
2324 \def\subsectionautorefname{sous-section}%
2325 \def\subsubsectionautorefname{sous-sous-section}%
2326 \def\paragraphautorefname{paragraphe}%
2327 \def\subparagraphautorefname{sous-paragraphe}%
2328 \def\FancyVerbLineautorefname{ligne}%
2329 \def\theoremautorefname{Th'eor'eme}%
2330 \def\pageautorefname{page}%
2331 }
2332 \def\HyLang@german{%
2333 \def\equationautorefname{Gleichung}%
2334 \def\footnoteautorefname{Fu'ss note}%
2335 \def\itemautorefname{Punkt}%
2336 \def\figureautorefname{Abbildung}%
2337 \def\tableautorefname{Tabelle}%
2338 \def\partautorefname{Teil}%
2339 \def\appendixautorefname{Anhang}%
2340 \def\chapterautorefname{Kapitel}%
2341 \def\sectionautorefname{Abschnitt}%
2342 \def\subsectionautorefname{Unterabschnitt}%
2343 \def\subsubsectionautorefname{Unterunterabschnitt}%
2344 \def\paragraphautorefname{Absatz}%
2345 \def\subparagraphautorefname{Unterabsatz}%
2346 \def\FancyVerbLineautorefname{Zeile}%
2347 \def\theoremautorefname{Theorem}%
2348 \def\pageautorefname{Seite}%
2349 }
2350 \def\HyLang@italian{%
2351 \def\equationautorefname{Equazione}%
2352 \def\footnoteautorefname{nota}%
2353 \def\itemautorefname{punto}%
2354 \def\figureautorefname{Figura}%
2355 \def\tableautorefname{Tabella}%
2356 \def\partautorefname{Parte}%
2357 \def\appendixautorefname{Appendice}%
2358 \def\chapterautorefname{Capitolo}%
2359 \def\sectionautorefname{sezione}%
2360 \def\subsectionautorefname{sottosezione}%
2361 \def\subsubsectionautorefname{sottosottosezione}%
2362 \def\paragraphautorefname{paragrafo}%
2363 \def\subparagraphautorefname{sottoparagrafo}%

```

```

2364 \def\FancyVerbLineautorefname{linea}%
2365 \def\theoremautorefname{Teorema}%
2366 \def\pageautorefname{Pag.\@}%
2367 }
2368 \def\HyLang@magyar{%
2369 \def\equationautorefname{Egyenlet}%
2370 \def\footnoteautorefname{l\'abjegyzet}%
2371 \def\itemautorefname{Elem}%
2372 \def\figureautorefname{'Abra}%
2373 \def\tableautorefname{T\'abl\'azat}%
2374 \def\partautorefname{R\'esz}%
2375 \def\appendixautorefname{F\'uggel\'ek}%
2376 \def\chapterautorefname{fejezet}%
2377 \def\sectionautorefname{szakasz}%
2378 \def\subsectionautorefname{alszakasz}%
2379 \def\subsubsectionautorefname{alalszakasz}%
2380 \def\paragraphautorefname{bekezd\'es}%
2381 \def\subparagraphautorefname{albekezd\'es}%
2382 \def\FancyVerbLineautorefname{sor}%
2383 \def\theoremautorefname{T\'etel}%
2384 \def\pageautorefname{oldal}%
2385 }
2386 \def\HyLang@portuges{%
2387 \def\equationautorefname{Equa\c c\~ao}%
2388 \def\footnoteautorefname{Nota de rodap\'e}%
2389 \def\itemautorefname{Item}%
2390 \def\figureautorefname{Figura}%
2391 \def\tableautorefname{Tabela}%
2392 \def\partautorefname{Parte}%
2393 \def\appendixautorefname{Ap\~endice}%
2394 \def\chapterautorefname{Cap\'itulo}%
2395 \def\sectionautorefname{Se\c c\~ao}%
2396 \def\subsectionautorefname{Subse\c c\~ao}%
2397 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2398 \def\paragraphautorefname{par\'agrafo}%
2399 \def\subparagraphautorefname{subpar\'agrafo}%
2400 \def\FancyVerbLineautorefname{linha}%
2401 \def\theoremautorefname{Teorema}%
2402 \def\pageautorefname{P\'agina}%
2403 }

```

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`.

```

2404 \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`?

```

2405 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2406 % \def\equationautorefname{%
2407 %     \cyr\cyrv\cyrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
2408 % }%

```

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

```

2409 \def\footnoteautorefname{%
2410     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2411 }%

```

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}”

```

2412 % \def\footnoteautorefname{%
2413 %     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrzh\cyrn\cyro\cyre\ %
2414 %     \cyrp\cyrr\cyri\cyrm\cyre\cyrrzh\cyra\cyrn\cyri\cyre
2415 % }%

```

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

```

2416 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2417 % \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.

```

2418 \def\itemautorefname{\cyr\cyrp.}%
2419 % \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.

```

2420 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2421 \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.

```

2422 \def\partautorefname{\cyr\cyrrh.}%
2423 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2424 \def\sectionautorefname{\cyr\cyrr\cyra\cyrrzh\cyrd.}%

```

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

```

2425 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2426 % \def\appendixautorefname{%
2427 %     \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2428 % }%

```

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.

```

2429 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrrzh\cyrd.}%
2430 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrrzh\cyrd.}%

```

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

```

2431 \def\paragraphautorefname{\cyr\cyrp.}%
2432 \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.

```
2433 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2434 % \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.

```
2435 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2436 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2437 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2438 % \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 ...

```
2439 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2440 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2441 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2442 \def\pageautorefname{\cyr\cyrs.}%
2443 }
```

```
2444 \def\HyLang@spanish{%
2445 \def\equationautorefname{Ecuaci'on}%
2446 \def\footnoteautorefname{Nota a pie de p'agina}%
2447 \def\itemautorefname{Elemento}%
2448 \def\figureautorefname{Figura}%
2449 \def\tableautorefname{Tabla}%
2450 \def\partautorefname{Parte}%
2451 \def\appendixautorefname{Ap'endice}%
2452 \def\chapterautorefname{Cap'itulo}%
2453 \def\sectionautorefname{Secci'on}%
2454 \def\subsectionautorefname{Subsecci'on}%
2455 \def\subsubsectionautorefname{Subsubsecci'on}%
2456 \def\paragraphautorefname{P'arrafo}%
2457 \def\subparagraphautorefname{Subp'arrafo}%
2458 \def\FancyVerbLineautorefname{L'inea}%
2459 \def\theoremautorefname{Teorema}%
2460 \def\pageautorefname{P'agina}%
2461 }
```

```
2462 \def\HyLang@vietnamese{%
2463 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
2464 \def\footnoteautorefname{Ch'u th'ich}%
2465 \def\itemautorefname{m\du{c}%
2466 \def\figureautorefname{H'inh}%
2467 \def\tableautorefname{B\h{a}ng}%
2468 \def\partautorefname{Ph'\acircumflex{n}%
2469 \def\appendixautorefname{Ph\du{1}\du{c}%
```

```

2470 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2471 \def\sectionautorefname{m\du{c}}%
2472 \def\subsectionautorefname{m\du{c}}%
2473 \def\subsubsectionautorefname{m\du{c}}%
2474 \def\paragraphautorefname{dj{}\du{a}n}%
2475 \def\subparagraphautorefname{dj{}\du{a}n}%
2476 \def\FancyVerbLineautorefname{d\'ong}%
2477 \def\theoremautorefname{DJ{}\du{nh} l\'y}%
2478 \def\pageautorefname{Trang}%
2479 }

```

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

```

2480 \def\HyLang@addto#1#2{%
2481   #2%
2482   \@temptokena{#2}%
2483   \ifx#1\relax
2484     \let#1\@empty
2485   \fi
2486   \ifx#1\undefined
2487     \edef#1{\the\@temptokena}%
2488   \else
2489     \toks@\expandafter{#1}%
2490     \edef#1{\the\toks@\the\@temptokena}%
2491   \fi
2492   \@temptokena{}\toks@\@temptokena
2493 }

2494 \def\HyLang@DeclareLang#1#2#3{%
2495   \begingroup
2496     \edef\x##1##2{%
2497       \noexpand\ifx##2\relax
2498         \errmessage{No definitions for language #2' found!}%
2499       \noexpand\fi
2500     \endgroup
2501     \noexpand\define@key{Hyp}{#1}[]{%
2502       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2503       #3%
2504     }%
2505   }%
2506   \expandafter\x\csname extras#1\expandafter\endcsname
2507     \csname HyLang@#2\endcsname
2508 }

2509 \HyLang@DeclareLang{english}{english}{}
2510 \HyLang@DeclareLang{UKenglish}{english}{}
2511 \HyLang@DeclareLang{british}{english}{}
2512 \HyLang@DeclareLang{USenglish}{english}{}
2513 \HyLang@DeclareLang{american}{english}{}
2514 \HyLang@DeclareLang{german}{german}{}
2515 \HyLang@DeclareLang{austrian}{german}{}
2516 \HyLang@DeclareLang{ngerman}{german}{}
2517 \HyLang@DeclareLang{naustrian}{german}{}
2518 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2519 \HyLang@DeclareLang{brazil}{portuges}{}
2520 \HyLang@DeclareLang{brazilian}{portuges}{}
2521 \HyLang@DeclareLang{portuguese}{portuges}{}
2522 \HyLang@DeclareLang{spanish}{spanish}{}
2523 \HyLang@DeclareLang{afrikaans}{afrikaans}{}

```

```

2524 \HyLang@DeclareLang{french}{french}{}
2525 \HyLang@DeclareLang{frenchb}{french}{}
2526 \HyLang@DeclareLang{francais}{french}{}
2527 \HyLang@DeclareLang{acadian}{french}{}
2528 \HyLang@DeclareLang{canadien}{french}{}
2529 \HyLang@DeclareLang{italian}{italian}{}
2530 \HyLang@DeclareLang{magyar}{magyar}{}
2531 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2532 \define@key{Hyp}{vietnamese}[]{}%
2533   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2534   \AtEndOfPackage{%
2535     \ifundefined{T@PU}{}{}%
2536     \input{puvnenc.def}%
2537   }%
2538 }%
2539 }
2540 \define@key{Hyp}{vietnam}[]{}%
2541   \HyLang@addto\extravietnam\HyLang@vietnamese
2542   \AtEndOfPackage{%
2543     \ifundefined{T@PU}{}{}%
2544     \input{puvnenc.def}%
2545   }%
2546 }%
2547 }

```

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

```

2548 \define@key{Hyp}{arabic}[]{}%
2549   \AtEndOfPackage{%
2550     \ifundefined{T@PU}{}{}%
2551     \input{puarenc.def}%
2552   }%
2553 }%
2554 }

```

13 Options to change appearance of links

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

```

2555 \define@key{Hyp}{colorlinks}[true]{}%
2556   \Hy@boolkey{colorlinks}{#1}%
2557 }
2558 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2559   \Hy@boolkey{ocgcolorlinks}{#1}%
2560 }
2561 \AtBeginDocument{%
2562   \begingroup
2563     \ifundefined{OBJ@OCG@view}{}%
2564     \ifHy@ocgcolorlinks
2565       \Hy@Warning{%
2566         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2567         using ‘colorlinks’ instead%
2568       }%
2569     \fi
2570   }{}%
2571 \endgroup
2572 }

```

```

2573 \define@key{Hyp}{frenchlinks}[true]{%
2574   \Hy@boolkey{frenchlinks}{#1}%
2575 }

```

14 Bookmarking

```

2576 \define@key{Hyp}{bookmarks}[true]{%
2577   \Hy@boolkey{bookmarks}{#1}%
2578 }

2579 \define@key{Hyp}{bookmarksopen}[true]{%
2580   \Hy@boolkey{bookmarksopen}{#1}%
2581 }

```

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.

```

2582 \let\Hy@bookmarksdepth\c@tocdepth
2583 \define@key{Hyp}{bookmarksdepth}[]{%
2584   \begingroup
2585     \edef\x{#1}%
2586     \ifx\x\empty
2587       \global\let\Hy@bookmarksdepth\c@tocdepth
2588     \else
2589       \@ifundefined{toclevel@x}{%
2590         \@onelevel@sanitize\x
2591         \edef\y{\expandafter\@car\x\@nil}%
2592         \ifcase 0\expandafter\ifx\y-1\fi
2593           \expandafter\ifnum\expandafter'\y>47 %
2594             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2595           \Hy@Warning{Unknown document division name (\x)}%
2596         \else
2597           \setbox\z@=\hbox{%
2598             \count@=\x
2599             \xdef\Hy@bookmarksdepth{\the\count@}%
2600           }%
2601         \fi
2602       }{%
2603         \setbox\z@=\hbox{%
2604           \count@=\csname toclevel@x\endcsname
2605           \xdef\Hy@bookmarksdepth{\the\count@}%
2606         }%
2607       }%
2608     \fi
2609   \endgroup
2610 }

```

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

```

2611 \define@key{Hyp}{bookmarksopenlevel}{%
2612   \def\@bookmarksopenlevel{#1}%

```



```

2613 }
2614 \def\@bookmarksopenlevel{\maxdimen}
2615 % 'bookmarkstype' to specify which 'toc' file to mimic
2616 \define@key{Hyp}{bookmarkstype}{%
2617   \def\Hy@bookmarkstype{#1}%
2618 }
2619 \def\Hy@bookmarkstype{toc}

```

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

```

2620 \define@key{Hyp}{bookmarksnumbered}[true]{%
2621   \Hy@boolkey{bookmarksnumbered}{#1}%
2622 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2623 \define@key{Hyp}{CJKbookmarks}[true]{%
2624   \Hy@boolkey{CJKbookmarks}{#1}%
2625 }

2626 \def\Hy@temp#1{%
2627   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2628 }
2629 \def\Hy@@temp#1#2#3{%
2630   \define@key{Hyp}{#2color}{%
2631     \HyColor@HyperrefColor{##1}#1%
2632   }%
2633   \def#1{#3}%
2634 }
2635 \Hy@temp{link}{red}
2636 \Hy@temp{anchor}{black}
2637 \Hy@temp{cite}{green}
2638 \Hy@temp{file}{cyan}
2639 \Hy@temp{url}{magenta}
2640 \Hy@temp{menu}{red}
2641 \Hy@temp{run}{\@filecolor}
2642 \define@key{Hyp}{pagecolor}{%
2643   \Hy@WarningPageColor
2644 }
2645 \def\Hy@WarningPageColor{%
2646   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2647   \global\let\Hy@WarningPageColor\relax
2648 }

2649 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2650 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2651 \let\@baseurl\@empty
2652 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2653 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2654 \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.

```

2655 \let\@pdfpagetransition\relax
2656 \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.

```
2657 \let\pdfpageduration\relax
2658 \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.

```
2659 \newif\ifHy@useHidKey
2660 \Hy@useHidKeyfalse
2661 \define@key{Hyp}{pdfpagehidden}[true]{%
2662   \Hy@boolkey{pdfpagehidden}{#1}%
2663   \ifHy@pdfpagehidden
2664     \global\Hy@useHidKeytrue
2665   \fi
2666 }
```

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).

```
2667 \def\Hy@ColorList{cite,file,link,menu,run,url}
2668 \@for\Hy@temp:=\Hy@ColorList\do{%
2669   \edef\Hy@temp{%
2670     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2671       \noexpand\HyColor@HyperrefBordercolor
2672       {##1}%
2673       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2674       {hyperref}%
2675       {\Hy@temp bordercolor}%
2676     }%
2677   }%
2678   \Hy@temp
2679 }
2680 \define@key{Hyp}{pagebordercolor}{%
2681   \Hy@WarningPageBordercolor
2682 }
2683 \def\Hy@WarningPageBordercolor{%
2684   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2685   \global\let\Hy@WarningPageBordercolor\relax
2686 }
2687 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2688 \Hy@DefNameKey{pdfhighlight}{%
2689   \do{/I}{Invert}%
2690   \do{/N}{None}%
2691   \do{/O}{Outline}%
2692   \do{/P}{Push}%
2693 }
2694 \define@key{Hyp}{pdfborder}{\def\pdfborder{#1}}
2695 \define@key{Hyp}{pdfborderstyle}{\def\pdfborderstyle{#1}}
2696 \def\Hy@setpdfborder{%
2697   \ifx\pdfborder\empty
```

```

2698 \else
2699     /Border[\@pdfborder]%
2700 \fi
2701 \ifx\@pdfborderstyle\@empty
2702 \else
2703     /BS<<\@pdfborderstyle>>%
2704 \fi
2705 }
2706 \Hy@DefNameKey{pdfpagemode}{%
2707     \do{UseNone}{}%
2708     \do{UseOutlines}{}%
2709     \do{UseThumbs}{}%
2710     \do{FullScreen}{}%
2711     \do{UseOC}{PDF 1.5}%
2712     \do{UseAttachments}{PDF 1.6}%
2713 }
2714 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2715     \do{UseNone}{}%
2716     \do{UseOutlines}{}%
2717     \do{UseThumbs}{}%
2718     \do{FullScreen}{}%
2719     \do{UseOC}{PDF 1.5}%
2720     \do{UseAttachments}{PDF 1.6}%
2721 }
2722 \Hy@DefNameKey{pdfdirection}{%
2723     \do{L2R}{Left to right}%
2724     \do{R2L}{Right to left}%
2725 }
2726 \Hy@DefNameKey{pdfviewarea}{%
2727     \do{MediaBox}{}%
2728     \do{CropBox}{}%
2729     \do{BleedBox}{}%
2730     \do{TrimBox}{}%
2731     \do{ArtBox}{}%
2732 }
2733 \Hy@DefNameKey{pdfviewclip}{%
2734     \do{MediaBox}{}%
2735     \do{CropBox}{}%
2736     \do{BleedBox}{}%
2737     \do{TrimBox}{}%
2738     \do{ArtBox}{}%
2739 }
2740 \Hy@DefNameKey{pdfprintarea}{%
2741     \do{MediaBox}{}%
2742     \do{CropBox}{}%
2743     \do{BleedBox}{}%
2744     \do{TrimBox}{}%
2745     \do{ArtBox}{}%
2746 }
2747 \Hy@DefNameKey{pdfprintclip}{%
2748     \do{MediaBox}{}%
2749     \do{CropBox}{}%
2750     \do{BleedBox}{}%
2751     \do{TrimBox}{}%
2752     \do{ArtBox}{}%
2753 }
2754 \Hy@DefNameKey{pdfprintscaling}{%

```

```

2755 \do{AppDefault}{}%
2756 \do{None}{}%
2757 }
2758 \Hy@DefNameKey{pdfduplex}{%
2759 \do{Simplex}{}%
2760 \do{DuplexFlipShortEdge}{}%
2761 \do{DuplexFlipLongEdge}{}%
2762 }
2763 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2764 \do{true}{}%
2765 \do{false}{}%
2766 }
2767 \define@key{Hyp}{pdfprintpagerange}{%
2768 \def\@pdfprintpagerange{#1}%
2769 }
2770 \Hy@DefNameKey{pdfnumcopies}{%
2771 \do{2}{two copies}%
2772 \do{3}{three copies}%
2773 \do{4}{four copies}%
2774 \do{5}{five copies}%
2775 }
2776 \define@key{Hyp}{pdfusetitle}[true]{%
2777 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2778 }
2779 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2780 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2781 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2782 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2783 \define@key{Hyp}{pdfcreationdate}{%
2784 \begingroup
2785 \Hy@unicodedefalse
2786 \pdfstringdef\@pdfcreationdate{#1}%
2787 \endgroup
2788 }
2789 \define@key{Hyp}{pdfmoddate}{%
2790 \begingroup
2791 \Hy@unicodedefalse
2792 \pdfstringdef\@pdfmoddate{#1}%
2793 \endgroup
2794 }
2795 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2796 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2797 \define@key{Hyp}{pdfview}{\calculatepdfview#1 \\\}
2798 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2799 \let\setpdflinkmargin\@gobble
2800 \def\calculatepdfview#1 #2\{%
2801 \def\@pdfview{#1}%
2802 \ifx\#2\%
2803 \def\@pdfviewparams{ -32768}%
2804 \else
2805 \def\@pdfviewparams{ #2}%
2806 \fi
2807 }
2808 \begingroup\expandafter\expandafter\expandafter\endgroup
2809 \expandafter\ifx\curname numexpr\endcurname\relax
2810 \def\Hy@number#1{%
2811 \expandafter\@firstofone\expandafter{\number#1}%

```

```

2812 }%
2813 \else
2814   \def\Hy@number#1{%
2815     \the\numexpr#1\relax
2816   }%
2817 \fi
2818 \define@key{Hyp}{pdfstartpage}{%
2819   \ifx\#1\%
2820     \def\@pdfstartpage{%
2821       \else
2822         \edef\@pdfstartpage{\Hy@number{#1}}%
2823       \fi
2824     }%
2825 \define@key{Hyp}{pdfstartview}{%
2826   \ifx\#1\%
2827     \def\@pdfstartview{%
2828       \else
2829         \hypercalcbpdef\@pdfstartview{ /#1 }%
2830       \fi
2831   }
2832 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2833 \define@key{Hyp}{pdftoolbar}[true]{%
2834   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2835 }
2836 \define@key{Hyp}{pdfmenubar}[true]{%
2837   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2838 }
2839 \define@key{Hyp}{pdfwindowui}[true]{%
2840   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2841 }
2842 \define@key{Hyp}{pdffitwindow}[true]{%
2843   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2844 }
2845 \define@key{Hyp}{pdfcenterwindow}[true]{%
2846   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2847 }
2848 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2849   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2850 }
2851 \define@key{Hyp}{pdfa}[true]{%
2852   \Hy@boolkey{pdfa}{#1}%
2853 }
2854 \define@key{Hyp}{pdfnewwindow}[true]{%
2855   \def\Hy@temp{#1}%
2856   \ifx\Hy@temp\empty
2857     \Hy@newwindowsetfalse
2858   \else
2859     \Hy@newwindowsettrue
2860     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2861   \fi
2862 }
2863 \def\Hy@SetNewWindow{%
2864   \ifHy@newwindowset
2865     /NewWindow %
2866     \ifHy@newwindow true\else false\fi
2867   \fi
2868 }

```

```

2869 \Hy@DefNameKey{pdfpagelayout}{%
2870   \do{SinglePage}{}%
2871   \do{OneColumn}{}%
2872   \do{TwoColumnLeft}{}%
2873   \do{TwoColumnRight}{}%
2874   \do{TwoPageLeft}{PDF 1.5}%
2875   \do{TwoPageRight}{PDF 1.5}%
2876 }
2877 \define@key{Hyp}{pdflang}{%
2878   \def\@pdflang{#1}%
2879 }
2880 \define@key{Hyp}{pdfpagelabels}[true]{%
2881   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2882 }
2883 \define@key{Hyp}{pdfescapeform}[true]{%
2884   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2885 }

```

Default values:

```

2886 \def\@linkbordercolor{1 0 0}
2887 \def\@urlbordercolor{0 1 1}
2888 \def\@menubordercolor{1 0 0}
2889 \def\@filebordercolor{0 .5 .5}
2890 \def\@runbordercolor{0 .7 .7}
2891 \def\@citebordercolor{0 1 0}
2892 \def\@pdfhighlight{/I}
2893 \def\@pdftitle{}
2894 \def\@pdfauthor{}
2895 \let\@pdfproducer\relax
2896 \def\@pdfcreator{LaTeX with hyperref package}
2897 \def\@pdfcreationdate{}
2898 \def\@pdfmoddate{}
2899 \def\@pdfsubject{}
2900 \def\@pdfkeywords{}
2901 \def\@pdfpagescrop{}
2902 \def\@pdfstartview{ /Fit }
2903 \def\@pdfstartpage{1}
2904 \def\@pdfprintpagerange{}
2905 \def\@pdflang{}
2906 \let\PDF@SetupDoc\@empty
2907 \let\PDF@FinishDoc\@empty
2908 \let\phantomsection\@empty
2909 \let\special@paper\@empty
2910 \def\HyperDestNameFilter#1{#1}
2911 \@ifundefined{stockwidth}{%
2912   \ifdim\paperwidth>\z@
2913     \ifdim\paperheight>\z@
2914       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2915     \fi
2916   \fi
2917 }{%
2918   \ifdim\stockwidth>\z@
2919     \ifdim\stockheight>\z@
2920       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2921     \fi
2922   \fi
2923 }
2924 \begingroup

```

```

2925 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2926 \dimen@=\x\relax
2927 \ifdim\dimen@>\z@
2928 \else
2929 \dimen@=11in\relax
2930 \Hy@WarningNoLine{%
2931   Height of page (\expandafter\string\x) %
2932   is invalid (\the\x),\MessageBreak
2933   using 11in%
2934 }%
2935 \fi
2936 \dimen@=0.99626401\dimen@
2937 \xdef\Hy@pageheight{\strip@pt\dimen@}%
2938 \endgroup
2939 \def\HyInd@EncapChar{\|}
2940 \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.

```

2941 \let\hyper@normalise\ExecuteOptions
2942 \let\ExecuteOptions\hypersetup
2943 \Hy@RestoreCatcodes
2944 \InputIfFileExists{hyperref.cfg}{-}{-}
2945 \Hy@SetCatcodes
2946 \let\ExecuteOptions\hyper@normalise
2947 \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`.

```

2948 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2949 \@ifpackageloaded{tex4ht}{%
2950   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
2951   \PassOptionsToPackage{tex4ht}{hyperref}%
2952 }%
2953 }{-}

2954 \let\ReadBookmarks\relax
2955 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2956 \AtBeginDocument{%
2957   \ifHy@draft
2958     \let\hyper@@anchor\@gobble
2959     \gdef\hyper@link#1#2#3{#3}%
2960     \let\hyper@anchorstart\@gobble
2961     \let\hyper@anchorend\@empty
2962     \let\hyper@linkstart\@gobbletwo
2963     \let\hyper@linkend\@empty
2964     \def\hyper@linkurl#1#2{#1}%
2965     \def\hyper@linkfile#1#2#3{#1}%
2966     \def\hyper@link@[#1]#2#3{#1}%
2967     \def\Acrobatmenu#1#2{\leavevmode#2}%
2968     \let\PDF@SetupDoc\@empty

```

```

2969 \let\PDF@FinishDoc\@empty
2970 \let\@fifthoffive\@secondoftwo
2971 \let\@secondoffive\@secondoftwo
2972 \let\ReadBookmarks\relax
2973 \let\WriteBookmarks\relax
2974 \Hy@WarningNoLine{ draft mode on}%
2975 \fi
2976 \Hy@DisableOption{draft}%
2977 \Hy@DisableOption{nolinks}%
2978 \Hy@DisableOption{final}%
2979 }

```

15.1 PDF/A

```

2980 \Hy@DisableOption{pdfa}
2981 \ifHy@pdfa
2982 \setkeys{Hyp}{pdfversion=1.4}%
2983 \def\Hy@Acrobatmenu#1#2{%
2984 \leavevmode
2985 \beginngroup
2986 \edef\x{#1}%
2987 \@onelevel@sanitize\x
2988 \ifx\x\Hy@NextPage
2989 \let\y=Y%
2990 \else
2991 \ifx\x\Hy@PrevPage
2992 \let\y=Y%
2993 \else
2994 \ifx\x\Hy@FirstPage
2995 \let\y=Y%
2996 \else
2997 \ifx\x\Hy@LastPage
2998 \let\y=Y%
2999 \else
3000 \let\y=N%
3001 \fi
3002 \fi
3003 \fi
3004 \fi
3005 \expandafter\endgroup
3006 \ifx\y Y%
3007 \else
3008 \PackageError{hyperref}{%
3009 PDF/A: Named action ‘#1’ is not permitted%
3010 }\@ehc
3011 {#2}%
3012 \expandafter\@gobble
3013 \fi
3014 }%
3015 \def\Hy@temp#1{%
3016 \expandafter\def\csname Hy@#1\endcsname{#1}%
3017 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3018 }%
3019 \Hy@temp{NextPage}%
3020 \Hy@temp{PrevPage}%
3021 \Hy@temp{FirstPage}%
3022 \Hy@temp{LastPage}%

```



```

3023 \else
3024   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3025 \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.

```

3026 \Hy@nextfalse
3027 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3028 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3029 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3030 \ifHy@next
3031   \let\texttilde~%
3032 \fi

```

15.3 Patch for babel 3.8j

Babel 2008/03/16 v3.8j adds a patch to disable shorthands for bookmarks. That reduces warnings, but the bookmarks are ugly. Therefore the following patch tries to undo this.

```

3033 \@ifpackageloaded{babel}{%
3034   \@ifpackagelater{babel}{2008/03/16}{%
3035     \def\Hy@PatchLanguageShorthands#1{%
3036       \begingroup
3037         \edef\x{#1}%
3038         \@onelevel@sanitize\x
3039         \def\y{system}%
3040         \@onelevel@sanitize\y
3041       \expandafter\endgroup
3042       \ifx\x\y
3043         \else
3044           \HyOrg@languageshorthands{#1}%
3045         \fi
3046     }%
3047     \AtBeginDocument{%
3048       \begingroup
3049         \toks0=\expandafter{\pdfstringdefPreHook}%
3050         \xdef\pdfstringdefPreHook{%
3051           \let\noexpand\HyOrg@languageshorthands
3052             \noexpand\languageshorthands
3053           \let\noexpand\languageshorthands
3054             \noexpand\Hy@PatchLanguageShorthands
3055           \the\toks0 %
3056           \let\noexpand\languageshorthands
3057             \noexpand\HyOrg@languageshorthands
3058         }%
3059       \endgroup
3060     }%
3061   }{}%
3062 }{}

3063 \ifHy@figures
3064   \Hy@Info{Hyper figures ON}%
3065 \else
3066   \Hy@Info{Hyper figures OFF}%
3067 \fi
3068 \ifHy@nesting
3069   \Hy@Info{Link nesting ON}%

```

```

3070 \else
3071   \Hy@Info{Link nesting OFF}%
3072 \fi
3073 \ifHy@hyperindex
3074   \Hy@Info{Hyper index ON}%
3075 \else
3076   \Hy@Info{Hyper index OFF}%
3077 \fi
3078 \ifHy@plainpages
3079   \Hy@Info{Plain pages ON}%
3080 \else
3081   \Hy@Info{Plain pages OFF}%
3082 \fi
3083 \ifHy@backref
3084   \Hy@Info{Backreferencing ON}%
3085 \else
3086   \Hy@Info{Backreferencing OFF}%
3087 \fi
3088 \ifHy@typexml
3089   \AtEndOfPackage{%
3090     \RequirePackage{color}%
3091     \RequirePackage{nameref}%
3092   }%
3093 \fi
3094 \Hy@DisableOption{typexml}
3095 \ifHy@implicit
3096   \typeout{Implicit mode ON; LaTeX internals redefined}%
3097 \else
3098   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3099   \def\MaybeStopEarly{%
3100     \typeout{Hyperref stopped early}%
3101     \AfterBeginDocument{%
3102       \PDF@FinishDoc
3103       \gdef\PDF@FinishDoc{}%
3104     }%
3105     \endinput
3106   }%
3107   \AtBeginDocument{%
3108     \let\autoref\ref
3109     \let\autopageref\pageref
3110     \ifx\pdfpagemode\@empty
3111       \gdef\pdfpagemode{UseNone}%
3112     \fi
3113     \global\Hy@backreffalse
3114   }%
3115   \AtEndOfPackage{%
3116     \global\let\ReadBookmarks\relax
3117     \global\let\WriteBookmarks\relax
3118   }%
3119 \fi
3120 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3121 \AtEndOfPackage{%
3122   \@ifpackageloaded{tex4ht}{%
3123     \def\Hy@driver{htex4ht}%

```

```

3124 \Hy@texhttrue
3125 }{}%

```

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.

```

3126 \ifx\Hy@driver\@empty
3127 \else
3128 \def\Hy@temp{hpdfTeX}%
3129 \ifpdf
3130 \ifx\Hy@driver\Hy@temp
3131 \else
3132 \Hy@WarningNoLine{%
3133 Wrong driver '\Hy@driver.def';\MessageBreak
3134 pdfTeX is running in PDF mode.\MessageBreak
3135 Forcing driver '\Hy@temp.def'%
3136 }%
3137 \let\Hy@driver\Hy@temp
3138 \fi
3139 \else
3140 \ifx\Hy@driver\Hy@temp
3141 \Hy@WarningNoLine{%
3142 Wrong driver '\Hy@driver.def';\MessageBreak
3143 pdfTeX is not running in PDF mode.\MessageBreak
3144 Using default driver%
3145 }%
3146 \let\Hy@driver\@empty
3147 \fi
3148 \fi
3149 \fi
3150 \ifx\Hy@driver\@empty
3151 \else
3152 \def\Hy@temp{hdvipdfm}%
3153 \ifxetex
3154 \ifx\Hy@driver\Hy@temp
3155 \else
3156 \Hy@WarningNoLine{%
3157 Wrong driver '\Hy@driver.def';\MessageBreak
3158 XeTeX is running.\MessageBreak
3159 Forcing driver '\Hy@temp.def' for XeTeX%
3160 }%
3161 \let\Hy@driver\Hy@temp
3162 \fi
3163 \fi
3164 \fi
3165 \ifx\Hy@driver\@empty
3166 \else
3167 \def\Hy@temp{hvtexhtm}%
3168 \ifvtexhtml
3169 \ifx\Hy@driver\Hy@temp
3170 \else
3171 \Hy@WarningNoLine{%
3172 Wrong driver '\Hy@driver.def';\MessageBreak
3173 VTeX is running in HTML mode.\MessageBreak
3174 Forcing driver '\Hy@temp.def'%
3175 }%
3176 \let\Hy@driver\Hy@temp
3177 \fi
3178 \else

```

```

3179     \ifx\Hy@driver\Hy@temp
3180     \Hy@WarningNoLine{%
3181         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3182         VTeX is not running in HTML mode.\MessageBreak
3183         Using default driver%
3184     }%
3185     \let\Hy@driver\@empty
3186 \fi
3187 \fi
3188 \fi

```

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

```

3189 \ifx\Hy@driver\@empty
3190 \providecommand*{\Hy@defaultdriver}{hypertex}%
3191 \ifpdf
3192 \def\Hy@driver{hpdfTeX}%
3193 \else
3194 \ifxetex
3195 \def\Hy@driver{hdvipdfm}%
3196 \else
3197 \ifvtexhtml
3198 \def\Hy@driver{hvtexhtm}%
3199 \def\MaybeStopEarly{%
3200 \typeout{Hyperref stopped early}%
3201 \AfterBeginDocument{%
3202 \PDF@FinishDoc
3203 \gdef\PDF@FinishDoc{}%
3204 }%
3205 \endinput
3206 }%
3207 \else
3208 \ifvtexpdf
3209 \def\Hy@driver{hvtex}%
3210 \else
3211 \ifvtexps
3212 \def\Hy@driver{hvtex}%
3213 \else
3214 \let\Hy@driver\Hy@defaultdriver
3215 \fi
3216 \fi
3217 \fi
3218 \fi
3219 \fi
3220 \ifx\Hy@driver\Hy@defaultdriver
3221 \def\Hy@temp{hdwind}%
3222 \ifx\Hy@temp\Hy@driver
3223 \setkeys{Hyp}{colorlinks}%
3224 \PassOptionsToPackage{dviwindo}{color}%
3225 \fi
3226 \fi
3227 \typeout{*hyperref using default driver \Hy@driver*}%
3228 \else
3229 \typeout{*hyperref using driver \Hy@driver*}%
3230 \fi
3231 \input{\Hy@driver.def}%
3232 \let\@unprocessedoptions\relax
3233 \Hy@RestoreCatcodes
3234 }

```

```

3235 \newif\ifHy@DvipdfmxOutlineOpen
3236 \begingroup\expandafter\expandafter\endgroup
3237 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3238 \else
3239   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3240     \Hy@DvipdfmxOutlineOpen>true
3241   \fi
3242 \fi
3243 \Hy@DisableOption{tex4ht}
3244 \Hy@DisableOption{pdftex}
3245 \Hy@DisableOption{nativepdf}
3246 \Hy@DisableOption{dvipdfm}
3247 \Hy@DisableOption{dvipdfmx}
3248 \Hy@DisableOption{dvipdfmx-outline-open}
3249 \Hy@DisableOption{pdfmark}
3250 \Hy@DisableOption{dvips}
3251 \Hy@DisableOption{hypertex}
3252 \Hy@DisableOption{vtex}
3253 \Hy@DisableOption{vtexpdfmark}
3254 \Hy@DisableOption{dviwindo}
3255 \Hy@DisableOption{dvipsone}
3256 \Hy@DisableOption{textures}
3257 \Hy@DisableOption{latex2html}
3258 \Hy@DisableOption{ps2pdf}
3259 \Hy@DisableOption{xetex}
3260 \AtEndOfPackage{%
3261   \Hy@DisableOption{pdfversion}%
3262 }

```

15.3.2 Bookmarks

```

3263 \def\WriteBookmarks{0}
3264 \def\@bookmarkopenstatus#1{%
3265   \ifHy@bookmarksopen

```

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

```

3266     \ifnum#1<\expandafter\@firstofone\expandafter
3267       {\number\@bookmarkopenlevel} % explicit space
3268   \else
3269     -%
3270   \fi
3271 \else
3272   -%
3273 \fi
3274 }
3275 \ifHy@bookmarks
3276   \Hy@Info{Bookmarks ON}%
3277   \ifx\@pdfpagemode\@empty
3278     \def\@pdfpagemode{UseOutlines}%
3279   \fi
3280 \else
3281   \def\@bookmarkopenstatus#1{%
3282     \Hy@Info{Bookmarks OFF}%
3283     \AtEndOfPackage{%
3284       \global\let\ReadBookmarks\relax
3285       \global\let\WriteBookmarks\relax
3286     }%
3287     \ifx\@pdfpagemode\@empty

```

```

3288 \def\@pdfpagemode{UseNone}%
3289 \fi
3290 \fi
3291 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
3292 \def\Hy@CatcodeWrapper#1{%
3293 \def\Hy@EndWrap{}%
3294 \def\TMP@EnsureCode##1##2{%
3295 \edef\Hy@EndWrap{%
3296 \Hy@EndWrap
3297 \catcode##1 \the\catcode##1\relax
3298 }%
3299 \catcode##1 ##2\relax
3300 }%
3301 \TMP@EnsureCode{10}{12}% ^^J
3302 \TMP@EnsureCode{33}{12}% !
3303 \TMP@EnsureCode{34}{12}% "
3304 \TMP@EnsureCode{36}{3}% $ (math)
3305 \TMP@EnsureCode{38}{4}% & (alignment)
3306 \TMP@EnsureCode{39}{12}% '
3307 \TMP@EnsureCode{40}{12}% (
3308 \TMP@EnsureCode{41}{12}% )
3309 \TMP@EnsureCode{42}{12}% *
3310 \TMP@EnsureCode{43}{12}% +
3311 \TMP@EnsureCode{44}{12}% ,
3312 \TMP@EnsureCode{45}{12}% -
3313 \TMP@EnsureCode{46}{12}% .
3314 \TMP@EnsureCode{47}{12}% /
3315 \TMP@EnsureCode{58}{12}% :
3316 \TMP@EnsureCode{59}{12}% ;
3317 \TMP@EnsureCode{60}{12}% <
3318 \TMP@EnsureCode{61}{12}% =
3319 \TMP@EnsureCode{62}{12}% >
3320 \TMP@EnsureCode{63}{12}% ?
3321 \TMP@EnsureCode{91}{12}% [
3322 \TMP@EnsureCode{93}{12}% ]
3323 \TMP@EnsureCode{94}{7}% ^ (superscript)
3324 \TMP@EnsureCode{95}{8}% _ (subscript)
3325 \TMP@EnsureCode{96}{12}% '
3326 \TMP@EnsureCode{124}{12}% |
3327 \TMP@EnsureCode{126}{13}% ~ (active)
3328 #1\relax
3329 \Hy@EndWrap
3330 }

\HyColor@UseColor expects a macro as argument. It contains the color specifica-
tion.
3331 \AtBeginDocument{%
3332 \ifHy@ocgcolorlinks
3333 \setkeys{Hyp}{colorlinks}%
3334 \ifHy@pdfa
3335 \Hy@Warning{%
3336 PDF/A: Optional Content Groups are prohibited,\MessageBreak
3337 using 'colorlinks' instead of 'ocgcolorlinks'%
3338 }%
3339 \Hy@ocgcolorlinksfalse
3340 \fi
3341 \fi

```

```

3342 \ifHy@ocgcolorlinks
3343 \else
3344   \Hy@DisableOption{ocgcolorlinks}%
3345 \fi
3346 \ifHy@colorlinks
3347   \def\@pdfborder{0 0 0}%
3348   \let\@pdfborderstyle\@empty
3349   \ifHy@typexml
3350   \else
3351     \Hy@CatcodeWrapper{%
3352       \RequirePackage{color}%
3353     }%
3354   \fi
3355   \def\Hy@colorlink#1{%
3356     \begingroup
3357     \HyColor@UseColor#1%
3358   }%
3359   \def\Hy@endcolorlink{\endgroup}%
3360   \Hy@Info{Link coloring ON}%
3361 \else
3362   \ifHy@frenchlinks
3363     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3364     \def\Hy@endcolorlink{\endgroup}%
3365     \Hy@Info{French linking ON}%
3366   \else
for grouping consistency:
3367     \def\Hy@colorlink#1{\begingroup}%
3368     \def\Hy@endcolorlink{\endgroup}%
3369     \Hy@Info{Link coloring OFF}%
3370   \fi
3371 \fi
3372 \Hy@DisableOption{colorlinks}%
3373 \Hy@DisableOption{frenchlinks}%
3374 \ifHy@texht
3375   \long\def\@firstoffive#1#2#3#4#5{#1}%
3376   \long\def\@secondoffive#1#2#3#4#5{#2}%
3377   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3378   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3379   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3380   \providecommand*\@safe@activetrue{}%
3381   \providecommand*\@safe@activesfalse{}%
3382   \def\T@ref#1{%
3383     \Hy@safe@activetrue
3384     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3385     \Hy@safe@activesfalse
3386   }%
3387   \def\T@pageref#1{%
3388     \Hy@safe@activetrue
3389     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3390     \Hy@safe@activesfalse
3391   }%
3392 \else
3393   \ifHy@typexml
3394   \else
3395     \Hy@CatcodeWrapper{%
3396       \RequirePackage{nameref}%
3397     }%

```

```

3398     \fi
3399 \fi
3400 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3401 \DeclareRobustCommand\pageref{%
3402     \@ifstar\@pagerefstar\T@pageref
3403 }%
3404 }
3405 \AfterBeginDocument{%
3406     \ifHy@texht
3407     \else
3408         \Hy@CatcodeWrapper{%
3409             \ReadBookmarks
3410         }%
3411     \fi
3412 }
3413 \ifHy@backref
3414     \RequirePackage{backref}%
3415 \else
3416     \let\Hy@backout\@gobble
3417 \fi
3418 \Hy@DisableOption{backref}
3419 \Hy@DisableOption{pagebackref}
3420 \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.

```

3421 \begingroup
3422     \endlinechar=-1 %
3423     \catcode'\^^A=14 %
3424     \catcode'\^^M\active
3425     \catcode'\%\active
3426     \catcode'\#\active
3427     \catcode'\_\active
3428     \catcode'\$\active
3429     \gdef\hyper@normalise{^^A
3430         \begingroup
3431         \catcode'\^^M\active
3432         \def^^M{ }^^A
3433         \catcode'\%\active
3434         \let%\@percentchar
3435         \let\%\@percentchar
3436         \catcode'\#\active
3437         \def#{\hyper@hash}^^A
3438         \def\#{\hyper@hash}^^A
3439         \@makeother\&^^A
3440         \edef\textunderscore{\string_}^^A
3441         \let\_ \textunderscore
3442         \catcode'\_\active
3443         \let\_ \textunderscore
3444         \let~\hyper@tilde

```



```

3445 \let\~\hyper@tilde
3446 \let\textasciitilde\hyper@tilde
3447 \let\\\@backslashchar
3448 \edef$\{string$\}^^A
3449 \Hy@safe@activetrue
3450 \hyper@n@rmalise
3451 }^^A
3452 \catcode'\# =6 ^^A
3453 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3454 \gdef\hyper@n@rmalise#1#2{^^A
3455 \def\Hy@tempa{#2}^^A
3456 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3457 \Hy@ReturnAfterElseFi{^^A
3458 \hyper@@normalise{#1}^^A
3459 }^^A
3460 \else
3461 \Hy@ReturnAfterFi{^^A
3462 \hyper@@normalise{#1}{#2}^^A
3463 }^^A
3464 \fi
3465 }^^A
3466 \gdef\hyper@@normalise#1#2{^^A
3467 \edef\Hy@tempa{^^A
3468 \endgroup
3469 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
3470 }^^A
3471 \Hy@tempa
3472 }^^A
3473 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
3474 #1^^A
3475 \ifx\limits#2\limits
3476 \else
3477 \Hy@ReturnAfterFi{^^A
3478 \Hy@RemovePercentCr #2\@nil
3479 }^^A
3480 \fi
3481 }^^A
3482 \endgroup
3483 \providecommand*\hyper@chars{%
3484 \let\#\hyper@hash
3485 \let%\@percentchar
3486 \Hy@safe@activetrue
3487 }

3488 \def\hyperlink#1#2{%
3489 \hyper@@link{#1}{#2}%
3490 }

3491 \DeclareRobustCommand*\href{%
3492 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3493 }
3494 \def\Hy@href#1{%
3495 \hyper@normalise\href@
3496 }
3497 \begingroup
3498 \catcode'\$ =6 %
3499 \catcode'\# =12 %
3500 \gdef\href@#1{\expandafter\href@split$1##\}%
3501 \gdef\href@split$1#$2#$3\{\%

```

```

3502     \hyper@@link{$1}{$2}%
3503   }%
3504 \endgroup

```

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

```

3505 \RequirePackage{url}
3506 \let\HyOrg@url\url
3507 \def\Hurl{\begingroup \Url}
3508 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3509 \def\nolinkurl@#1{\Hurl{#1}}
3510 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3511 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3512 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3513 \providecommand\hyper@image[2]{#2}

3514 \def\hypertarget#1#2{%
3515   \ifHy@nesting
3516     \hyper@@anchor{#1}{#2}%
3517   \else
3518     \hyper@@anchor{#1}{\relax}#2%
3519   \fi
3520 }

```

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

```

3521 \DeclareRobustCommand*\hyperref{%
3522   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3523 }
3524 \def\Hy@babelnormalise#1[#2]{%
3525   \begingroup
3526     \Hy@safe@activestrue
3527     \edef\Hy@tempa{%
3528       \endgroup
3529       \noexpand#1[#2]}%
3530   }%
3531   \Hy@tempa
3532 }
3533 \def\@hyperref{\hyper@normalise\@hyperref}
3534 \def\@hyperref#1#2#3{%
3535   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
3536   \expandafter\tryhyper@link\ref@one\{#1}%
3537 }
3538 \def\tryhyper@link#1\#2{%
3539   \hyper@@link{#2}{#1}%
3540 }

3541 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3542 \def\@hyperdef#1#2#3{%, category, name, text
3543   \ifHy@nesting
3544     \hyper@@anchor{#1.#2}{#3}%
3545   \else
3546     \hyper@@anchor{#1.#2}{\relax}#3%
3547   \fi
3548 }

```

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

```

3549 \def\label@hyperref[#1]{%
3550   \expandafter\label@hyperref\csname r@#1\endcsname{#1}%
3551 }%
3552 \def\label@@hyperref#1#2#3{%
3553   \ifx#1\relax
3554     \protect\G@refundefinedtrue
3555     \latex@warning{%
3556       Hyper reference ‘#2’ on page \thepage \space undefined%
3557     }%
3558     \hyper@@link{}{??}{#3}%
3559   \else
3560     \hyper@@link{\expandafter\@fifthoffive#1}%
3561     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3562   \fi
3563 }
3564 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3565                               % anchor text
3566   \@bsphack
3567   \if@filesw
3568     \protected@write\@auxout{%
3569       {\string\newlabel{#1}{#2}{#3}{#4}{#2.#3}}%
3570     \fi
3571   \@esphack
3572   \ifHy@nesting
3573     \hyper@@anchor{#2.#3}{#4}%
3574   \else
3575     \hyper@@anchor{#2.#3}{\relax}#4%
3576   \fi
3577 }

```

17 Underlying basic hypertext macros

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

```

3578 \def\hyper@@link{\let\Hy@reserved@a\relax
3579   \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3580 }
3581 \def\hyper@link@[#1]#2#3#4{%
3582   \begingroup
3583     \protected@edef\Hy@tempa{#2}%
3584     \Hy@safe@activestrue
3585     \edef\x{#3}%
3586     \ifx\Hy@tempa\@empty
3587       \toks0{\hyper@link{#1}}%
3588     \else
3589       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3590     \fi
3591     \toks2{%
3592       \Hy@safe@activesfalse
3593       #4%
3594     }%
3595     \edef\Hy@tempa{\the\toks2}%

```

```

3596 \edef\x{\endgroup
3597 \ifx\Hy@tempa\@empty
3598 \noexpand\Hy@Warning{Suppressing empty link}%
3599 \else
3600 \the\toks0 {\x}{\the\toks2}%%
3601 \fi
3602 }%
3603 \x
3604 }

```

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.

```

3605 \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.

```

3606 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3607 }

```

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

```

3608 \def\@pdftempwordfile{file}%
3609 \def\@pdftempwordrun{run}%
3610 \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:

```

3611 \ifx\#6\%
3612 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3613 \else
3614 \ifx\#4\%
3615 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3616 \else

```

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

```

3617 \def\@pdftempa{#4}%
3618 \ifx\@pdftempa\@pdftempwordfile
3619 \expandafter\@hyper@linkfile#7\{#3}{#2}%
3620 \else

```

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

```

3621 \ifx\@pdftempa\@pdftempwordrun
3622 \ifHy@pdfa
3623 \PackageError{hyperref}{%
3624 PDF/A: Launch action is prohibited%

```

```

3625         }\@ehc
3626         \beginngroup
3627         \leavevmode
3628         #2%
3629         \endgroup
3630     \else
3631         \expandafter\@hyper@launch#7\{\#3}\#2}%
3632     \fi
3633 \else

```

otherwise its a URL

```

3634         \hyper@linkurl{\#3}\#7\ifx\\#2\\\else\hyper@hash#2\fi}%
3635     \fi
3636 \fi
3637 \fi
3638 \fi
3639 }

```

By default, turn run: into file:

```

3640 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3641     \hyper@linkurl{\#2}\{%
3642         \Hy@linkfileprefix
3643         #1%
3644         \ifx\\#3\\%
3645         \else
3646             \hyper@hash
3647             #3%
3648         \fi
3649     }%
3650 }

```

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

```

3651 \def\@hyper@linkfile file:#1\\#2#3{%
3652     %file url,link string, name
3653     \filename@parse{\#1}%
3654     \ifx\filename@ext\relax
3655         \edef\filename@ext{\XR@ext}%
3656     \fi
3657     \def\use@file{\filename@area\filename@base.\filename@ext}%
3658     \ifx\filename@ext\XR@ext
3659         \hyper@linkfile{\#2}\{\use@file}\#3}%
3660     \else
3661         \ifx\@baseurl\@empty
3662             \hyper@linkurl{\#2}\{%
3663                 \Hy@linkfileprefix\use@file\ifx\\#3\\\else\hyper@hash#3\fi
3664             }%
3665         \else
3666             \hyper@linkurl{\#2}\{\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
3667         \fi
3668     \fi
3669 }

```

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.

```

3670 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3671 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3672   \ifx\#1\%
3673     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3674   \else
3675     \def\anchor@spot{#2#3}%
3676     \let\put@me@back\@empty
3677     \ifx\relax#2\relax
3678     \else
3679       \ifHy@nesting
3680       \else
3681         \ifcat a\noexpand#2\relax
3682         \else
3683           \ifcat 0\noexpand#2 \relax
3684           \else
3685             \typeout{Anchor start is not alphanumeric %
3686             on input line\the\inputlineno%
3687             }%
3688             \let\anchor@spot\@empty
3689             \def\put@me@back{#2#3}%
3690           \fi
3691         \fi
3692       \fi
3693     \fi
3694     \ifHy@activeanchor
3695     \anchor@spot
3696     \else
3697     \hyper@anchor{#1}%
3698     \fi
3699     \expandafter\put@me@back
3700   \fi
3701   \let\anchor@spot\@empty
3702 }

```

18 Compatibility with the *LT_εX2html* 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.

```

3703 \let\htmladding\hyperimage
3704 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3705 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3706 \def\htmlref#1#2{% anchor text, label
3707   \label@hyperref[{#2}]{#1}%
3708 }

```

This is really too much. The *LT_εX2html* 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.

```

3709 \def\@latextohtmlX{%
3710   \let\hhyperref\hyperref

```

```

3711 \def\hyperref##1##2##3##4{% anchor text for HTML
3712             % text to print before label in print
3713             % label
3714             % post-label text in print
3715     ##2\ref{##4}##3%
3716 }%
3717 }

```

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.

```

3718 \RequirePackage{bitset}

```

Each flag has an 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
3719 \def\HyField@NewFlag#1#2{%
3720   \lowercase{\HyField@NewOption{#2}}%
3721   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3722 }

```

```

\HyField@NewFlagOnly
3723 \def\HyField@NewFlagOnly#1#2{%
3724   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3725 }

```

```

\HyField@NewOption #1: option name
3726 \def\HyField@NewOption#1{%
3727   \expandafter\newif\csname ifFld@#1\endcsname
3728   \define@key{Field}{#1}[true]{%
3729     \lowercase{\Field@boolkey{##1}}{#1}%
3730   }%
3731 }

```

```

\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
3732 \def\HyField@NewBitsetFlag#1#2#3#4{%
3733   \begingroup
3734     \count@=#4\relax
3735     \advance\count@\m@ne

```

```

3736 \def\x##1{%
3737 \endgroup
3738 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3739 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3740 \expandafter\edef\csname HyField@#3@##1\endcsname{%
3741 (\number#4) #2%
3742 }%
3743 \else
3744 \expandafter\edef\csname HyField@#3@##1\endcsname{%
3745 \csname HyField@#3@##1\endcsname
3746 /#2%
3747 }%
3748 \fi
3749 }%
3750 \expandafter\x\expandafter{\the\count@}%
3751 }

```

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

```

3752 \def\HyField@UseFlag#1#2{%
3753 \lowercase{\HyField@@UseFlag{#2}}{#1}%
3754 }

```

\HyField@@UseFlag

```

3755 \def\HyField@@UseFlag#1#2{%
3756 \bitsetSetValue{HyField@#2}{%
3757 \csname HyField@#2@#1\endcsname
3758 }{%
3759 \csname ifFld@#1\endcsname 1\else 0\fi
3760 }%
3761 }

```

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

```

3762 \def\HyField@SetFlag#1#2{%
3763 \lowercase{\HyField@@SetFlag{#2}}{#1}%
3764 }

```

\HyField@@SetFlag

```

3765 \def\HyField@@SetFlag#1#2{%
3766 \bitsetSetValue{HyField@#2}{%
3767 \csname HyField@#2@#1\endcsname
3768 }{1}%
3769 }

```

\HyField@PrintFlags

```

3770 \def\HyField@PrintFlags#1#2{%
3771 \ifHy@verbose
3772 \begingroup
3773 \let\Hy@temp\@empty
3774 \let\MessageBreak\relax
3775 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3776 \bitsetGetSetBitList{HyField@#1}\do{%
3777 \edef\Hy@temp{%
3778 \Hy@temp
3779 \csname HyField@#1@\x\endcsname\MessageBreak
3780 }%
3781 }%

```



```

3782 \edef\x{\endgroup
3783 \noexpand\Hy@Info{%
3784 Field flags: %
3785 \expandafter\ifx\@car#1\@nil S\else/\fi
3786 #1 %
3787 \bitsetGetDec{HyField@#1} %
3788 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3789 \Hy@temp
3790 for #2%
3791 }%
3792 }\x
3793 \fi
3794 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3795 \HyField@NewFlag{Ff}{ReadOnly}{1}
3796 \HyField@NewFlag{Ff}{Required}{2}
3797 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3798 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3799 \HyField@NewFlag{Ff}{Radio}{16}
3800 \HyField@NewFlag{Ff}{Pushbutton}{17}
3801 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3802 \HyField@NewFlag{Ff}{Multiline}{13}
3803 \HyField@NewFlag{Ff}{Password}{14}
3804 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3805 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3806 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3807 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3808 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3809 \HyField@NewFlag{Ff}{Combo}{18}
3810 \HyField@NewFlag{Ff}{Edit}{19}
3811 \HyField@NewFlag{Ff}{Sort}{20}
3812 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3813 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3814 \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.

```

3815 \newif\ifFld@popdown
3816 \define@key{Field}{popdown}[true]{%
3817 \lowercase{\Field@boolkey{#1}}{popdown}%
3818 }

```

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.

```

3819 \HyField@NewFlag{F}{Invisible}{1}

```

```

3820 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3821 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3822 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3823 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3824 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3825 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3826 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3827 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
3828 \ifHy@pdfa
3829   \def\HyField@PDFAFflagWarning#1#2{%
3830     \Hy@Warning{%
3831       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3832       be set to ‘#2’%
3833     }%
3834   }%
3835   \Fld@invisiblefalse
3836   \def\Fld@invisibletrue{%
3837     \HyField@PDFAFflagWarning{invisible}{false}%
3838   }%
3839   \Fld@hiddenfalse
3840   \def\Fld@hiddentrue{%
3841     \HyField@PDFAFflagWarning{hidden}{false}%
3842   }%
3843   \Fld@printtrue
3844   \def\Fld@printfalse{%
3845     \HyField@PDFAFflagWarning{print}{true}%
3846   }%
3847   \Fld@nozoomtrue
3848   \def\Fld@nozoomfalse{%
3849     \HyField@PDFAFflagWarning{nozoom}{true}%
3850   }%
3851   \Fld@norotatetrue
3852   \def\Fld@norotatefalse{%
3853     \HyField@PDFAFflagWarning{norotate}{true}%
3854   }%
3855   \Fld@noviewfalse
3856   \def\Fld@noviewtrue{%
3857     \HyField@PDFAFflagWarning{noview}{false}%
3858   }%
3859 \fi

```

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

```

3860 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3861 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3862 \HyField@NewFlag{Submit}{GetMethod}{4}
3863 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3864 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3865 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3866 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3867 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3868 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3869 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3870 \HyField@NewFlag{Submit}{ExclFKey}{12}
3871 \HyField@NewFlag{Submit}{EmbedForm}{14}
3872 \define@key{Field}{export}{%
3873   \lowercase{\def\Hy@temp{#1}}%
3874   \@ifundefined{Fld@export@\Hy@temp}{%

```

```

3875 \@onelevel@sanitize\Hy@temp
3876 \PackageError{hyperref}{%
3877   Unknown export format '\Hy@temp'.\MessageBreak
3878   Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3879 }{\@ehc
3880 }{%
3881 \let\Fld@export\Hy@temp
3882 }%
3883 }
3884 \def\Fld@export{fdf}
3885 \@namedef{Fld@export@fdf}{0}%
3886 \@namedef{Fld@export@html}{1}%
3887 \@namedef{Fld@export@xfdf}{2}%
3888 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3889 \def\HyField@FlagsSubmit{%
3890 \bitsetReset{HyField@Submit}%
3891 \ifcase\@nameuse{Fld@export@Fld@export} %
3892 % FDF
3893 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3894 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3895 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3896 \HyField@UseFlag{Submit}{IncludeAnnotations}%
3897 \HyField@UseFlag{Submit}{CanonicalFormat}%
3898 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3899 \HyField@UseFlag{Submit}{ExclFKey}%
3900 \HyField@UseFlag{Submit}{EmbedForm}%
3901 \or % HTML
3902 \HyField@SetFlag{Submit}{ExportFormat}%
3903 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3904 \HyField@UseFlag{Submit}{GetMethod}%
3905 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3906 \HyField@UseFlag{Submit}{CanonicalFormat}%
3907 \or % XFDF
3908 \HyField@SetFlag{Submit}{XFDF}%
3909 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3910 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3911 \HyField@UseFlag{Submit}{CanonicalFormat}%
3912 \or % PDF
3913 \HyField@SetFlag{Submit}{SubmitPDF}%
3914 \HyField@UseFlag{Submit}{GetMethod}%
3915 \fi
3916 \HyField@PrintFlags{Submit}{submit button field}%
3917 \bitsetIsEmpty{HyField@Submit}{%
3918 \def\Fld@submitflags{%
3919 }{%
3920 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3921 }%
3922 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

3923 \def\HyField@FlagsAnnot#1{%
3924   \bitsetReset{HyField@F}%
3925   \HyField@UseFlag{F}{Invisible}%
3926   \HyField@UseFlag{F}{Hidden}%
3927   \HyField@UseFlag{F}{Print}%
3928   \HyField@UseFlag{F}{NoZoom}%
3929   \HyField@UseFlag{F}{NoRotate}%
3930   \HyField@UseFlag{F}{NoView}%
3931   \HyField@UseFlag{F}{Locked}%
3932   \HyField@UseFlag{F}{ToggleNoView}%
3933   \HyField@UseFlag{F}{LockedContents}%
3934   \HyField@PrintFlags{F}{#1}%
3935   \bitsetIsEmpty{HyField@F}{%
3936     \def\Fld@annotflags{%
3937     }{%
3938       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3939     }%
3940 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

3941 \def\HyField@FlagsPushButton{%
3942   \HyField@FlagsAnnot{push button field}%
3943   \bitsetReset{HyField@Ff}%
3944   \HyField@UseFlag{Ff}{ReadOnly}%
3945   \HyField@UseFlag{Ff}{Required}%
3946   \HyField@UseFlag{Ff}{NoExport}%
3947   \HyField@SetFlag{Ff}{PushButton}%
3948   \HyField@PrintFlags{Ff}{push button field}%
3949   \bitsetIsEmpty{HyField@Ff}{%
3950     \def\Fld@flags{%
3951     }{%
3952       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3953     }%
3954 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

3955 \def\HyField@FlagsCheckBox{%
3956   \HyField@FlagsAnnot{check box field}%
3957   \bitsetReset{HyField@Ff}%
3958   \HyField@UseFlag{Ff}{ReadOnly}%
3959   \HyField@UseFlag{Ff}{Required}%
3960   \HyField@UseFlag{Ff}{NoExport}%
3961   \HyField@PrintFlags{Ff}{check box field}%
3962   \bitsetIsEmpty{HyField@Ff}{%
3963     \def\Fld@flags{%
3964     }{%
3965       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3966     }%
3967 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
3968 \def\HyField@FlagsRadioButton{%
3969   \HyField@FlagsAnnot{radio button field}%
3970   \bitsetReset{HyField@Ff}%
3971   \HyField@UseFlag{Ff}{ReadOnly}%
3972   \HyField@UseFlag{Ff}{Required}%
3973   \HyField@UseFlag{Ff}{NoExport}%
3974   \HyField@UseFlag{Ff}{NoToggleToOff}%
3975   \HyField@SetFlag{Ff}{Radio}%
3976   \HyField@UseFlag{Ff}{RadiosInUnison}%
3977   \HyField@PrintFlags{Ff}{radio button field}%
3978   \bitsetIsEmpty{HyField@Ff}{%
3979     \def\Fld@flags{%
3980     }{%
3981       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3982     }%
3983 }
```

19.1.7 Text fields

\HyField@FlagsText

```
3984 \def\HyField@FlagsText{%
3985   \HyField@FlagsAnnot{text field}%
3986   \bitsetReset{HyField@Ff}%
3987   \HyField@UseFlag{Ff}{ReadOnly}%
3988   \HyField@UseFlag{Ff}{Required}%
3989   \HyField@UseFlag{Ff}{NoExport}%
3990   \HyField@UseFlag{Ff}{Multiline}%
3991   \HyField@UseFlag{Ff}{Password}%
3992   \HyField@UseFlag{Ff}{FileSelect}%
3993   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3994   \HyField@UseFlag{Ff}{DoNotScroll}%
3995   \ifFld@comb
3996     \ifcase0\ifFld@multiline
3997       \else\ifFld@password
3998       \else\ifFld@fileselect
3999       \else 1\fi\fi\fi\relax
4000     \PackageError{hyperref}{%
4001       Field option ‘comb’ cannot be used together with\MessageBreak
4002       ‘multiline’, ‘password’, or ‘fileselect’%
4003     }\@ehc
4004   \else
4005     \HyField@UseFlag{Ff}{Comb}%
4006   \fi
4007 \fi
4008 \HyField@UseFlag{Ff}{RichText}%
4009 \HyField@PrintFlags{Ff}{text field}%
4010 \bitsetIsEmpty{HyField@Ff}{%
4011   \def\Fld@flags{%
4012   }{%
4013     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4014   }%
4015 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```

4016 \def\HyField@FlagsChoice{%
4017   \HyField@FlagsAnnot{choice field}%
4018   \bitsetReset{HyField@Ff}%
4019   \HyField@UseFlag{Ff}{ReadOnly}%
4020   \HyField@UseFlag{Ff}{Required}%
4021   \HyField@UseFlag{Ff}{NoExport}%
4022   \HyField@UseFlag{Ff}{Combo}%
4023   \ifFld@combo
4024     \HyField@UseFlag{Ff}{Edit}%
4025   \fi
4026   \HyField@UseFlag{Ff}{Sort}%
4027   \HyField@UseFlag{Ff}{MultiSelect}%
4028   \ifFld@combo
4029     \ifFld@edit
4030       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4031     \fi
4032   \fi
4033   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4034   \HyField@PrintFlags{Ff}{choice field}%
4035   \bitsetIsEmpty{HyField@Ff}{%
4036     \def\Fld@flags{%
4037     }{%
4038     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4039     }%
4040 }
```

19.2 Choice field

4041 \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.

```

4042 \def\HyField@PDFChoices#1{%
4043   \begingroup
4044     \gdef\Fld@choices{%
4045     \def\HyTmp@optlist{%
4046       \let\HyTmp@optitem\relax
4047       \count@=0 %
4048       \kv@parse{#1}{%
4049         \Hy@pdfstringdef\kv@key\kv@key
4050         \ifx\kv@value\relax
4051           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4052             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4053           \else
4054             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4055           \fi
4056         \else
4057           \Hy@pdfstringdef\kv@value\kv@value
4058           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4059         \fi
4060       \edef\HyTmp@optlist{%
4061         \HyTmp@optlist
4062         \HyTmp@optitem{\the\count@}{\kv@key}0%
```

```

4063     }%
4064     \advance\count@ by 1 %
4065     \@gobbletwo
4066   }%
4067   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4068   \ifFld@multiselect
4069     \HyField@@PDFChoices{DV}\Fld@default
4070     \HyField@@PDFChoices{V}\Fld@value
4071   \else
4072     \ifx\Fld@default\relax
4073     \else
4074       \pdfstringdef\Hy@gtmp\Fld@default
4075       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtmp)}%
4076     \fi
4077     \ifx\Fld@value\relax
4078     \else
4079       \pdfstringdef\Hy@gtmp\Fld@value
4080       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtmp)}%
4081     \fi
4082   \fi
4083 \endgroup
4084 }

```

\HyField@@PDFChoices

```

4085 \def\HyField@@PDFChoices#1#2{%
4086   \ifx#2\relax
4087   \else
4088     \count@=0 %
4089     \def\HyTmp@optitem##1##2##3{%
4090       \def\HyTmp@key{##2}%
4091       \ifx\HyTmp@key\Hy@gtmp
4092         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4093           \HyTmp@optlist
4094           \HyTmp@optitem{##1}{##2}1%
4095         }%
4096         \let\HyTmp@found=Y%
4097       \else
4098         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4099           \HyTmp@optlist
4100           \HyTmp@optitem{##1}{##2}##3%
4101         }%
4102       \fi
4103     }%
4104     \expandafter\comma@parse\expandafter{#2}{%
4105       \pdfstringdef\Hy@gtmp\comma@entry
4106       \let\HyTmp@found=N %
4107       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4108       \HyTmp@optlist
4109       \ifx\HyTmp@found Y%
4110         \advance\count@ by 1 %
4111       \else
4112         \@onelevel@sanitize\comma@entry
4113         \PackageWarning{hyperref}{%
4114           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4115           \MessageBreak
4116           it cannot be found in the choices%
4117         }%

```

```

4118     \fi
4119     \@gobble
4120 }%
4121 \def\HyTmp@optitem##1##2##3{%
4122     \ifnum##3=1 %
4123         (##2)%
4124     \fi
4125 }%
4126 \ifcase\count@
4127 \or
4128     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4129 \else
4130     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]]}%
4131     \ifx#1V%
4132         \def\HyTmp@optitem##1##2##3{%
4133             \ifnum##3=1 %
4134                 \@firstofone{ ##1}%
4135             \fi
4136         }%
4137         \edef\HyTmp@optlist{\HyTmp@optlist}%
4138     \xdef\Fld@choices{%
4139         \Fld@choices
4140         /I[\expandafter\@firstofone\HyTmp@optlist]]%
4141     }%
4142     \fi
4143 \fi
4144 \fi
4145 }

```

19.3 Forms

\HyField@SetKeys

```

4146 \def\HyField@SetKeys{%
4147     \setkeys{Field}%
4148 }

4149 \newif\ifFld@checked
4150 \newif\ifFld@disabled
4151 \Fld@checkedfalse
4152 \Fld@disabledfalse
4153 \newcount\Fld@menulength
4154 \newdimen\Fld@Width
4155 \newdimen\Fld@charsize
4156 \Fld@charsize=10\p@
4157 \def\Fld@maxlen{0}
4158 \def\Fld@align{0}
4159 \def\Fld@color{0 0 0 rg}
4160 \def\Fld@bcolor{1 1 1}
4161 \def\Fld@bordercolor{1 0 0}
4162 \def\Fld@bordersep{1\p@}
4163 \def\Fld@borderwidth{1}
4164 \def\Fld@borderstyle{S}
4165 \def\Fld@cbsymbol{4}
4166 \def\Fld@rotation{0}
4167 \def\Form{\@ifnextchar [{\@Form}{\@Form[]}}
4168 \def\endForm{\@endForm}
4169 \newif\ifForm@html

```



```

4170 \Form@htmlfalse
4171 \def\Form@boolkey#1#2{%
4172   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4173 }
4174 \define@key{Form}{action}{%
4175   \hyper@normalise\Hy@DefFormAction{#1}%
4176 }
4177 \def\Hy@DefFormAction{\def\Form@action}
4178 \def\enc@html{html}
4179 \define@key{Form}{encoding}{%
4180   \def\Hy@tempa{#1}%
4181   \ifx\Hy@tempa\enc@html
4182     \Form@htmltrue
4183     \def\Fld@export{html}%
4184   \else
4185     \typeout{hyperref: form 'encoding' key set to #1 %
4186       -- unknown type%
4187     }%
4188     \Form@htmlfalse
4189   \fi
4190 }
4191 \define@key{Form}{method}{%
4192   \lowercase{\def\Hy@temp{#1}}%
4193   \@ifundefined{Form@method@\Hy@temp}{%
4194     \@onelevel@sanitize\Hy@temp
4195     \PackageError{hyperref}{%
4196       Unknown method '\Hy@temp'.\MessageBreak
4197       Known values are 'post' and 'get'%
4198     }\@ehc
4199   }{%
4200     \let\Form@method\Hy@temp
4201     \ifcase\@nameuse{Form@method@\Hy@temp} %
4202       \Fld@getmethodfalse
4203     \else
4204       \Fld@getmethodtrue
4205     \fi
4206   }%
4207 }
4208 \def\Form@method{}
4209 \@namedef{Form@method@post}{0}
4210 \@namedef{Form@method@get}{1}
4211 \def\Field@boolkey#1#2{%
4212   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4213 }
4214 \newtoks\Field@toks
4215 \Field@toks={ }%
4216 \def\Field@addtoks#1#2{%
4217   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4218   \@processme
4219 }
4220 \def\Fld@checkequals#1=#2=#3\{\{%
4221   \def\@currDisplay{#1}%
4222   \ifx\@#2\%
4223     \def\@currValue{#1}%
4224   \else
4225     \def\@currValue{#2}%
4226   \fi

```

```

4227 }
4228 \define@key{Field}{loc}{%
4229   \def\Fld@loc{#1}%
4230 }
4231 \define@key{Field}{checked}[true]{%
4232   \lowercase{\Field@boolkey{#1}}{checked}%
4233 }
4234 \define@key{Field}{disabled}[true]{%
4235   \lowercase{\Field@boolkey{#1}}{disabled}%
4236 }
4237 \define@key{Field}{accesskey}{%
4238   \Field@addtoks{accesskey}{#1}%
4239 }
4240 \define@key{Field}{tabkey}{%
4241   \Field@addtoks{tabkey}{#1}%
4242 }
4243 \define@key{Field}{name}{%
4244   \def\Fld@name{#1}%
4245 }
4246 \define@key{Field}{width}{%
4247   \def\Fld@width{#1}%
4248   \Field@Width#1\setbox0=\hbox{m}%
4249 }
4250 \define@key{Field}{maxlen}{%
4251   \def\Fld@maxlen{#1}%
4252 }
4253 \define@key{Field}{menulength}{%
4254   \Fld@menulength=#1\relax
4255 }
4256 \define@key{Field}{height}{%
4257   \def\Fld@height{#1}%
4258 }
4259 \define@key{Field}{charsize}{%
4260   \Fld@charsize#1%
4261 }
4262 \define@key{Field}{borderwidth}{%
4263   \def\Fld@borderwidth{#1}%
4264 }
4265 \define@key{Field}{borderstyle}{%
4266   \def\Fld@borderstyle{#1}%
4267 }
4268 \define@key{Field}{bordersep}{%
4269   \def\Fld@bordersep{#1}%
4270 }
4271 \define@key{Field}{default}{%
4272   \def\Fld@default{#1}%
4273 }
4274 \define@key{Field}{align}{%
4275   \def\Fld@align{#1}%
4276 }
4277 \define@key{Field}{value}{%
4278   \def\Fld@value{#1}%
4279 }
4280 \define@key{Field}{checkboxsymbol}{%
4281   \def\Fld@cbsymbol{#1}%
4282 }
4283 \define@key{Field}{rotation}{%

```

```

4284 \def\Fld@rotation{#1}%
4285 }

4286 \define@key{Field}{backgroundcolor}{%
4287   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4288 }
4289 \define@key{Field}{bordercolor}{%
4290   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4291 }
4292 \define@key{Field}{color}{%
4293   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4294 }

4295 \def\Fld@format@code{}
4296 \def\Fld@validate@code{}
4297 \def\Fld@calculate@code{}
4298 \def\Fld@keystroke@code{}
4299 \def\Fld@onfocus@code{}
4300 \def\Fld@onblur@code{}
4301 \def\Fld@onmousedown@code{}
4302 \def\Fld@onmouseup@code{}
4303 \def\Fld@onenter@code{}
4304 \def\Fld@onexit@code{}
4305 \def\Hy@temp#1{%
4306   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4307 }
4308 \def\Hy@@temp#1#2{%
4309   \ifHy@pdfa
4310     \define@key{Field}{#2}{%
4311       \PackageError{hyperref}{%
4312         PDF/A: Additional action ‘#2’ is prohibited%
4313       }\@ehc
4314     }%
4315   \else
4316     \define@key{Field}{#2}{%
4317       \def#1{##1}%
4318     }%
4319   \fi
4320 }

4321 \Hy@temp{keystroke}
4322 \Hy@temp{format}
4323 \Hy@temp{validate}
4324 \Hy@temp{calculate}
4325 \Hy@temp{onfocus}
4326 \Hy@temp{onblur}
4327 \Hy@temp{onenter}
4328 \Hy@temp{onexit}
4329 \def\Hy@temp#1{%
4330   \define@key{Field}{#1}{%
4331     \Field@addtoks{#1}{##1}%
4332   }%
4333 }

4334 \Hy@temp{onselect}
4335 \Hy@temp{onchange}
4336 \Hy@temp{ondblclick}
4337 \Hy@temp{onmousedown}
4338 \Hy@temp{onmouseup}
4339 \Hy@temp{onmouseover}
4340 \Hy@temp{onmousemove}

```

```

4341 \Hy@temp{onmouseout}
4342 \Hy@temp{onkeypress}
4343 \Hy@temp{onkeydown}
4344 \Hy@temp{onkeyup}
4345 \ifHy@pdfa
4346   \define@key{Field}{onclick}{%
4347     \PackageError{hyperref}{%
4348       PDF/A: Action 'onclick' is prohibited%
4349     }\@ehc
4350   }%
4351 \else
4352   \define@key{Field}{onclick}{%
4353     \def\Fld@onclick{#1}%
4354     \Field@addtoks{onclick}{#1}%
4355   }%
4356 \fi

4357 \DeclareRobustCommand\TextField{%
4358   \@ifnextchar[{\@TextField}{\@TextField[]}%
4359 }
4360 \DeclareRobustCommand\ChoiceMenu{%
4361   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4362 }
4363 \DeclareRobustCommand\CheckBox{%
4364   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4365 }
4366 \DeclareRobustCommand\PushButton{%
4367   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4368 }
4369 \DeclareRobustCommand\Gauge{%
4370   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4371 }
4372 \DeclareRobustCommand\Submit{%
4373   \@ifnextchar[{\@Submit}{\@Submit[]}%
4374 }
4375 \DeclareRobustCommand\Reset{%
4376   \@ifnextchar[{\@Reset}{\@Reset[]}%
4377 }
4378 \def\LayoutTextField#1#2{% label, field
4379   #1 #2%
4380 }
4381 \def\LayoutChoiceField#1#2{% label, field
4382   #1 #2%
4383 }
4384 \def\LayoutCheckField#1#2{% label, field
4385   #1 #2%
4386 }
4387 \def\LayoutPushButtonField#1{% button
4388   #1%
4389 }
4390 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4391 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4392 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4393 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4394 \def\MakeButtonField#1{%
4395   \sbox0{%
4396     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4397   }%

```

```

4398 \@tempdima\ht0 %
4399 \advance\@tempdima by \Fld@borderwidth bp %
4400 \advance\@tempdima by \Fld@borderwidth bp %
4401 \ht0\@tempdima
4402 \@tempdima\dp0 %
4403 \advance\@tempdima by \Fld@borderwidth bp %
4404 \advance\@tempdima by \Fld@borderwidth bp %
4405 \dp0\@tempdima
4406 \box0\relax
4407 }
4408 \def\DefaultHeightofSubmit{14pt}
4409 \def\DefaultWidthofSubmit{2cm}
4410 \def\DefaultHeightofReset{14pt}
4411 \def\DefaultWidthofReset{2cm}
4412 \def\DefaultHeightofCheckBox{\baselineskip}
4413 \def\DefaultWidthofCheckBox{\baselineskip}
4414 \def\DefaultHeightofChoiceMenu{\baselineskip}
4415 \def\DefaultWidthofChoiceMenu{\baselineskip}
4416 \def\DefaultHeightofText{\baselineskip}
4417 \def\DefaultHeightofTextMultiline{4\baselineskip}
4418 \def\DefaultWidthofText{3cm}
4419 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4420 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4421 \def\DefaultOptionsofPushButton{print}
4422 \def\DefaultOptionsofCheckBox{print}
4423 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4424 \def\DefaultOptionsofListBox{print}
4425 \def\DefaultOptionsofComboBox{print,edit,sort}
4426 \def\DefaultOptionsofPopdownBox{print}
4427 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4428 \ifHy@figures
4429 \Hy@Info{Hyper figures ON}%
4430 \else
4431 \Hy@Info{Hyper figures OFF}%
4432 \fi
4433 \ifHy@nesting
4434 \Hy@Info{Link nesting ON}%
4435 \else
4436 \Hy@Info{Link nesting OFF}%
4437 \fi
4438 \ifHy@hyperindex
4439 \Hy@Info{Hyper index ON}%
4440 \else
4441 \Hy@Info{Hyper index OFF}%
4442 \fi
4443 \ifHy@backref
4444 \Hy@Info{backreferencing ON}%
4445 \else
4446 \Hy@Info{backreferencing OFF}%
4447 \fi
4448 \ifHy@colorlinks
4449 \Hy@Info{Link coloring ON}%

```

```

4450 \else
4451   \Hy@Info{Link coloring OFF}%
4452 \fi
4453 \ifHy@ocgcolorlinks
4454   \Hy@Info{Link coloring with OCG ON}%
4455 \else
4456   \Hy@Info{Link coloring with OCG OFF}%
4457 \fi
4458 \ifHy@pdfa
4459   \Hy@Info{PDF/A mode ON}%
4460 \else
4461   \Hy@Info{PDF/A mode OFF}%
4462 \fi

```

21 Low-level utility macros

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

```

4463 \edef\hyper@hash{\string#}
4464 \edef\hyper@tilde{\string~}
4465 \edef\hyper@quote{\string"}
4466 \let\@currentHref\@empty
4467 \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.

```

4468 \AfterBeginDocument{%
4469   \Hy@pdfstringtrue
4470   \PDF@SetupDoc
4471   \let\PDF@SetupDoc\@empty
4472   \Hy@DisableOption{pdfpagescrop}%
4473   \Hy@DisableOption{pdfpagemode}%
4474   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4475   \Hy@DisableOption{pdfdirection}%
4476   \Hy@DisableOption{pdfviewarea}%
4477   \Hy@DisableOption{pdfviewclip}%
4478   \Hy@DisableOption{pdfprintarea}%
4479   \Hy@DisableOption{pdfprintclip}%
4480   \Hy@DisableOption{pdfprintscaling}%
4481   \Hy@DisableOption{pdfduplex}%
4482   \Hy@DisableOption{pdfpicktraybypdfsize}%
4483   \Hy@DisableOption{pdfprintpagerange}%
4484   \Hy@DisableOption{pdfnumcopies}%
4485   \Hy@DisableOption{pdfstartview}%
4486   \Hy@DisableOption{pdfstartpage}%
4487   \Hy@DisableOption{pdftoolbar}%
4488   \Hy@DisableOption{pdfmenubar}%
4489   \Hy@DisableOption{pdfwindowui}%
4490   \Hy@DisableOption{pdfwindow}%
4491   \Hy@DisableOption{pdfcenterwindow}%
4492   \Hy@DisableOption{pdfdisplaydoctitle}%
4493   \Hy@DisableOption{pdfpagelayout}%
4494   \Hy@DisableOption{pdflang}%
4495   \Hy@DisableOption{baseurl}%
4496   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4497   \Hy@pdfstringfalse
4498 }

```

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 hyperref functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```
4499 \def\NoHyper{%
4500   \def\hyper@link@{##1}##2##3##4{##4}%
4501   \def\hyper@@anchor##1{%
4502     \global\let\hyper@livelink\hyper@link
4503     \gdef\hyper@link##1##2##3{##3}%
4504     \def\hyper@anchorstart##1{%
4505       \let\hyper@anchorend\@empty
4506       \def\hyper@linkstart##1##2{%
4507         \let\hyper@linkend\@empty
4508         \def\hyper@linkurl##1##2{##1}%
4509         \def\hyper@linkfile##1##2##3{##1}%
4510         \def\hyper@link@{##1}##2##3{%
4511           \let\Hy@backout\@gobble
4512         }
4513       \def\stop@hyper{%
4514         \def\hyper@link@{##1}##2##3##4{##4}%
4515         \let\Hy@backout\@gobble
4516         \def\hyper@@anchor##1{%
4517           \def\hyper@link##1##2##3{##3}%
4518           \def\hyper@anchorstart##1{%
4519             \let\hyper@anchorend\@empty
4520             \def\hyper@linkstart##1##2{%
4521               \let\hyper@linkend\@empty
4522               \def\hyper@linkurl##1##2{##1}%
4523               \def\hyper@linkfile##1##2##3{##1}%
4524               \def\hyper@link@{##1}##2##3{%
4525                 }
4526             \def\endNoHyper{%
4527               \global\let\hyper@link\hyper@livelink
4528             }
4529           }
4530         }
4531       }
4532     }
4533     \let\hyper@anchorstart\@gobble
4534     \let\hyper@anchorend\@empty
4535     \let\hyper@linkstart\@gobbletwo
4536     \let\hyper@linkend\@empty
4537     \def\hyper@linkurl#1#2{#1}%
4538     \def\hyper@linkfile#1#2#3{#1}%
4539   }
```

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:

```
4530 \*nohyperref
4531 \let\hyper@@anchor\@gobble
4532 \def\hyper@link#1#2#3{#3}%
4533 \let\hyper@anchorstart\@gobble
4534 \let\hyper@anchorend\@empty
4535 \let\hyper@linkstart\@gobbletwo
4536 \let\hyper@linkend\@empty
4537 \def\hyper@linkurl#1#2{#1}%
4538 \def\hyper@linkfile#1#2#3{#1}%
4539 }
```

```

4539 \def\hyper@link@[#1]#2#3{%
4540 \let\PDF@SetupDoc\@empty
4541 \let\PDF@FinishDoc\@empty
4542 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4543 \def\Acrobatmenu#1#2{\leavevmode#2}
4544 \let\pdfstringdefDisableCommands\@gobbletwo
4545 \let\texorpdfstring\@firstoftwo
4546 \let\pdfbookmark\@undefined
4547 \newcommand\pdfbookmark[3][]{\@{}}
4548 \let\phantomsection\@empty
4549 \let\hypersetup\@gobble
4550 \let\hyperbaseurl\@gobble
4551 \let\href\@gobble
4552 \let\hyperdef\@gobbletwo
4553 \let\hyperlink\@gobble
4554 \let\hypertarget\@gobble
4555 \def\hyperref{%
4556   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4557 }
4558 \long\def\@gobbleopt[#1]{\@{}}
4559 \let\hyperpage\@empty
4560 \</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}`

```

4561 \<{*package}
4562 \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.

```

4563 \if@filesw
4564   \ifHy@typexml
4565     \immediate\closeout\@mainaux
4566     \immediate\openout\@mainaux\jobname.aux\relax
4567     \immediate\write\@auxout{<relaxxml>\relax}%
4568   \fi
4569   \immediate\write\@auxout{%
4570     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4571     \global\let\string\oldcontentsline\string\contentsline^^J%
4572     \gdef\string\contentsline%
4573       \string#1\string#2\string#3\string#4{%
4574       \string\oldcontentsline%
4575       {\string#1}{\string#2}{\string#3}}^^J%
4576     \global\let\string\oldnewlabel\string\newlabel^^J%
4577     \gdef\string\newlabel\string#1\string#2{%
4578     \string\newlabelxx{\string#1}\string#2}^^J%
4579     \gdef\string\newlabelxx%
4580     \string#1\string#2\string#3\string#4\string#5\string#6{%
4581     \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.

```
4582      \string\AtEndDocument{%
4583      \let\string\contentsline\string\oldcontentsline^^J%
4584      \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.

```
4585      \string\else^^J%
4586      \global\let\string\hyper@last\relax^^J%
4587      \string\fi^^J%
4588  }%
4589  \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.

```
4590  \ifx\hyper@last\@undefined
4591    \def\@starttoc#1{%
4592      \begingroup
4593      \makeatletter
4594      \IfFileExists{\jobname.#1}{%
4595        \Hy@WarningNoLine{%
4596          old #1 file detected, not used; run LaTeX again%
4597        }%
4598      }{%}%
4599      \if@filesw
4600        \expandafter\newwrite\csname tf@#1\endcsname
4601        \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4602      \fi
4603      \@nobreakfalse
4604    \endgroup
4605  }%
4606  \def\newlabel#1#2{\@newl@bel r{#1}{#2}{ }{}{}}}%
4607  \fi
4608 }
```

25 Title strings

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

```
4609 \ifHy@usetitle
4610   \let\HyOrg@title\title
4611   \let\HyOrg@author\author
4612   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4613   \def\Hy@scanopttitle[#1]{%
4614     \gdef\Hy@title{#1}%
4615     \HyOrg@title[#1]%
4616   }%
4617   \def\Hy@scantitle#1{%
4618     \gdef\Hy@title{#1}%
4619     \HyOrg@title{#1}%
4620   }%
4621   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
```

```

4622 \def\Hy@scanoptauthor[#1]{%
4623   \gdef\Hy@author{#1}%
4624   \HyOrg@author[{#1}]%
4625 }%
4626 \def\Hy@scanauthor#1{%
4627   \gdef\Hy@author{#1}%
4628   \HyOrg@author{#1}%
4629 }%

```

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.

```

4630 \begingroup
4631   \def\process@me#1\@nil#2{%
4632     \expandafter\let\expandafter\x\csname @#2\endcsname
4633     \edef\y{\expandafter\strip@prefix\meaning\x}%
4634     \def\c##1##2\@nil{%
4635       \ifx\\##1\\%
4636       \else
4637         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4638           \expandafter{\x}%
4639       \fi
4640     }%
4641     \expandafter\c\y\relax#1\@nil
4642   }%
4643   \expandafter\process@me\string\@latex@\@nil{title}%
4644   \expandafter\process@me\string\@latex@\@nil{author}%
4645 \endgroup
4646 \fi
4647 \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.

```

4648 \def\Hy@UseMaketitleString#1{%
4649   \@ifundefined{Hy@#1}{}{%
4650     \begingroup
4651       \let\Hy@saved@hook\pdfstringdefPreHook
4652       \pdfstringdefDisableCommands{%
4653         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4654         \let\newline\\%
4655       }%
4656       \expandafter\ifx\csname @pdf#1\endcsname\@empty
4657         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4658           \csname Hy@#1\endcsname\@empty
4659         }%
4660       \fi
4661       \global\let\pdfstringdefPreHook\Hy@saved@hook
4662     \endgroup
4663   }%
4664 }
4665 \def\Hy@newline@title#1{ #1}

```

```

4666 \def\Hy@newline@author#1{, #1}
4667 \def\Hy@UseMaketitleInfos{%
4668   \Hy@UseMaketitleString{title}%
4669   \Hy@UseMaketitleString{author}%
4670 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4671 \RequirePackage{atbegshi}[2007/09/09]
4672 \def\Hy@EveryPageHook{}
4673 \def\Hy@EveryPageBoxHook{}
4674 \def\Hy@FirstPageHook{}
4675 \AtBeginShipout{%
4676   \Hy@EveryPageHook
4677   \ifx\Hy@EveryPageBoxHook\@empty
4678   \else
4679     \setbox\AtBeginShipoutBox=\vbox{%
4680       \offinterlineskip
4681       \Hy@EveryPageBoxHook
4682       \box\AtBeginShipoutBox
4683     }%
4684   \fi
4685 }
4686 \AtBeginShipoutFirst{%
4687   \Hy@FirstPageHook
4688 }
4689 \g@addto@macro\Hy@FirstPageHook{%
4690   \PDF@FinishDoc
4691   \gdef\PDF@FinishDoc{}}%
4692 }

```

27.1 PDF /PageLabels

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

```

4693 \ifHy@pagelabels
4694   \begingroup\expandafter\expandafter\expandafter\endgroup
4695   \expandafter\ifx\csname thepage\endcsname\relax
4696     \Hy@pagelabelsfalse
4697     \Hy@WarningNoLine{%
4698       Option 'pdfpagelabels' is turned off\MessageBreak
4699       because \string\thepage\space is undefined%
4700     }%
4701     \csname fi\endcsname
4702     \csname iffalse\expandafter\endcsname
4703   \fi

```

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

```

4704 \def\thispdfpagelabel#1{%
4705   \gdef\HyPL@thisLabel{#1}%
4706 }%
4707 \global\let\HyPL@thisLabel\relax

```

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

```
4708 \def\HyPL@Labels{}
```

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

```
4709 \newcount\Hy@abspage
```

```
4710 \Hy@abspage=0 %
```

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

```
4711 \def\HyPL@LastType{init}%
```

```
4712 \def\HyPL@LastNumber{0}%
```

```
4713 \def\HyPL@LastPrefix{}
```

Definitions for the PDF names of the \LaTeX pendants.

```
4714 \def\HyPL@arabic{D}%
```

```
4715 \def\HyPL@Roman{R}%
```

```
4716 \def\HyPL@roman{r}%
```

```
4717 \def\HyPL@Alph{A}%
```

```
4718 \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.

```
4719 \def\HyPL@EveryPage{%
4720   \begingroup
4721   \ifx\HyPL@thisLabel\relax
4722     \let\HyPL@page\thepage
4723   \else
4724     \let\HyPL@page\HyPL@thisLabel
4725     \global\let\HyPL@thisLabel\relax
4726   \fi
4727   \let\HyPL@Type\relax
4728   \ifnum\the\c@page>0 %
4729     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4730   \fi
4731   \let\Hy@temp Y%
4732   \ifx\HyPL@Type\HyPL@LastType
4733   \else
4734     \let\Hy@temp N%
4735   \fi
4736   \ifx\HyPL@Type\relax
4737     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4738   \else
4739     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4740   \fi
4741   \ifx\HyPL@Prefix\HyPL@LastPrefix
4742   \else
4743     \let\Hy@temp N%
4744   \fi
4745   \if Y\Hy@temp
4746     \advance\c@page by -1 %
4747     \ifnum\HyPL@LastNumber=\the\c@page\relax
4748     \else
4749       \let\Hy@temp N%
4750     \fi
4751     \Hy@StepCount\c@page
4752   \fi
4753   \if N\Hy@temp
4754     \ifx\HyPL@Type\relax
```

```

4755     \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4756   \else
4757     \HyPL@StorePageLabel{%
4758       \ifx\HyPL@Prefix\@empty
4759       \else
4760         /P(\HyPL@Prefix)%
4761       \fi
4762       /S/\csname HyPL\HyPL@Type\endcsname
4763       \ifnum\the\c@page=1 %
4764       \else
4765         \space/St \the\c@page
4766       \fi
4767     }%
4768   \fi
4769 \fi
4770 \xdef\HyPL@LastNumber{\the\c@page}%
4771 \global\let\HyPL@LastType\HyPL@Type
4772 \global\let\HyPL@LastPrefix\HyPL@Prefix
4773 \endgroup
4774 \Hy@GlobalStepCount\Hy@abspage
4775 }%

```

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

```

4776 \def\HyPL@CheckThePage#1\@nil{%
4777   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4778 }%

```

`\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`.

```

4779 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4780   \def\Hy@tempa{#4}%
4781   \def\Hy@tempb{\csname\endcsname\c@page}%
4782   \ifx\Hy@tempa\Hy@tempb
4783     \expandafter\ifx\csname HyPL#3\endcsname\relax
4784   \else
4785     \def\HyPL@Type{#3}%
4786     \def\HyPL@Prefix{#2}%
4787   \fi
4788 \else
4789   \begingroup
4790     \let\Hy@next\endgroup
4791     \let\HyPL@found\@undefined
4792     \def\arabic{\HyPL@Format{arabic}}%
4793     \def\Roman{\HyPL@Format{Roman}}%
4794     \def\roman{\HyPL@Format{roman}}%
4795     \def\Alph{\HyPL@Format{Alph}}%
4796     \def\alph{\HyPL@Format{alph}}%
4797     \protected@edef\Hy@temp{#1}%
4798     \ifx\HyPL@found\relax
4799       \toks@{\expandafter{\Hy@temp}}%
4800     \edef\Hy@next{\endgroup
4801       \noexpand\HyPL@@@CheckThePage\the\toks@
4802       \noexpand\HyPL@found\relax\noexpand\@nil
4803     }%
4804   \fi

```

```

4805     \Hy@next
4806     \fi
4807 }%

```

\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`.

```

4808 \def\HyPL@Format#1#2{%
4809     \ifx\HyPL@found\@undefined
4810         \expandafter\ifx\csname c@#2\endcsname\c@page
4811             \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4812         \else
4813             \expandafter\noexpand\csname#1\endcsname{#2}%
4814         \fi
4815     \else
4816         \expandafter\noexpand\csname#1\endcsname{#2}%
4817     \fi
4818 }%

```

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

```

4819 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4820     \def\Hy@tempa{#3}%
4821     \def\Hy@tempb{\HyPL@found\relax}%
4822     \ifx\Hy@tempa\Hy@tempb
4823         \def\HyPL@Type{#2}%
4824         \def\HyPL@Prefix{#1}%
4825     \fi
4826 }%

```

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

```

4827 \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`.

```

4828 \def\HyPL@Useless{0<</S/D>>}%
4829 \@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.

```

4830 \def\HyPL@SetPageLabels{%
4831     \@onelevel@sanitize\HyPL@Labels
4832     \ifx\HyPL@Labels\@empty
4833     \else
4834         \ifx\HyPL@Labels\HyPL@Useless
4835         \else
4836             \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4837         \fi
4838     \fi
4839 }%

```

```

4840 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4841 \fi

```

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

```

4842 \Hy@DisableOption{pdfpagelabels}
4843 </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`

```
4844 <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.

```
4845 <*vTeX>
4846 \providecommand*{\XR@ext}{pdf}
4847 \edef\Hy@VTeXversion{%
4848   \ifx\VTeXversion\@undefined
4849     \z@
4850   \else
4851     \ifx\VTeXversion\relax
4852       \z@
4853     \else
4854       \VTeXversion
4855     \fi
4856   \fi
4857 }
4858 \begingroup
4859   \ifnum\Hy@VTeXversion<660 %
4860     \gdef\Hy@PutCatalog#1{%
4861       \Hy@WarningNoLine{%
4862         VTeX 6.59g or above required for pdfpagelabels%
4863       }%
4864     }%
4865   \else
4866     \gdef\Hy@PutCatalog#1{%
4867       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4868     }%
4869     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4870       \ifx\#2\%
4871         \else
4872           \immediate\special{!pdfpagelabels #2}%
4873         \fi
4874       }%
4875     \fi
4876 \endgroup
4877 </vTeX>

4878 <*pdfTeX | vTeX>
```

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

```
4879 \ifHy@pagelabels
4880   \def\HyPL@StorePageLabel#1{%
4881     \toks@\expandafter{\HyPL@Labels}%
4882     \xdef\HyPL@Labels{%
4883       \the\toks@
4884       \the\Hy@abspage<<#1>>%
4885     }%
4886   }%
```

At the end of the document, \clearpage tries to make sure, that no further pages will follow. Then the PDF catalog entry for \PageLabels is set.

```

4887 \ifclassloaded{revtex4}{%
4888   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4889 }{%
4890   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4891 }%

4892 \fi
4893 </pdfTeX | vtex>

```

27.1.2 pdfmarkbase, dvipdfm

```

4894 <*pdfmarkbase>
4895 \begingroup
4896 \toks@{\expandafter{\Hy@FirstPageHook}%
4897 \xdef\Hy@FirstPageHook{%
4898   \noexpand\headerps@out{%
4899     systemdict /pdfmark known%
4900     {%
4901       userdict /?pdfmark systemdict /exec get put%
4902     }{%
4903       userdict /?pdfmark systemdict /pop get put %
4904       userdict /pdfmark systemdict /cleartomark get put%
4905     }%
4906     ifelse%
4907   }%
4908   \the\toks@
4909 }%
4910 \endgroup
4911 </pdfmarkbase>

\Hy@PutCatalog

4912 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
4913 <*pdfmarkbase>
4914 \def\Hy@PutCatalog#1{%
4915   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4916 }
4917 </pdfmarkbase>

4918 <*pdfmarkbase | dvipdfm>
4919 \ifHy@pagelabels

```

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

```

4920 \def\HyPL@StorePageLabel#1{%
4921   \if@filesw
4922     \begingroup
4923       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4924       \immediate\write\@mainaux{%
4925         \string\HyPL@Entry{\Hy@tempa}%
4926       }%
4927     \endgroup
4928   \fi
4929 }%

```

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.


```

4930 \AfterBeginDocument{%
4931   \if@filesw
4932     \immediate\write\@mainaux{%
4933       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4934     }%
4935   \fi
4936   \ifx\HyPL@Labels\@empty
4937     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4938   \else
4939     \HyPL@SetPageLabels
4940   \fi
4941   \let\HyPL@Entry\@gobble
4942 }%

\HyPL@Entry
4943 \def\HyPL@Entry#1{%
4944   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4945     \HyPL@Labels
4946     #1%
4947   }%
4948 }%

4949 \fi
4950 </pdfmarkbase | dvipdfm>
4951 <*package>
4952 \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 L^AT_EX provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

All the shenanigans is to make sure section numbers etc are always arabic, separated by dots. Who knows how people will set up `\@currentlabel`? If they put spaces in, or brackets (quite legal) then the hypertext processors will get upset.

But this is flaky, and open to abuse. Styles like subeqn will mess it up, for starters. Appendices are an issue, too. We just hope to cover most situations. We can at least cope with the standard sectioning structure, allowing for `\part` and `\chapter`.

Start with a fallback for equations

```

4953 \def\Hy@CounterExists#1{%
4954   \begingroup\expandafter\expandafter\expandafter\endgroup
4955   \expandafter\ifx\csname c@#1\endcsname\relax
4956     \expandafter\@gobble
4957   \else
4958     \begingroup\expandafter\expandafter\expandafter\endgroup
4959     \expandafter\ifx\csname the#1\endcsname\relax
4960       \expandafter\expandafter\expandafter\@gobble
4961     \else

```

```

4962 \expandafter\expandafter\expandafter\@firstofone
4963 \fi
4964 \fi
4965 }
4966 \Hy@CounterExists{section}{%
4967 \newcommand\theHequation{\theHsection.\arabic{equation}}%
4968 }
4969 \Hy@CounterExists{part}{%
4970 \newcommand\theHpart{\arabic{part}}%
4971 }
4972 \@ifundefined{thechapter}{%
4973 \newcommand\theHsection {\arabic{section}}%
4974 \newcommand\theHfigure {\arabic{figure}}%
4975 \newcommand\theHtable {\arabic{table}}%
4976 }{%
4977 \newcommand\theHchapter {\arabic{chapter}}%
4978 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
4979 \newcommand\theHtable {\theHchapter.\arabic{table}}%
4980 \newcommand\theHsection {\theHchapter.\arabic{section}}%
4981 }
4982 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
4983 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4984 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
4985 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4986 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
4987 \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.

```

4988 \let\H@item\item
4989 \newcounter{Item}
4990 \def\theHItem{\arabic{Item}}
4991 \def\item{%
4992 \@hyper@itemfalse
4993 \if@nmbrlist\@hyper@itemtrue\fi
4994 \H@item
4995 }
4996 \newcommand\theHenumi {\theHItem}
4997 \newcommand\theHenumii {\theHItem}
4998 \newcommand\theHenumiii {\theHItem}
4999 \newcommand\theHenumiv {\theHItem}
5000 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5001 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5002 \let\theHmpfootnote\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.

```

5003 \let\H@refstepcounter\refstepcounter
5004 \edef\name@of@eq{equation}%
5005 \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.

```

5006 \newif\if@hyper@item
5007 \newif\if@skiphyperref

```

```

5008 \@hyper@itemfalse
5009 \@skiphyperreffalse
5010 \def\refstepcounter#1{%
5011   \ifHy@pdfstring
5012   \else
5013     \H@refstepcounter{#1}%
5014     \edef\This@name{#1}%
5015     \ifx\This@name\name@of@slide
5016     \else
5017       \if@skiphyperref
5018       \else
5019         \if@hyper@item
5020         \stepcounter{Item}%
5021         \hyper@refstepcounter{Item}%
5022         \@hyper@itemfalse
5023       \else
5024         \hyper@refstepcounter{#1}%
5025       \fi
5026     \fi
5027   \fi
5028 \fi
5029 }

```

AMS¹TeX 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.

```

5030 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

5031 \def\hyper@refstepcounter#1{%
5032   \edef\This@name{#1}%
5033   \ifx\This@name\name@of@eq
5034     \@ifundefined{theHequation}{%
5035       \make@stripped@name{\theequation}%
5036       \let\theHequation\newname
5037     }{}%
5038   \fi
5039   \@ifundefined{theH#1}{%
5040     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5041   }{}%
5042   \hyper@makecurrent{#1}%
5043   \ifmeasuring@
5044   \else
5045     \Hy@raisedlink{%
5046       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5047     }%
5048   \fi
5049 }

```

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`.

```

5050 \begingroup\expandafter\expandafter\expandafter\endgroup
5051 \expandafter\ifx\csname chapter\endcsname\relax

```

```

5052 \def\Hy@chapterstring{section}%
5053 \else
5054 \def\Hy@chapterstring{chapter}%
5055 \fi
5056 \def\Hy@appendixstring{appendix}
5057 \def\Hy@chapapp{\Hy@chapterstring}
5058 \let\HyOrg@appendix\appendix
5059 \def\appendix{%
5060 \@ifundefined{chapter}%
5061 {\gdef\theHsection{\Alph{section}}}%
5062 {\gdef\theHchapter{\Alph{chapter}}}%
5063 \xdef\Hy@chapapp{\Hy@appendixstring}%
5064 \HyOrg@appendix
5065 }

```

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

```

5066 \def\hyper@makecurrent#1{%
5067 \begingroup
5068 \edef\Hy@param{#1}%
5069 \ifx\Hy@param\Hy@chapterstring
5070 \let\Hy@param\Hy@chapapp
5071 \fi
5072 \ifHy@hypertextnames
5073 \let\@number\@firstofone
5074 \@ifundefined{latin@Alph}{-}{%
5075 \ifx\@Alph\greek@Alph
5076 \def\@Alph{Alph\@arabic}%
5077 \fi
5078 }%
5079 \ifx\@Alph\@Alph@bul
5080 \def\@Alph{Alph\@arabic}%
5081 \fi
5082 \ifx\@alph\@alph@bul
5083 \def\@alph{alph\@arabic}%
5084 \fi
5085 \ifHy@naturalnames
5086 \let\textlatin\@firstofone
5087 \xdef\@currentHlabel{\csname the#1\endcsname}%
5088 \else
5089 \xdef\@currentHlabel{\csname theH#1\endcsname}%
5090 \fi
5091 \xdef\@currentHref{%
5092 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5093 }%
5094 \else
5095 \Hy@GlobalStepCount\Hy@linkcounter
5096 \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
5097 \fi
5098 \endgroup
5099 }

5100 \@ifpackageloaded{fancyvrb}{%
5101 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5102 \def\FV@StepLineNo{%
5103 \FV@SetLineNo
5104 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5105 \FV@StepLineNo

```

```

5106 }%
5107 }%
5108 }{}

```

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`

```

5109 \AtBeginDocument{%
5110   \ifclassloaded{revtex4}{%
5111     \@namedef{ver@lastpage.sty}{1994/06/25}%
5112   }{}%
5113   \@ifpackageloaded{lastpage}{%
5114     \ifHy@pageanchor
5115     \else
5116       \Hy@WarningNoLine{%
5117         The \string\pageref{LastPage} link doesn't work\MessageBreak
5118         with disabled option 'pageanchor'%
5119       }%
5120     \fi
5121     \def\lastpage@putlabel{%
5122       \addtocounter{page}{-1}%
5123       \if@files@
5124         \begin@group
5125           \let\@number\@firstofone
5126           \ifHy@pageanchor
5127             \ifHy@hypertexnames
5128               \ifHy@plainpages
5129                 \def\Hy@temp{\arabic{page}}%
5130               \else
5131                 \Hy@unicodefalse
5132                 \pdfstringdef\Hy@temp{\thepage}%
5133               \fi
5134             \else
5135               \def\Hy@temp{\the\Hy@pagecounter}%
5136             \fi
5137           \fi
5138           \immediate\write\@auxout{%
5139             \string\newlabel
5140             {LastPage}{}{\thepage}{}{%
5141               \ifHy@pageanchor page.\Hy@temp\fi}{}%
5142             }%
5143           \end@group
5144         \fi
5145       \addtocounter{page}{1}%
5146     }%
5147     \@ifclassloaded{revtex4}{%
5148       \begin@group
5149         \toks@{\expandafter{\lastpage@putlabel}}%
5150       \edef\x{\end@group

```

```

5151         \def\noexpand\lastpage@putlabel{%
5152             \noexpand\stepcounter{page}%
5153             \the\toks@
5154             \noexpand\addtocounter{page}\noexpand\m@ne
5155         }%
5156     }%
5157     \x
5158 }{}%
5159 }{}%
5160 }
5161 \</package>
5162 \<*check>
5163 \checkpackage{lastpage}[1994/06/25]
5164 \checkcommand\def\lastpage@putlabel{%
5165     \addtocounter{page}{-1}%
5166     \immediate\write\@auxout{%
5167         \string\newlabel{LastPage}{{}\{\thepage}}%
5168     }%
5169     \addtocounter{page}{1}%
5170 }
5171 \</check>
5172 \<*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.

```

5173 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??}}
5174 \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:

```

5175 \@ifpackageloaded{titlesec}{%
5176     \def\ttl@Hy@steplink#1{%
5177         \Hy@GlobalStepCount\Hy@linkcounter
5178         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5179         \def\ttl@Hy@saveanchor{%
5180             \Hy@raisedlink{%
5181                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5182             }%
5183         }%
5184     }%
5185     \def\ttl@Hy@refstepcounter#1{%
5186         \let\ttl@b\Hy@raisedlink
5187         \def\Hy@raisedlink##1{%
5188             \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5189         }%
5190         \refstepcounter{#1}%
5191         \let\Hy@raisedlink\ttl@b
5192     }%
5193 }{}

```

Package titletoc support:

```
5194 \@ifpackageloaded{titletoc}{%
5195   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5196 }{}
```

32 Package varioref support

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

```
5197 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
5198 \@ifpackageloaded{varioref}{%
5199   \def\vref@pagenum#1#2{%
5200     \ifundefined{r@#2}{%
5201       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5202     }{}%
5203     \edef#1{\getpagerefnumber{#2}}%
5204   }%
5205 }
```

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

```
5206 \@ifpackageloaded{longtable}{%
5207   \begingroup
5208     \def\y{\LT@array}%
5209     \ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5210     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5211       \expandafter\endgroup
5212       \expandafter\def\y[#1]##2{%
5213         \H@refstepcounter{#1}%
5214         \hyper@makecurrent{table}%
5215         \let\Hy@LT@currentHlabel\@currentHlabel
5216         \let\Hy@LT@currentHref\@currentHref
5217         #2\@sharp####4%
5218       }%
5219     }%
5220   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
```

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

```
5221   \begingroup
5222     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5223       \endgroup
5224       \def\LT@start{%
5225         #1%
5226         \let\@currentHlabel\Hy@LT@currentHlabel
5227         \let\@currentHref\Hy@LT@currentHref
5228         \Hy@raisedlink{%
5229           \hyper@anchorstart{\@currentHref}\hyper@anchorend
5230         }%
5231       \ifvoid\LT@firsthead\copy
```

```

5232      #2%
5233    }%
5234  }%
5235  \expandafter\x\LT@start\@nil
5236 }{}

```

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.

```

5237 \let\new@refstepcounter\refstepcounter
5238 \let\H@equation\equation
5239 \let\H@endequation\endequation

5240 \@ifpackageloaded{amsmath}{%
5241   \long\def\Hy@temp{%
5242     \incr@eqnum
5243     \mathdisplay@push
5244     \st@rredfalse \global\@eqnswtrue
5245     \mathdisplay{equation}%
5246   }%
5247   \ifx\Hy@temp\equation
5248     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5249       \csname iftrue\endcsname
5250   \else
5251     \long\def\equation{%
5252       \mathdisplay@push
5253       \st@rredfalse \global\@eqnswtrue
5254       \mathdisplay{equation}%
5255       \incr@eqnum
5256     }%
5257   \fi
5258 \fi
5259 }{}%
5260 \def\equation{%
5261   \let\refstepcounter\H@refstepcounter
5262   \H@equation
5263   \@ifundefined{theHequation}{%
5264     \make@stripped@name{\theequation}%
5265     \let\theHequation\newname
5266   }{}%
5267   \hyper@makecurrent{equation}%
5268   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5269   \let\refstepcounter\new@refstepcounter
5270 }%
5271 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5272 }

```

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.


```

5273 \newif\if@eqnstar
5274 \@eqnstarfalse
5275 \let\H@eqnarray\eqnarray
5276 \let\H@endeqnarray\endeqnarray
5277 \def\eqnarray{%
5278   \let\Hy@reserved@a\relax
5279   \def\@currentHref{}%
5280   \H@eqnarray
5281   \if@eqnstar
5282   \else
5283     \ifx\\ \@currentHref\\%
5284     \else
5285       \@ifundefined{theHequation}{%
5286         \make@stripped@name{\theequation}%
5287         \let\theHequation\newname
5288       }{}%
5289       \hyper@makecurrent{equation}%
5290       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5291     \fi
5292   \fi
5293 }
5294 \def\endeqnarray{%
5295   \H@endeqnarray
5296 }

```

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.

```

5297 \@namedef{eqnarray*}{%
5298   \def\@eqnacr{\nonumber\@seqnacr}\@eqnstartrue\eqnarray
5299 }
5300 \@namedef{endeqnarray*}{%
5301   \nonumber\endeqnarray\@eqnstarfalse
5302 }

```

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

```

5303 \@ifundefined{subeqnarray}{%
5304   \let\H@subeqnarray\subeqnarray
5305   \let\H@endsubeqnarray\endsubeqnarray
5306   \def\subeqnarray{%
5307     \let\Hy@reserved@a\relax
5308     \H@subeqnarray
5309     \@ifundefined{theHequation}{%
5310       \make@stripped@name{\theequation}%
5311       \let\theHequation\newname
5312     }{}%
5313     \hyper@makecurrent{equation}%
5314     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5315   }%
5316   \def\endsubeqnarray{%
5317     \H@endsubeqnarray
5318   }%
5319   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5320 }

```

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

```

5321 \def\make@stripped@name#1{%
5322   \begingroup
5323   \escapechar\m@ne

```

```

5324 \global\let\newname\@empty
5325 \protected@edef\Hy@tempa{#1}%
5326 \edef\@tempb{%
5327   \noexpand\@tfor\noexpand\Hy@tempa:=%
5328   \expandafter\strip@prefix\meaning\Hy@tempa
5329 }%
5330 \@tempb\do{%
5331   \if\Hy@tempa\else
5332     \if\Hy@tempa\else
5333       \xdef\newname{\newname\Hy@tempa}%
5334     \fi
5335   \fi
5336 }%
5337 \endgroup
5338 }

```

Support for amsmath's subequations:

```

5339 \begingroup\expandafter\expandafter\expandafter\endgroup
5340 \expandafter\ifx\csname subequations\endcsname\relax
5341 \else
5342   \let\HyOrg@subequations\subequations
5343   \def\subequations{%
5344     \stepcounter{equation}%
5345     \protected@edef\theHparentequation{%
5346       \ifundefined{theHequation}\theequation\theHequation
5347     }%
5348     \addtocounter{equation}{-1}%
5349     \HyOrg@subequations
5350     \def\theHequation{\theHparentequation\alph{equation}}%
5351     \ignorespaces
5352   }%
5353 \fi

```

Support for package amsthm (Daniel Müllner):

```

5354 \@ifpackageloaded{amsthm}{%
5355   \def\@thm#1#2#3{%
5356     \ifhmode
5357       \unskip\unskip\par
5358     \fi
5359     \normalfont
5360     \trivlist
5361     \let\thmheadnl\relax
5362     \let\thm@swap\@gobble
5363     \thm@notefont{\fontseries\mddefault\upshape}%
5364     \thm@headpunct{.}% add period after heading
5365     \thm@headsep 5\p@ plus\p@ minus\p@\relax
5366     \thm@space@setup
5367     #1% style overrides
5368     \@topsep \thm@preskip % used by thm head
5369     \@topsepadd \thm@postskip % used by \@endparenv
5370     \def\dth@counter{#2}%
5371     \ifx\@empty\dth@counter
5372       \def\@tempa{%
5373         \@oparg{\@begintheorem{#3}{}} []%
5374       }%
5375     \else
5376       \H@refstepcounter{#2}%
5377       \hyper@makecurrent{#2}%

```

```

5378     \def\@tempa{%
5379       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{[]}%
5380     }%
5381   \fi
5382   \@tempa
5383 }%
5384 \dth@everypar={%
5385   \@minipagefalse
5386   \global\@newlistfalse
5387   \@noparitemfalse
5388   \if@inlabel
5389     \global\@inlabelfalse
5390     \begingroup
5391       \setbox\z@\lastbox
5392       \ifvoid\z@
5393         \kern-\itemindent
5394       \fi
5395     \endgroup
5396     \ifx\@empty\dth@counter
5397     \else
5398       \Hy@raisedlink{%
5399         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5400       }%
5401     \fi
5402     \unhbox\@labels
5403   \fi
5404   \if@nobreak
5405     \@nobreakfalse \clubpenalty\@M
5406   \else
5407     \clubpenalty\@clubpenalty \everypar{}%
5408   \fi
5409 }%
5410 }{}

```

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.

```

5411 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5412 \ifHy@hyperfootnotes
5413   \newcounter{Hfootnote}%
5414   \let\H@@footnotetext\@footnotetext
5415   \let\H@@footnotemark\@footnotemark
5416   \def\@xfootnotenext[#1]{%
5417     \begingroup
5418       \csname c@\@mpfn\endcsname #1\relax
5419       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5420     \endgroup
5421     \ifx\@footnotetext\@mpfootnotetext
5422       \expandafter\H@@mpfootnotetext
5423     \else
5424       \expandafter\H@@footnotetext
5425     \fi

```

```

5426 }%
5427 \def\@xfootnotemark[#1]{%
5428   \begingroup
5429     \c@footnote #1\relax
5430     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5431   \endgroup
5432   \H@@footnotemark
5433 }%
5434 \let\H@@mpfootnotetext\@mpfootnotetext
5435 \long\def\@mpfootnotetext#1{%
5436   \H@@mpfootnotetext{%
5437     \ifHy@nesting
5438       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5439     \else
5440       \Hy@raisedlink{%
5441         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5442       }#1%
5443     \fi
5444   }%
5445 }%
5446 \long\def\@footnotetext#1{%
5447   \H@@footnotetext{%
5448     \ifHy@nesting
5449       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5450     \else
5451       \Hy@raisedlink{%
5452         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5453       }%
5454       \let\@currentHlabel\Hy@footnote@currentHlabel
5455       \let\@currentHref\Hy@footnote@currentHref
5456       \let\@currentlabelname\@empty
5457       #1%
5458     \fi
5459   }%
5460 }%

```

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.

```

5461 \def\@footnotemark{%
5462   \leavevmode
5463   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5464   \stepcounter{Hfootnote}%
5465   \global\let\Hy@saved@currentHlabel\@currentHlabel
5466   \global\let\Hy@saved@currentHref\@currentHref
5467   \hyper@makecurrent{Hfootnote}%
5468   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5469   \global\let\Hy@footnote@currentHref\@currentHref
5470   \global\let\@currentHlabel\Hy@saved@currentHlabel
5471   \global\let\@currentHref\Hy@saved@currentHref
5472   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5473   \@makefnmark
5474   \hyper@linkend
5475   \ifhmode\spacefactor\@x@sf\fi
5476   \relax
5477 }%

```

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

```

5478 \ifpackageloaded{longtable}{%
5479   \CheckCommand*{\LT@p@ftntext}[1]{%
5480     \edef\@tempa{%
5481       \the\LT@p@ftn
5482       \noexpand\footnotetext[\the\c@footnote]%
5483     }%
5484     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5485   }%
5486   \long\def\LT@p@ftntext#1{%
5487     \edef\@tempa{%
5488       \the\LT@p@ftn
5489       \begingroup
5490         \noexpand\c@footnote=\the\c@footnote\relax
5491         \noexpand\protected@xdef
5492           \noexpand\@thefnmark{\noexpand\thempfn}%
5493         \noexpand\protected@xdef\noexpand\@thefnmark{%
5494           \noexpand\thempfn
5495         }%
5496         \expandafter\expandafter\expandafter\noexpand
5497         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5498         \expandafter\expandafter\expandafter{%
5499           \expandafter\Hy@footnote@currentHref\expandafter
5500           }\expandafter{\Hy@footnote@currentHlabel}%
5501       }%
5502       \global\LT@p@ftn\expandafter{%
5503         \@tempa{#1}%
5504       }\endgroup
5505     }%
5506   }%
5507   \long\def\Hy@LT@footnotetext#1#2#3{%
5508     \H@@footnotetext{%
5509       \ifHy@nesting
5510         \hyper@@anchor{#1}{#3}%
5511       \else
5512         \Hy@raisedlink{%
5513           \hyper@@anchor{#1}{\relax}%
5514         }%
5515         \def\@currentHlabel{#2}%
5516         \def\@currentHref{#1}%
5517         \let\@currentlabelname\@empty
5518         #3%
5519       \fi
5520     }%
5521   }%
5522 }-}%

```

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

```

5523 \ifpackageloaded{fancyvrb}{%
5524   \def\V@@footnotetext{%
5525     \insert\footins\bgroup
5526     \csname reset@font\endcsname
5527     \footnotesize
5528     \interlinepenalty\interfootnotelinepenalty

```

```

5529     \splittopskip\footnotesep
5530     \splitmaxdepth\dp\strutbox
5531     \floatingpenalty \@MM
5532     \hsize\columnwidth
5533     \@parboxrestore
5534     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5535     \@makefnmark}%
5536     \rule{\z@}{\footnotesep}%
5537     \bgroup
5538     \aftergroup\V@@@footnotetext
5539     \Hy@raisedlink{%
5540       \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5541     }%
5542     \let\@currentHlabel\Hy@footnote@currentHlabel
5543     \let\@currentHref\Hy@footnote@currentHref
5544     \let\@currentlabelname\@empty
5545     \ignorespaces
5546   }%
5547 }{}%

```

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.

```

5548 \let\HyOrg@maketitle\maketitle
5549 \def\maketitle{%
5550   \let\Hy@saved@footnotemark\@footnotemark
5551   \let\Hy@saved@footnotetext\@footnotetext
5552   \let\@footnotemark\H@@footnotemark
5553   \let\@footnotetext\H@@footnotetext
5554   \@ifnextchar[\Hy@maketitle@optarg{% ]
5555     \HyOrg@maketitle
5556     \Hy@maketitle@end
5557   }%
5558 }%
5559 \def\Hy@maketitle@optarg[#1]{%
5560   \HyOrg@maketitle[#{#1}]%
5561   \Hy@maketitle@end
5562 }%
5563 \def\Hy@maketitle@end{%
5564   \ifx\@footnotemark\H@@footnotemark
5565     \let\@footnotemark\Hy@saved@footnotemark
5566   \fi
5567   \ifx\@footnotetext\H@@footnotetext
5568     \let\@footnotetext\Hy@saved@footnotetext
5569   \fi
5570 }%

```

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

```

5571 \def\realfootnote{%
5572   \@ifnextchar[\@xfootnote{%
5573     \stepcounter{\@mpfn}%
5574     \protected@xdef\@thefnmark{\thempfn}%
5575     \H@@footnotemark\H@@footnotetext
5576   }%
5577 }%
5578 \fi
5579 \Hy@DisableOption{hyperfootnotes}

```

```

5580 </package>
5581 <*check>
5582 \checklatex
5583 \checkcommand\def\@xfootnotenext[#1]{%
5584   \begingroup
5585     \csname c@\mpfn\endcsname #1\relax
5586     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5587   \endgroup
5588   \@footnotetext
5589 }
5590 \checkcommand\def\@xfootnotemark[#1]{%
5591   \begingroup
5592     \c@footnote #1\relax
5593     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5594   \endgroup
5595   \@footnotemark
5596 }
5597 \checkcommand\def\@footnotemark{%
5598   \leavevmode
5599   \ifhmode\edef\@xsf{\the\spacefactor}\nobreak\fi
5600   \@makefnmark
5601   \ifhmode\spacefactor\@xsf\fi
5602   \relax
5603 }
5604 </check>
5605 <*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.

```

5606 \def\caption{%
5607   \ifx\@captive\@undefined
5608     \latexerror{\noexpand\caption outside float}\@ehd
5609     \expandafter\@gobble
5610   \else
5611     \H@refstepcounter\@captive
5612     \let\Hy@tempa\@caption
5613     \@ifundefined{float@caption}{%
5614       {%
5615         \expandafter\ifx\csname @float@c@\@captive\endcsname
5616           \float@caption
5617         \let\Hy@tempa\Hy@float@caption
5618       \fi
5619     }%
5620     \expandafter\@firstofone
5621   \fi
5622   {\@dblarg{\Hy@tempa\@captive}}%
5623 }
5624 \long\def\@caption#1[#2]#3{%
5625   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5626     \csname iftrue\endcsname
5627     \global\let\@currentHref\hc@currentHref
5628   \else
5629     \hyper@makecurrent{\@captive}%
5630   \fi

```

```

5631 \def\@currentlabelname{#2}%
5632 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5633   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5634 }%
5635 \begingroup
5636   \@parboxrestore
5637   \if@minipage
5638     \@setminipage
5639   \fi
5640   \normalsize
5641   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5642     \csname iftrue\endcsname
5643     \global\@capstartfalse
5644     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5645   \else
5646     \@makecaption{\csname fnum@#1\endcsname}{%
5647       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5648     \ifHy@nesting
5649       \hyper@@anchor{\@currentHref}{#3}%
5650     \else
5651       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5652     \fi
5653   }%
5654 \fi
5655 \par
5656 \endgroup
5657 }

```

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.

```

5658 \let\Hy@float@caption\@caption
5659 \ifpackageloaded{float}{%
5660   \def\Hy@float@caption{%
5661     \ifx\Hy@float@currentHref\@undefined
5662       \hyper@makecurrent{\@captype}%
5663       \global\let\Hy@float@currentHref\@currentHref
5664     \else
5665       \let\@currentHref\Hy@float@currentHref
5666     \fi
5667     \float@caption
5668   }%
5669   \let\HyOrg@float@makebox\float@makebox
5670   \renewcommand{\float@makebox}[1]{%
5671     \HyOrg@float@makebox{%
5672       #1\relax
5673       \ifx\Hy@float@currentHref\@undefined
5674       \else
5675         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5676       \global\let\Hy@float@currentHref\@undefined
5677       \fi
5678     }%
5679   }%
5680 }{}
5681 \endpackage
5682 \ifcheck
5683 \checklatex[1999/06/01 - 2000/06/01]

```



```

5684 \checkcommand\def\caption{%
5685   \ifx\@capttype\undefined
5686     \@latex@error{\noexpand\caption outside float}\@ehd
5687     \expandafter\@gobble
5688   \else
5689     \refstepcounter\@capttype
5690     \expandafter\@firstofone
5691   \fi
5692   {\@dblarg{\@caption\@capttype}}%
5693 }
5694 \checkcommand\long\def\@caption#1[#2]#3{%
5695   \par
5696   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5697   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5698   \begingroup
5699     \@parboxrestore
5700     \if@minipage
5701       \setminipage
5702     \fi
5703     \normalsize
5704     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5705   \endgroup
5706 }
5707 \end{check}
5708 \end{package}

```

37 Bibliographic references

This is not very robust, since many styles redefine these things. The package used to redefine `\@citex` and the like; then we tried adding the `hyperref` call explicitly into the `.aux` file. Now we redefine `\bibcite`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drfcite* may break.

However, 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.

```

5709 \def\hyper@natlinkstart#1{%
5710   \Hy@backout{#1}%
5711   \hyper@linkstart{cite}{cite.#1}%
5712   \def\hyper@nat@current{#1}%
5713 }
5714 \def\hyper@natlinkend{%
5715   \hyper@linkend
5716 }
5717 \def\hyper@natlinkbreak#1#2{%
5718   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5719 }
5720 \def\hyper@natanchorstart#1{%
5721   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5722 }
5723 \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.

```

5724 \ifundefined{NAT@parse}{%
5725   \providecommand*\@extra@binfo{}%
5726   \providecommand*\@extra@b@citeb{}%
5727   \def\bibcite#1#2{%
5728     \newl@bel{b}{#1\@extra@binfo}{%
5729       \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
5730     }%
5731   }%
5732   \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.”.

```

5733 \let\Hy@bibcite\bibcite
5734 \begingroup
5735   \ifundefined{bbl@cite@choice}{%
5736     \g@addto@macro\bbl@cite@choice{%
5737       \let\bibcite\Hy@bibcite
5738     }%
5739   }%
5740 \endgroup

```

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

```

5741 \providecommand*\@BIBLABEL{\@biblabel}%
5742 \def\@lbibitem[#1]#2{%
5743   \@skiphyperreftrue
5744   \H@item[%
5745     \ifx\Hy@raisedlink\@empty
5746       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5747       \@BIBLABEL{#1}%
5748       \hyper@anchorend
5749     \else
5750       \Hy@raisedlink{%
5751         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5752       }%
5753     \@BIBLABEL{#1}%
5754   \fi
5755   \hfill
5756 ]%
5757   \@skiphyperreffalse
5758   \if@filesw
5759     \begingroup
5760       \let\protect\noexpand
5761       \immediate\write\@auxout{%
5762         \string\bibcite{#2}{#1}%
5763       }%
5764     \endgroup
5765   \fi
5766   \ignorespaces
5767 }%

```

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

```

5768 \def\@bibitem#1{%
5769   \@skiphyperreftrue\H@item\@skiphyperreffalse
5770   \Hy@raisedlink{%
5771     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5772   }%
5773   \if@filesw
5774     \begingroup

```

```

5775         \let\protect\noexpand
5776         \immediate\write\@auxout{%
5777             \string\bibcite{#1}{\the\value{\@listctr}}}%
5778         }%
5779     \endgroup
5780 \fi
5781 \ignorespaces
5782 }%
5783 }{}

5784 </package>
5785 <*check>
5786 \checklatex
5787 \checkcommand\def\@lbibitem[#1]#2{%
5788     \item[\@biblabel{#1}\hfill]%
5789     \if@files
5790     {%
5791         \let\protect\noexpand
5792         \immediate\write\@auxout{%
5793             \string\bibcite{#2}{#1}%
5794         }%
5795     }%
5796 \fi
5797 \ignorespaces
5798 }
5799 \checkcommand\def\@bibitem#1{%
5800     \item
5801     \if@files
5802     \immediate\write\@auxout{%
5803         \string\bibcite{#1}{\the\value{\@listctr}}}%
5804     }%
5805 \fi
5806 \ignorespaces
5807 }
5808 </check>
5809 <*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.

```

5810 \@ifclassloaded{revtex}{%
5811     \Hy@Info{*** compatibility with revtex **** }%
5812     \def\revtex@checking#1#2{%
5813         \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5814         \expandafter\def\csname b@#1\endcsname{#2}%
5815         \@SetMaxRnhefLabel{#1}%
5816         \expandafter\let\csname b@#1\endcsname\T@temp
5817     }%

```

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

```

5818 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
5819 \providecommand*\@extra@b@citeb{}%
5820 \def\CITE[#1]#2{%
5821     \let\@citea\@empty
5822     \leavevmode
5823     \unskip
5824     $\sim$%

```

```

5825 \scriptstyle
5826 \@CITE{%
5827   \@for\@citeb:=#2\do{%
5828     \@citea
5829     \def\@citea{,\penalty\@m\ }%
5830     \edef\@citeb{\expandafter\@firstofone\@citeb}%
5831     \if@filesw
5832       \immediate\write\@auxout{\string\citation{\@citeb}}%
5833     \fi
5834     \@ifundefined{b@\@citeb\extra@b@citeb}{%
5835       \mbox{\reset@font\bfseries ?}%
5836       \G@refundefinedtrue
5837       \@latex@warning{%
5838         Citation ‘\@citeb’ on page \thepage \space undefined%
5839       }%
5840     }{%
5841       {\csname b@\@citeb\extra@b@citeb\endcsname}%
5842     }%
5843   }%
5844 }{\#1}%
5845 }$%
5846 }%

```

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.

```

5847 \def\@citex[#1]#2{%
5848   \let\@citea\@empty
5849   \@cite{%
5850     \@for\@citeb:=#2\do{%
5851       \@citea
5852       \def\@citea{,\penalty\@m\ }%
5853       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5854       \if@filesw
5855         \immediate\write\@auxout{\string\citation{\@citeb}}%
5856       \fi
5857       \@ifundefined{b@\@citeb\extra@b@citeb}{%
5858         \mbox{\reset@font\bfseries ?}%
5859         \G@refundefinedtrue
5860         \@latex@warning{%
5861           Citation ‘\@citeb’ on page \thepage \space undefined%
5862         }%
5863       }{%
5864         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
5865       }%
5866     }%
5867   }{\#1}%
5868 }%
5869 }{}

```

37.1 Package harvard

Override Peter Williams’ Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to \begin{document}, because if harvard.sty is loaded and html.sty is present and detects pdfTEX, then hyperref is already loaded at the begin of harvard.sty, and the \newcommand macros causes error messages.

```

5870 \@ifpackageloaded{harvard}{%
5871   \AtBeginDocument{%
5872     \Hy@Info{*** compatibility with harvard **** }%
5873     \Hy@raiselinksfalse
5874     \def\harvardcite#1#2#3#4{%
5875       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
5876       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
5877       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
5878       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5879     }%
5880     \def\HAR@citetoaux#1{%
5881       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5882       \ifHy@backref
5883         \ifx\@empty\@currentlabel
5884           \else
5885             \@bsphack
5886             \if@filesw
5887               \protected@write\@auxout{}{%
5888                 \string\writefile{brf}{%
5889                   \string\backcite{#1}{%
5890                     {\thepage}{\@currentlabel}{\@currentHref}%
5891                   }%
5892                 }%
5893               }%
5894             \fi
5895             \@esphack
5896           \fi
5897         \fi
5898       }%
5899       \def\harvarditem{%
5900         \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
5901       }%
5902       \def\@harvarditem[#1]#2#3#4#5\par{%
5903         \item[]%
5904         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5905         \if@filesw
5906           \begingroup
5907             \def\protect##1{\string ##1\space}%
5908             \ifthenelse{\equal{#1}{\null}}{%
5909               {\def\next{{#4}{#2}{#3}}}%
5910               {\def\next{{#4}{#2}{#1}{#3}}}%
5911             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5912           \endgroup
5913           \fi
5914           \protect\hspace*{-\labelwidth}%
5915           \protect\hspace*{-\labelsep}%
5916           \ignorespaces
5917           #5%
5918           \ifHy@backref
5919             \newblock
5920             \backref{\csname br@#4\endcsname}%
5921           \fi
5922         \par
5923       }%

```

`\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:
5924 \long\def\HAR@checkcitations#1#2#3#4{%
5925 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5926 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5927 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
5928 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5929 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
5930 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5931 \else
5932 \@tempswatrue
5933 \fi
5934 \else
5935 \@tempswatrue
5936 \fi
5937 \else
5938 \@tempswatrue
5939 \fi
5940 }%
5941 }%

5942 }{}

```

37.2 Package chicago

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

```

5943 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

5944 \def\citeN{%
5945 \def\@citesep{-1000}%
5946 \def\@cite##1##2{##1}%
5947 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5948 \@citedata@opt
5949 }%

```

`\shortciteN`

```

5950 \def\shortciteN{%
5951 \def\@citesep{-1000}%
5952 \def\@cite##1##2{##1}%
5953 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5954 \@citedata@opt
5955 }%

```

`\@citedata@opt`

```

5956 \def\@citedata@opt{%
5957 \let\@cite@opt\empty
5958 \@ifnextchar [{%
5959 \@tempswatrue
5960 \@citedatax@opt
5961 }{%
5962 \@tempswafalse
5963 \@citedatax[]%
5964 }%
5965 }%

```

\@citedatax@opt

```
5966 \def\@citedatax@opt[#1]{%
5967   \def\@cite@opt{, #1}%
5968   \@citedatax[#1]}%
5969 }%

5970 }{}
```

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.

```
5971 \def\Hy@EveryPageAnchor{%
5972   \Hy@DistillerDestFix
5973   \ifHy@pageanchor
5974     \ifHy@hypertextnames
5975       \ifHy@plainpages
5976         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5977       \else
5978         \begingroup
5979         \let\@number\@firstofone
5980         \Hy@unicodetofalse
5981         \pdfstringdef\@the@H@page{\thepage}%
5982       \endgroup
5983       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
5984     \fi
5985   \else
5986     \Hy@GlobalStepCount\Hy@pagecounter
5987     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5988   \fi
5989   \vbox to 0pt{%
5990     \kern\voffset
5991     \kern\topmargin
5992     \kern-1bp\relax
5993     \hbox to 0pt{%
5994       \kern\hoffset
5995       \kern\ifodd\value{page}%
5996         \oddsidemargin
5997       \else
5998         \evensidemargin
5999       \fi
6000       \kern-1bp\relax
6001       \Hy@TempPageAnchor
6002     \hss
6003   }%
6004   \vss
6005 }%
6006 \fi
6007 }
6008 \g@addto@macro\Hy@EveryPageBoxHook{%
6009   \Hy@EveryPageAnchor
6010 }
```

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.

```
6011 \begingroup\expandafter\expandafter\expandafter\endgroup
6012 \expandafter\ifx\csname chapter\endcsname\relax
6013   \def\toclevel@part{0}%
6014 \else
6015   \def\toclevel@part{-1}%
6016 \fi
6017 \def\toclevel@chapter{0}
6018 \def\toclevel@section{1}
6019 \def\toclevel@subsection{2}
6020 \def\toclevel@subsubsection{3}
6021 \def\toclevel@paragraph{4}
6022 \def\toclevel@subparagraph{5}
6023 \def\toclevel@figure{0}
6024 \def\toclevel@table{0}
6025 \@ifpackageloaded{listings}{%
6026   \providecommand*\theHlstlisting{\thelstlisting}%
6027   \providecommand*\toclevel@lstlisting{0}%
6028 }{}
6029 \@ifpackageloaded{listing}{%
6030   \providecommand*\theHlisting{\thelisting}%
6031   \providecommand*\toclevel@listing{0}%
6032 }{}
6033 \def\addcontentsline#1#2#3{% toc extension, type, tag
6034   \begingroup
6035     \let\label\@gobble
6036     \let\textlatin\@firstofone
6037     \ifx\@currentHref\@empty
6038       \Hy@Warning{%
6039         No destination for bookmark of \string\addcontentsline,%
6040         \MessageBreak destination is added%
6041       }%
6042     \phantomsection
6043   \fi
6044   \expandafter\ifx\csname toclevel@#2\endcsname\relax
6045     \begingroup
6046       \def\Hy@tempa{#1}%
6047       \ifx\Hy@tempa\Hy@bookmarkstype
6048         \Hy@WarningNoLine{%
6049           bookmark level for unknown #2 defaults to 0%
6050         }%
6051       \else
6052         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6053       \fi
6054     \endgroup
6055     \expandafter\gdef\csname toclevel@#2\endcsname{0}%
6056   \fi
6057   \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
6058   \Hy@writebookmark{\csname the#2\endcsname}%
6059     {#3}%
6060     {\@currentHref}%
6061     {\Hy@toclevel}%
6062     {#1}%
```



```

6063 \ifHy@verbose
6064 \def\Hy@tempa{#3}%
6065 \@onelevel@sanitize\Hy@tempa
6066 \typeout{pdfTeX: bookmark at \the\inputlineno: %
6067 {\csname the#2\endcsname}%
6068 {\Hy@tempa}%
6069 {\@currentHref}%
6070 {\Hy@toclevel}%
6071 {#1}%
6072 }%
6073 \fi
6074 \addtocontents{#1}{%
6075 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6076 }%
6077 \endgroup
6078 }
6079 \def\contentsline#1#2#3#4{%
6080 \ifx\#4\%
6081 \csname l@#1\endcsname{#2}{#3}%
6082 \else
6083 \ifcase\Hy@linktoc % none
6084 \csname l@#1\endcsname{#2}{#3}%
6085 \or % section
6086 \csname l@#1\endcsname{%
6087 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6088 }{#3}%
6089 \or % page
6090 \csname l@#1\endcsname{#2}{#3}%
6091 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6092 }%
6093 \else % all
6094 \csname l@#1\endcsname{%
6095 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6096 }{#3}%
6097 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6098 }%
6099 \fi
6100 \fi
6101 }
6102 \end{package}
6103 \check
6104 \checklatex
6105 \checkcommand\def\addcontentsline#1#2#3{%
6106 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6107 }
6108 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6109 \end{check}
6110 \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.

```

6111 \let\H@definecounter\@definecounter
6112 \def\@definecounter#1{%
6113 \H@definecounter{#1}%

```

```

6114 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6115 }

```

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.

```

6116 \let\H@newctr\@newctr
6117 \def\@newctr#1[#2]{%
6118   \H@newctr#1[#2]}%
6119 \expandafter\def\csname theH#1\endcsname{%
6120   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}}%
6121 }%
6122 }

```

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.

```

6123 \@ifpackageloaded{amsmath}{%
6124   \def\Hy@make@anchor{%
6125     \Hy@GlobalStepCount\Hy@linkcounter
6126     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6127     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6128   }%
6129   \def\Hy@make@df@tag@#1{%
6130     \gdef\df@tag{%
6131       \maketag@@@{\Hy@make@anchor#1}%
6132       \def\@currentlabel{#1}%
6133     }%
6134   }%
6135   \def\Hy@make@df@tag@@#1{%
6136     \gdef\df@tag{%
6137       \tagform@{\Hy@make@anchor#1}%
6138       \toks@{\xp{\p@equation{#1}}}%
6139       \edef\@currentlabel{\the\toks@}%
6140     }%
6141   }%
6142   \let\HyOrg@make@df@tag@@\make@df@tag@@
6143   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6144   \let\make@df@tag@@\Hy@make@df@tag@@
6145   \let\make@df@tag@@@ \Hy@make@df@tag@@@
6146 }{}

```

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

```

6147 \@ifpackagewith{hyperref}{pdf $\text{\LaTeX}$ }{%
6148   \let\H@seteqlabel\@seteqlabel
6149   \def\@seteqlabel#1{%
6150     \H@seteqlabel{#1}%
6151     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6152     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6153   }%
6154 }{}

```

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.

```
6155 \let\HyOrg@addtoreset\@addtoreset
6156 \def\@addtoreset#1#2{%
6157   \HyOrg@addtoreset{#1}{#2}%
6158   \expandafter\xdef\csname theH#1\endcsname{%
6159     \expandafter\noexpand
6160     \csname the\@ifundefined{theH#2}{H#2\endcsname
6161     .\noexpand\the\noexpand\value{#1}}%
6162   }%
6163 }
```

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

```
6164 \end{package}
6165 \check
6166 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6167 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6168   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6169     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6170       \@addtoreset{#2}{#3}%
6171       \exp\xdef\csname the#2\endcsname{%
6172         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6173       }%
6174     }%
6175   }%
6176 }%
6177 \end{check}
6178 \end{package}
6179 \ifpackage{amsmath}{%
6180   \ifpackage{amsmath}[1999/12/14]{%
6181     \renewcommand*\numberwithin[3][\arabic]{%
6182       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6183         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6184           \HyOrg@addtoreset{#2}{#3}%
6185           \exp\xdef\csname the#2\endcsname{%
6186             \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6187           }%
6188           \exp\xdef\csname theH#2\endcsname{%
6189             \exp\@nx
6190             \csname the\@ifundefined{theH#3}{H#3\endcsname
6191             .\@nx#1{#2}}%
6192           }%
6193         }%
6194       }%
6195     }%
6196   }%
6197 }
```

```

6194     }%
6195   }%
6196 }{%
6197   \Hy@WarningNoLine{%
6198     \string\numberwithin\space of package ‘amsmath’ %
6199     only fixed\MessageBreak
6200     for version 2000/06/06 v2.12 or newer%
6201   }%
6202 }%
6203 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6204 \ifHy@figures
6205   \let\Hy@Gin@setfile\Gin@setfile
6206   \def\Gin@setfile#1#2#3{%
6207     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6208   }%
6209 \fi
6210 \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.

```

6211 \ifHy@hyperindex
6212   \def\HyInd@ParenLeft{ }%
6213   \def\HyInd@ParenRight{ }%
6214   \Hy@nextfalse
6215   \@ifpackageloaded{multind}{\Hy@nexttrue}{ }%
6216   \@ifpackageloaded{index}{\Hy@nexttrue}{ }%
6217   \begingroup
6218     \lccode‘\|’=\expandafter‘\HyInd@EncapChar\relax
6219   \lowercase{\endgroup
6220     \ifHy@next
6221       \let\HyInd@org@wrindex\@wrindex
6222       \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
6223       \def\HyInd@@wrindex#1#2|#3|#4\{\%
6224         \ifx\#3\%
6225           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6226         \else
6227           \def\Hy@temp@A{#3}%
6228           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6229             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6230             \relax
6231           \HyInd@org@wrindex{#1}{#2|#3}%

```

```

6232         \else
6233             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6234         \fi
6235     \fi
6236 }%
6237 \else
6238     \def\@wrindex#1{\@wrindex#1||\}%
6239     \def\@wrindex#1|#2|#3\{\%
6240         \if@files
6241             \ifx\#2\%
6242                 \protected@write\@indexfile{\%
6243                     \string\indexentry{#1|hyperpage}{\thepage}%
6244                 }%
6245             \else
6246                 \def\Hy@temp@A{#2}%
6247                 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6248                     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6249                     \relax
6250                 \protected@write\@indexfile{\%
6251                     \string\indexentry{#1|#2}{\thepage}%
6252                 }%
6253             \else
6254                 \protected@write\@indexfile{\%
6255                     \string\indexentry{#1|#2hyperpage}{\thepage}%
6256                 }%
6257             \fi
6258         \fi
6259     \fi
6260 \endgroup
6261 \@esphack
6262 }%
6263 \fi
6264 }%
6265 \fi
6266 \Hy@DisableOption{hyperindex}
6267 \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.

```

6268 \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.

```

6269 \def\hyperpage#1{%
6270     \HyInd@hyperpage#1\nohyperpage{\@nil
6271 }
6272 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6273     \HyInd@@hyperpage{#1}%
6274     #2%
6275     \def\Hy@temp{#3}%
6276     \ifx\Hy@temp\@empty
6277     \else
6278         \Hy@ReturnAfterFi{%
6279             \HyInd@hyperpage#3\@nil
6280         }%
6281     \fi
6282 }

```

```

6283 \def\HyInd@hyperpage#1{\@hyperpage#1---\}
6284 \def\@hyperpage#1--#2--#3\{%
6285   \ifx\#2\%
6286     \@commahyperpage{#1}%
6287   \else
6288     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6289   \fi
6290 }
6291 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6292 \def\@commahyperpage#1, #2,#3\{%
6293   \ifx\#2\%
6294     \HyInd@pagelink{#1}%
6295   \else
6296     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6297   \fi
6298 }

```

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

```

6299 \def\HyInd@pagelink#1{%
6300   \begingroup
6301     \toks@={}%
6302     \HyInd@removespaces#1 \@nil
6303   \endgroup
6304 }
6305 \def\HyInd@removespaces#1 #2\@nil{%
6306   \toks@=\expandafter{\the\toks@#1}%
6307   \ifx\#2\%
6308     \edef\x{\the\toks@}%
6309     \ifx\x\empty
6310       \else
6311         \hyperlink{page.\the\toks@}{\the\toks@}%
6312       \fi
6313     \else
6314       \Hy@ReturnAfterFi{%
6315         \HyInd@removespaces#2\@nil
6316       }%
6317     \fi
6318 }

```

44 Compatibility with foiltex

```

6319 \@ifclassloaded{foils}{%
6320   \providecommand*\ext@table{lot}%
6321   \providecommand*\ext@figure{lof}%
6322 }{}

```

45 Compatibility with seminar slide package

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

```

6323 \@ifclassloaded{seminar}{%
6324   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6325 }{}
6326 \Hy@seminarslidesfalse
6327 }

```

```

6328 \@ifpackageloaded{slidesec}{%
6329   \newcommand\theHslidesection  {\arabic{slidesection}}%
6330   \newcommand\theHslidesubsection{%
6331     \theHslidesection.\arabic{slidesubsection}%
6332   }%
6333   \def\slide@heading[#1]#2{%
6334     \H@refstepcounter{slidesection}%
6335     \@addtoreset{slidesubsection}{slidesection}%
6336     \addtocontents{los}{%
6337       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6338       {\SCTR}{\slideheading.\theslidesection}%
6339     }%
6340     \def\Hy@tempa{#2}%
6341     \ifx\Hy@tempa\@empty
6342     \else
6343       {%
6344         \edef\@currentlabel{%
6345           \csname p@slidesection\endcsname\theslidesection
6346         }%
6347         \makeslideheading{#2}%
6348       }%
6349     \fi
6350     \gdef\theslideheading{#1}%
6351     \gdef\theslidesubheading{}%
6352     \ifHy@bookmarksnumbered
6353       \def\Hy@slidetitle{\theslidesection\space #1}%
6354     \else
6355       \def\Hy@slidetitle{#1}%
6356     \fi
6357     \ifHy@hypertextnames
6358       \ifHy@naturalnames
6359         \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6360         \Hy@writebookmark
6361           {\theslidesection}%
6362           {\Hy@slidetitle}%
6363           {slideheading.\theslidesection}%
6364           {1}%
6365           {toc}%
6366       \else
6367         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6368         \Hy@writebookmark
6369           {\theslidesection}%
6370           {\Hy@slidetitle}%
6371           {slideheading.\theHslidesection}%
6372           {1}%
6373           {toc}%
6374       \fi
6375     \else
6376       \Hy@GlobalStepCount\Hy@linkcounter
6377       \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6378       \Hy@writebookmark
6379         {\theslidesection}%
6380         {\Hy@slidetitle}%
6381         {slideheading.\the\Hy@linkcounter}%
6382         {1}%
6383         {toc}%
6384     \fi

```

```

6385 }%
6386 \def\slide@subheading[#1]#2{%
6387   \H@refstepcounter{slidesubsection}%
6388   \addtocontents{los}{%
6389     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6390     {\@SCTR}{slideheading.\theslidesubsection}%
6391   }%
6392   \def\Hy@tempa{#2}%
6393   \ifx\Hy@tempa\@empty
6394   \else
6395     {%
6396       \edef\@currentlabel{%
6397         \csname p@slidesubsection\endcsname\theslidesubsection
6398       }%
6399       \makeslidesubheading{#2}%
6400     }%
6401   \fi
6402   \gdef\theslidesubheading{#1}%
6403   \ifHy@bookmarksnumbered
6404     \def\Hy@slidetitle{\theslidesubsection\space #1}%
6405   \else
6406     \def\Hy@slidetitle{#1}%
6407   \fi
6408   \ifHy@hypertextnames
6409     \ifHy@naturalnames
6410       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6411       \Hy@writebookmark
6412         {\theslidesubsection}%
6413         {\Hy@slidetitle}%
6414         {slideheading.\theslidesubsection}%
6415         {2}%
6416         {toc}%
6417     \else
6418       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6419       \Hy@writebookmark
6420         {\theslidesubsection}%
6421         {\Hy@slidetitle}%
6422         {slideheading.\theHslidesubsection}%
6423         {2}%
6424         {toc}%
6425     \fi
6426   \else
6427     \Hy@GlobalStepCount\Hy@linkcounter
6428     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6429     \Hy@writebookmark
6430       {\theslidesubsection}%
6431       {\Hy@slidetitle}%
6432       {slideheading.\the\Hy@linkcounter}%
6433       {1}%
6434       {toc}%
6435   \fi
6436 }%
6437 \providecommand*\listslidenamelist{List of Slides}%
6438 \def\listofslides{%
6439   \section*{%
6440     \listslidenamelist
6441     \@mkboth{%

```



```

6442         \expandafter\MakeUppercase\listslidenam
6443     }{%
6444         \expandafter\MakeUppercase\listslidenam
6445     }%
6446 }%
6447 \def\l@slide##1##2##3##4{%
6448     \slide@undottedcline{%
6449         \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6450     }{%
6451     }%
6452     \let\l@subslide\l@slide
6453     \@startlos
6454 }%
6455 \def\slide@contents{%
6456     \def\l@slide##1##2##3##4{%
6457         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6458     }%
6459     \let\l@subslide\@gobblefour
6460     \@startlos
6461 }%
6462 \def\Slide@contents{%
6463     \def\l@slide##1##2##3##4{%
6464         \ifcase\lslide@flag
6465             \message{##1 ** \the\c@slidesection}%
6466             \ifnum##1>\c@slidesection
6467                 \def\lslide@flag{1}%
6468                 {%
6469                     \large
6470                     \slide@ccline{%
6471                         \slidenumberline{$\Rightarrow\bullet$}%
6472                         {\hyperlink{##4}{##2}}}%
6473                     }{##3}%
6474                 }%
6475             \else
6476                 {%
6477                     \large
6478                     \slide@ccline{%
6479                         \slidenumberline{$\surd\;\bullet$}%
6480                         {\hyperlink{##4}{##2}}}%
6481                     }{##3}%
6482                 }%
6483             \fi
6484         \or
6485             \def\lslide@flag{2}%
6486             {%
6487                 \large
6488                 \slide@ccline{%
6489                     \slidenumberline{$\bullet$}%
6490                     {\hyperlink{##4}{##2}}}%
6491                 }{##3}%
6492             }%
6493         \or
6494             {%
6495                 \large
6496                 \slide@ccline{%
6497                     \slidenumberline{$\bullet$}%
6498                     {\hyperlink{##4}{##2}}}%

```

```

6499         }{##3}%
6500     }%
6501     \fi
6502 }%
6503 \def\l@subslide##1##2##3##4{%
6504     \ifnum\l@slide@flag=1 %
6505         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6506     \fi
6507 }%
6508 \def\l@slide@flag{0}%
6509 \@startlos
6510 }%
6511 }{}

```

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.)

```

6512 \ifHy@texht
6513     \expandafter\endinput
6514 \fi
6515 \let\real@setref\@setref
6516 \def\@setref#1#2#3{% csname, extract group, refname
6517     \ifx#1\relax
6518         \protect\G@refundefinedtrue
6519         \nfss@text{\reset@font\bfseries ??}%
6520         \@latex@warning{%
6521             Reference ‘#3’ on page \thepage \space undefined%
6522         }%
6523     \else
6524         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6525     \fi
6526 }

```

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

```

6527 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6528     \begingroup
6529     \toks0={\hyper@@link{#5}{#4}}%
6530     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6531     \edef\x{\endgroup
6532         \the\toks0 {\the\toks1 }%
6533     }%
6534     \x
6535 }
6536 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6537     \ifx#1\relax
6538         \protect\G@refundefinedtrue
6539         \nfss@text{\reset@font\bfseries ??}%
6540         \@latex@warning{%
6541             Reference ‘#3’ on page \thepage \space undefined%
6542         }%
6543     \else
6544         \protect\hyper@@link
6545         {\expandafter\@fifthoffive#1}%
6546         {page.\expandafter\@secondoffive#1}%
6547         {\expandafter\@secondoffive#1}%
6548     \fi
6549 }

```

```

6550 </package>
6551 <*check>
6552 \checklatex
6553 \checkcommand\def\@setref#1#2#3{%
6554   \ifx#1\relax
6555     \protect\G@refundefinedtrue
6556     \nfss@text{\reset@font\bfseries ??}%
6557     \@latex@warning{%
6558       Reference ‘#3’ on page \thepage\space undefined%
6559     }%
6560   \else
6561     \expandafter#2#1\null
6562   \fi
6563 }
6564 </check>
6565 <*package>

```

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

```

6566 \def\HyRef@StarSetRef#1{%
6567   \begingroup
6568   \Hy@safe@activetrue
6569   \edef\x{#1}%
6570   \@onelevel@sanitize\x
6571   \edef\x{\endgroup
6572     \noexpand\HyRef@@StarSetRef
6573     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6574   }%
6575   \x
6576 }
6577 \def\HyRef@@StarSetRef#1#2#3{%
6578   \ifx#1\@undefined
6579     \let#1\relax
6580   \fi
6581   \real@setref#1#3{#2}%
6582 }
6583 \def\@refstar#1{%
6584   \HyRef@StarSetRef{#1}\@firstoffive
6585 }
6586 \def\@pagerefstar#1{%
6587   \HyRef@StarSetRef{#1}\@secondoffive
6588 }
6589 \AtBeginDocument{%
6590   \@ifpackageloaded{varioref}{%
6591     \def\@Refstar#1{%
6592       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6593     }%
6594     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6595       \MakeUppercase#1%
6596     }%
6597     \DeclareRobustCommand*\Ref{-}%
6598     \@ifstar\@Refstar\HyRef@Ref
6599   }%
6600   \def\HyRef@Ref#1{%
6601     \hyperref[#{#1}]{\Ref*{#1}}%
6602   }%
6603   \def\Vr@f#1{%
6604     \leavevmode\unskip\vref@space

```

```

6605     \hyperref[ $\{ \#1 \}]{\%$ 
6606         \Ref* $\{ \#1 \}$ %
6607         \let\vref@space\nobreakspace
6608         \@vpageref[\unskip] $\{ \#1 \}$ %
6609     }%
6610 }%
6611 \def\vr@f#1{%
6612     \leavevmode\unskip\vref@space
6613     \begingroup
6614         \let\T@pageref\@pagerefstar
6615         \hyperref[ $\{ \#1 \}]{\%$ 
6616             \ref* $\{ \#1 \}$ %
6617             \vpageref[\unskip] $\{ \#1 \}$ %
6618         }%
6619     \endgroup
6620 }%
6621 }{}%
6622 }
6623 \DeclareRobustCommand*\autopageref{%
6624     \@ifstar{%
6625         \HyRef@autopagerefname\pageref*%
6626     }\HyRef@autopageref
6627 }
6628 \def\HyRef@autopageref#1{%
6629     \hyperref[ $\{ \#1 \}]{\HyRef@autopagerefname\pageref* $\{ \#1 \}$ %}
6630 }
6631 \def\HyRef@autopagerefname{%
6632     \@ifundefined{pageautorefname}{%
6633         \@ifundefined{pagename}{%
6634             \Hy@Warning{No autoref name for ‘page’}%
6635         }{%
6636             \pagename\nobreakspace
6637         }%
6638     }{%
6639         \pageautorefname\nobreakspace
6640     }%
6641 }
6642 \DeclareRobustCommand*\autoref{%
6643     \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@link}%
6644 }
6645 \def\HyRef@autoref#1#2{%
6646     \begingroup
6647         \Hy@safe@activetrue
6648         \expandafter\HyRef@autosetref\csname r@#2\endcsname $\{ \#2 \}$  $\{ \#1 \}$ %
6649     \endgroup
6650 }
6651 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6652     \HyRef@ShowKeysRef $\{ \#2 \}$ %
6653     \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6654         \edef\HyRef@thisref{%
6655             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6656         }%
6657         \expandafter\HyRef@testrestype\HyRef@thisref.\.%
6658         \Hy@safe@activesfalse
6659         #3{%
6660             \expandafter\@fifthoffive#1\@empty\@empty\@empty
6661         }{%$ 
```

```

6662     \expandafter\@fourthoffive#1\@empty\@empty\@empty
6663   }{%
6664     \HyRef@currentHtag
6665     \expandafter\@firstoffive#1\@empty\@empty\@empty
6666     \null
6667   }%
6668 \else
6669   \protect\G@refundefinedtrue
6670   \nfss@text{\reset@font\bfseries ??}%
6671   \@latex@warning{%
6672     Reference ‘#2’ on page \thepage\space undefined%
6673   }%
6674 \fi
6675 }
6676 \def\HyRef@testreftype#1.#2\\{%
6677   \@ifundefined{#1autorefname}{%
6678     \@ifundefined{#1name}{%
6679       \HyRef@StripStar#1\\*\\@nil{#1}%
6680       \@ifundefined{\HyRef@name autorefname}{%
6681         \@ifundefined{\HyRef@name name}{%
6682           \def\HyRef@currentHtag{%
6683             \Hy@Warning{No autoref name for ‘#1’}%
6684           }{%
6685             \edef\HyRef@currentHtag{%
6686               \expandafter\noexpand\csname\HyRef@name name\endcsname
6687               \noexpand~%
6688             }%
6689           }%
6690         }{%
6691           \edef\HyRef@currentHtag{%
6692             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6693             \noexpand~%
6694           }%
6695         }%
6696       }{%
6697         \edef\HyRef@currentHtag{%
6698           \expandafter\noexpand\csname#1name\endcsname
6699           \noexpand~%
6700         }%
6701       }%
6702     }{%
6703       \edef\HyRef@currentHtag{%
6704         \expandafter\noexpand\csname#1autorefname\endcsname
6705         \noexpand~%
6706       }%
6707     }%
6708   }
6709 \def\HyRef@StripStar#1*\\#2\@nil#3{%
6710   \def\HyRef@name{#2}%
6711   \ifx\HyRef@name\HyRef@CaseStar
6712     \def\HyRef@name{#1}%
6713   \else
6714     \def\HyRef@name{#3}%
6715   \fi
6716 }
6717 \def\HyRef@CaseStar{*\\}
6718 \def\HyRef@currentHtag{}

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```
6719 \let\HyRef@ShowKeysRef\@gobble
6720 \def\HyRef@ShowKeysInit{%
6721   \begingroup\expandafter\expandafter\expandafter\endgroup
6722   \expandafter\ifx\csname SK@@label\endcsname\relax
6723   \else
6724     \ifx\SK@ref\@empty
6725     \else
6726       \def\HyRef@ShowKeysRef{%
6727         \SK@\SK@@ref
6728       }%
6729     \fi
6730   \fi
6731 }
6732 \@ifpackageloaded{showkeys}{%
6733   \HyRef@ShowKeysInit
6734 }{%
6735   \AtBeginDocument{%
6736     \@ifpackageloaded{showkeys}{%
6737       \HyRef@ShowKeysInit
6738     }{%
6739     }%
6740 }
```

Defaults for the names that `\autoref` uses.

```
6741 \providecommand*\AMSautorefname{\equationautorefname}
6742 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6743 \providecommand*\Itemautorefname{\itemautorefname}
6744 \providecommand*\itemautorefname{item}
6745 \providecommand*\equationautorefname{Equation}
6746 \providecommand*\footnoteautorefname{footnote}
6747 \providecommand*\itemautorefname{item}
6748 \providecommand*\figureautorefname{Figure}
6749 \providecommand*\tableautorefname{Table}
6750 \providecommand*\partautorefname{Part}
6751 \providecommand*\appendixautorefname{Appendix}
6752 \providecommand*\chapterautorefname{chapter}
6753 \providecommand*\sectionautorefname{section}
6754 \providecommand*\subsectionautorefname{subsection}
6755 \providecommand*\subsubsectionautorefname{subsubsection}
6756 \providecommand*\paragraphautorefname{paragraph}
6757 \providecommand*\subparagraphautorefname{subparagraph}
6758 \providecommand*\FancyVerbLineautorefname{line}
6759 \providecommand*\theoremautorefname{Theorem}
6760 \providecommand*\pageautorefname{page}
6761 \endpackage
```

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 pdfTeX offers \pdfescapestring.

```

6762 \*pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo)
6763 \RequirePackage{pdfTeXcmds}[2007/11/11]
6764 \begingroup\expandafter\expandafter\expandafter\endgroup
6765 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6766   \begingroup
6767     \catcode'\| =0 %
6768     \@makeother\| %
6769     |@firstofone{| \endgroup
6770     |def|Hy@pstringdef#1#2{%
6771       |begingroup
6772         |edef~{|string}%
6773         |xdef|Hy@gtemp{#2}%
6774       |endgroup
6775       |let#1|Hy@gtemp
6776       |@onelevel@sanitize#1%
6777       |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
6778       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6779       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6780     }%
6781     |def|Hy@ExchangeBackslash#1\#2|@nil{%
6782       #1%
6783       |ifx|\#2|\%
6784       |else
6785         \| %
6786         |Hy@ReturnAfterFi{%
6787           |Hy@ExchangeBackslash#2|@nil
6788         }%
6789       |fi
6790     }%
6791   }%
6792   \def\Hy@ExchangeLeftParenthesis#1(#2@nil{%
6793     #1%
6794     \ifx\#2\%
6795     \else
6796       \@backslashchar(%
6797       \Hy@ReturnAfterFi{%
6798         \Hy@ExchangeLeftParenthesis#2@nil
6799       }%
6800     \fi
6801   }%
6802   \def\Hy@ExchangeRightParenthesis#1)#2@nil{%
6803     #1%
6804     \ifx\#2\%
6805     \else
6806       \@backslashchar)%
6807       \Hy@ReturnAfterFi{%
6808         \Hy@ExchangeRightParenthesis#2@nil
6809       }%
6810     \fi
6811   }%
6812 \else
6813   \def\Hy@pstringdef#1#2{%
6814     \begingroup
6815     \edef~{\string}%

```

```

6816      \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6817      \endgroup
6818      \let#1\Hy@gtemp
6819    }%
6820 \fi
6821 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

6822 <*pdfTeX>
6823 \providecommand*\XR@ext}{pdf}
6824 \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, 2005-08-08: `\pdfminorversion`

```

6825 \let\Hy@pdfminorversion\relax
6826 \begingroup\expandafter\expandafter\expandafter\endgroup
6827 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6828   \begingroup\expandafter\expandafter\expandafter\endgroup
6829   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6830     \else
6831       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6832     \fi
6833   \else
6834     \def\Hy@pdfminorversion{\pdfminorversion}%
6835   \fi
6836 \@@ifundefined{Hy@pdfminorversion}{%
6837   \PackageInfo{hyperref}{%
6838     PDF version is not set, because pdfTeX is too old (<1.10a)%
6839   }%
6840 }{%
6841   \ifHy@ocgcolorlinks
6842     \ifnum\Hy@pdfminorversion<5 %
6843       \setkeys{Hyp}{pdfversion=1.5}%
6844     \fi
6845   \fi
6846   \ifHy@setpdfversion
6847     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6848     \else
6849       \Hy@pdfminorversion=\Hy@pdfversion\relax
6850     \fi
6851     \PackageInfo{hyperref}{%
6852       \expandafter\string\Hy@pdfminorversion
6853       :=\number\Hy@pdfversion\space
6854     }%
6855   \fi
6856   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6857 }
6858 \Hy@DisableOption{pdfversion}%
6859 \ifHy@ocgcolorlinks
6860   \immediate\pdfobj{%
6861     <<%

```



```

6862      /Type/OCG%
6863      /Name(View)%
6864      /Usage<<%
6865          /Print<<%
6866              /PrintState/OFF%
6867          >>%
6868      /View<<%
6869          /ViewState/ON%
6870      >>%
6871  >>%
6872  >>%
6873 }%
6874  \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6875  \immediate\pdfobj{%
6876      <<%
6877          /Type/OCG%
6878          /Name(Print)%
6879          /Usage<<%
6880              /Print<<%
6881                  /PrintState/ON%
6882              >>%
6883              /View<<%
6884                  /ViewState/OFF%
6885              >>%
6886          >>%
6887      >>%
6888 }%
6889  \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6890  \immediate\pdfobj{%
6891      [%
6892          \OBJ@OCG@view\space\OBJ@OCG@print
6893      ]%
6894 }%
6895  \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6896  \pdfcatalog{%
6897      /OCProperties<<%
6898          /OCGs \OBJ@OCGs
6899      /D<<%
6900          /OFF[\OBJ@OCG@print]%
6901          /AS[%
6902              <<%
6903                  /Event/View%
6904                  /OCGs \OBJ@OCGs
6905                  /Category[/View]%
6906              >>%
6907              <<%
6908                  /Event/Print%
6909                  /OCGs \OBJ@OCGs
6910                  /Category[/Print]%
6911              >>%
6912              <<%
6913                  /Event/Export%
6914                  /OCGs \OBJ@OCGs
6915                  /Category[/Print]%
6916              >>%
6917          ]%
6918      >>%

```

```

6919    >>%
6920  }%
6921  \begingroup
6922    \edef\x{\endgroup
6923      \pdfpageresources{%
6924        /Properties<<%
6925          /OCView \OBJ@OCG@view
6926          /OCPrint \OBJ@OCG@print
6927        >>%
6928      }%
6929    }%
6930  \x
6931  \AtBeginDocument{%
6932    \def\Hy@colorlink#1{%
6933      \begingroup
6934        \ifHy@ocgcolorlinks
6935          \def\Hy@ocgcolor{#1}%
6936          \setbox0=\color@hbox
6937        \else
6938          \HyColor@UseColor#1%
6939        \fi
6940      }%
6941    \def\Hy@endcolorlink{%
6942      \ifHy@ocgcolorlinks
6943        \color@endbox
6944        \mbox{%
6945          \pdfliteral page{/OC/OCPrint BDC}%
6946          \rlap{\copy0}%
6947          \pdfliteral page{EMC/OC/OCView BDC}%
6948          \begingroup
6949            \expandafter\HyColor@UseColor\Hy@ocgcolor
6950            \box0 %
6951          \endgroup
6952          \pdfliteral page{EMC}%
6953        }%
6954      \fi
6955    \endgroup
6956  }%
6957 }%
6958 \else
6959 \Hy@DisableOption{ocgcolorlinks}%
6960 \fi

```

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

```

6961 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6962 \ifx\pdfstartlink\@undefined% less than version 14
6963   \let\pdfstartlink\pdfannotlink
6964   \let\pdflinkmargin\@tempdima
6965   \let\pdfxform\pdfform
6966   \let\pdflastxform\pdflastform
6967   \let\pdfrefxform\pdfrefform
6968 \else
6969   \pdflinkmargin1pt %
6970 \fi

```

First set up the default linking

```
6971 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

6972 \def\new@pdflink#1{%
6973   \ifHy@verbose
6974     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6975   \fi
6976   \Hy@SaveLastskip
6977   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
6978   \Hy@DestName\Hy@pstringDest\@pdfview
6979   \Hy@RestoreLastskip
6980 }
6981 \let\pdf@endanchor\@empty

```

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

```

6982 \def\Hy@DestName#1#2{%
6983   \pdfdest name{#1}#2\relax
6984 }

```

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.

```

6985 \providecommand*\@pdfborder{0 0 1}
6986 \providecommand*\@pdfborderstyle{}
6987 \def\Hy@undefinedname{UNDEFINED}
6988 \def\find@pdflink#1#2{%
6989   \leavevmode
6990   \protected@edef\Hy@testname{#2}%
6991   \ifx\Hy@testname\@empty
6992     \let\Hy@testname\Hy@undefinedname
6993   \else
6994     \Hy@pstringdef\Hy@testname{%
6995       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
6996     }%
6997   \fi
6998   \Hy@StartlinkName{%
6999     \ifHy@pdfa /F 4\fi
7000     \Hy@setpdfborder
7001     \ifx\@pdfhighlight\@empty
7002       \else
7003         /H\@pdfhighlight
7004       \fi
7005       \ifx\CurrentBorderColor\relax
7006       \else
7007         /C[\CurrentBorderColor]%
7008       \fi
7009     }\Hy@testname
7010     \expandafter\Hy@colorlink\csname @#1color\endcsname
7011   }
7012 \def\Hy@StartlinkName#1#2{%
7013   \pdfstartlink attr{#1}goto name{#2}\relax
7014 }
7015 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7016 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7017 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7018 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalses}
7019 \def\hyper@linkstart#1#2{%
7020   \@ifundefined{#1bordercolor}{%

```

```

7021 \let\CurrentBorderColor\relax
7022 }{%
7023 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7024 }%
7025 \find@pdflink{#1}{#2}%
7026 }
7027 \def\hyper@linkend{\close@pdflink}
7028 \def\hyper@link#1#2#3{%
7029 \@ifundefined{#@1bordercolor}{%
7030 \let\CurrentBorderColor\relax
7031 }{%
7032 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7033 }%
7034 \find@pdflink{#1}{#2}#3%
7035 \close@pdflink
7036 }
7037 \let\CurrentBorderColor\@linkbordercolor
7038 \def\hyper@linkurl#1#2{%
7039 \begingroup
7040 \Hy@pstringdef\Hy@pstringURI{#2}%
7041 \hyper@chars
7042 \leavevmode
7043 \pdfstartlink
7044 attr{%
7045 \Hy@setpdfborder
7046 \ifx\@pdfhighlight\@empty
7047 \else
7048 /H\@pdfhighlight
7049 \fi
7050 \ifx\@urlbordercolor\relax
7051 \else
7052 /C[\@urlbordercolor]%
7053 \fi
7054 }%
7055 user{%
7056 /Subtype/Link%
7057 \ifHy@pdfa /F 4\fi
7058 /A<<%
7059 /Type/Action%
7060 /S/URI%
7061 /URI(\Hy@pstringURI)%
7062 >>%
7063 }%
7064 \relax
7065 \Hy@colorlink\@urlcolor#1%
7066 \close@pdflink
7067 \endgroup
7068 }
7069 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7070 \begingroup
7071 \Hy@pstringdef\Hy@pstringF{#2}%
7072 \Hy@pstringdef\Hy@pstringD{#3}%
7073 \leavevmode
7074 \pdfstartlink
7075 attr{%
7076 \Hy@setpdfborder
7077 \ifx\@pdfhighlight\@empty

```

```

7078         \else
7079             /H\@pdfhighlight
7080         \fi
7081         \ifx\@filebordercolor\relax
7082         \else
7083             /C[\@filebordercolor]%
7084         \fi
7085     }%
7086     user {%
7087         /Subtype/Link%
7088         \ifHy@pdfa /F 4\fi
7089         /A<%
7090         /F(\Hy@pstringF)%
7091         /S/GoToR%
7092         \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}

```

```

7093         \ifx\#3\%
7094             /D[0 \@pdfstartview]%
7095         \else
7096             /D(\Hy@pstringD)%
7097         \fi
7098     >>%
7099     }%
7100     \relax
7101     \Hy@colorlink\@filecolor#1%
7102     \close@pdflink
7103 \endgroup
7104 }
7105 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7106     \begingroup
7107     \Hy@pstringdef\Hy@pstringF{#1}%
7108     \Hy@pstringdef\Hy@pstringP{#3}%
7109     \leavevmode
7110     \pdfstartlink
7111     attr{%
7112         \Hy@setpdfborder
7113         \ifx\@pdfhighlight\@empty
7114         \else
7115             /H\@pdfhighlight
7116         \fi
7117         \ifx\@runbordercolor\relax
7118         \else
7119             /C[\@runbordercolor]%
7120         \fi
7121     }%
7122     user {%
7123         /Subtype/Link%

```

```

7124      \ifHy@pdfa /F 4\fi
7125      /A<<%
7126        /F(\Hy@pstringF)%
7127        /S/Launch%
7128        \Hy@SetNewWindow
7129        \ifx\\#3\\%
7130        \else
7131          /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7132        \fi
7133      >>%
7134    }%
7135    \relax
7136    \Hy@colorlink\@runcolor#2%
7137    \close@pdflink
7138  \endgroup
7139 }

```

\@pdfproducer

```

7140 \ifx\@pdfproducer\relax
7141   \begingroup\expandafter\expandafter\expandafter\endgroup
7142   \expandafter\ifx\csname luatexversion\endcsname\relax
7143     \def\@pdfproducer{pdfTeX}%
7144     \ifx\eTeXversion\@undefined
7145     \else
7146       \ifx\eTeXversion\relax
7147       \else
7148         \ifnum\eTeXversion>0 %
7149           \def\@pdfproducer{pdfTeX}%
7150         \fi
7151       \fi
7152     \fi
7153     \ifx\pdfTeXversion\@undefined
7154     \else
7155       \ifnum\pdfTeXversion<100 %
7156         \edef\@pdfproducer{%
7157           \@pdfproducer
7158           \the\pdfTeXversion.\pdfTeXrevision
7159         }%
7160       \else
7161         \ifnum\pdfTeXversion<130 %
7162           \edef\@pdfproducer{%
7163             \@pdfproducer-
7164             \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7165             \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7166             \pdfTeXrevision
7167           }%
7168         \else
7169           \ifnum\pdfTeXversion<140 %
7170           \else
7171             \def\@pdfproducer{pdfTeX}%
7172           \fi
7173           \edef\@pdfproducer{%
7174             \@pdfproducer-
7175             \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7176             \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7177             \pdfTeXrevision
7178           }%

```

```

7179     \fi
7180     \fi
7181     \fi
7182   \else
7183     \begingroup
7184     \count@=\luatexversion
7185     \divide\count@ by 100 %
7186     \edef\x{\the\count@}%
7187     \count@=-\x\relax
7188     \multiply\count@ by 100 %
7189     \advance\count@ by \luatexversion
7190     \edef\x{\endgroup
7191       \def\noexpand\pdfproducer{%
7192         LuaTeX-x.\the\count@.\luatexrevision
7193       }%
7194     }%
7195     \x
7196   \fi
7197 \fi

```

\PDF@SetupDox

```

7198 \def\PDF@SetupDoc{%
7199   \ifx\pdfpagescrop\empty
7200   \else
7201     \edef\process@me{%
7202       \pdfpagesattr={%
7203         /CropBox[\pdfpagescrop]%
7204         \expandafter\ifx\expandafter\the\pdfpagesattr\%
7205         \else
7206           ^^J\the\pdfpagesattr
7207         \fi
7208       }%
7209     }%
7210     \process@me
7211   \fi
7212   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7213   \pdfcatalog{%
7214     /PageMode/\pdfpagemode
7215     \ifx\@baseurl\empty
7216     \else
7217       /URI<</Base(\Hy@pstringB)>>%
7218     \fi
7219   }%
7220   \ifx\pdfstartpage\empty
7221   \else
7222     \ifx\pdfstartview\empty
7223     \else
7224       openaction goto page\pdfstartpage{\pdfstartview}%
7225     \fi
7226   \fi
7227   \edef\Hy@temp{%
7228     \ifHy@toolbar\else /HideToolbar true\fi
7229     \ifHy@menubar\else /HideMenubar true\fi
7230     \ifHy>windowui\else /HideWindowUI true\fi
7231     \ifHy@fitwindow /FitWindow true\fi
7232     \ifHy@centerwindow /CenterWindow true\fi
7233     \ifHy@displaydoctitle /DisplayDocTitle true\fi

```

```

7234 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7235 \Hy@UseNameKey{Direction}\@pdfdirection
7236 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7237 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7238 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7239 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7240 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7241 \Hy@UseNameKey{Duplex}\@pdfduplex
7242 \ifx\@pdfpicktraybypdfsize\@empty
7243 \else
7244 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7245 \fi
7246 \ifx\@pdfprintpagerange\@empty
7247 \else
7248 /PrintPageRange[\@pdfprintpagerange]%
7249 \fi
7250 \ifx\@pdfnumcopies\@empty
7251 \else
7252 /NumCopies \@pdfnumcopies
7253 \fi
7254 }%
7255 \pdfcatalog{%
7256 \ifx\Hy@temp\@empty
7257 \else
7258 /ViewerPreferences<<\Hy@temp>>%
7259 \fi
7260 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7261 \ifx\@pdflang\@empty
7262 \else
7263 /Lang(\@pdflang)%
7264 \fi
7265 }%
7266 }

```

\PDF@FinishDoc

```

7267 \def\PDF@FinishDoc{%
7268 \Hy@UseMaketitleInfos
7269 \pdfinfo{%
7270 /Author(\@pdfauthor)%
7271 /Title(\@pdftitle)%
7272 /Subject(\@pdfsubject)%
7273 /Creator(\@pdfcreator)%
7274 \ifx\@pdfcreationdate\@empty
7275 \else
7276 /CreationDate(\@pdfcreationdate)%
7277 \fi
7278 \ifx\@pdfmoddate\@empty
7279 \else
7280 /ModDate(\@pdfmoddate)%
7281 \fi
7282 \ifx\@pdfproducer\relax
7283 \else
7284 /Producer(\@pdfproducer)%
7285 \fi
7286 /Keywords(\@pdfkeywords)%
7287 }%
7288 \Hy@DisableOption{pdfauthor}%

```



```

7289 \Hy@DisableOption{pdftitle}%
7290 \Hy@DisableOption{pdfsubject}%
7291 \Hy@DisableOption{pdfcreator}%
7292 \Hy@DisableOption{pdfcreationdate}%
7293 \Hy@DisableOption{pdfmoddate}%
7294 \Hy@DisableOption{pdfproducer}%
7295 \Hy@DisableOption{pdfkeywords}%
7296 }

```

\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.

```

7297 \def\hyper@pagetransition{%
7298   \ifx\@pdfpagetransition\relax
7299   \else
7300     \expandafter\Hy@RemoveTransPageAttr
7301     \the\pdfpageattr^^J/Trans{>>\END
7302     \ifx\@pdfpagetransition\@empty
7303     \else
7304       \edef\@processme{%
7305         \global\pdfpageattr{%
7306           \the\pdfpageattr
7307             ^^J/Trans << /S /\@pdfpagetransition\space >>%
7308         }%
7309       }%
7310       \@processme
7311     \fi
7312   \fi
7313 }

```

\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.

```

7314 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7315   \ifx\#2\%
7316     \global\pdfpageattr{#1}%
7317   \else
7318     \Hy@RemoveTransPageAttr#1#4\END
7319   \fi
7320 }

```

\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.

```

7321 \def\hyper@pageduration{%
7322   \ifx\@pdfpageduration\relax
7323   \else
7324     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7325     \ifx\@pdfpageduration\@empty
7326     \else
7327       \edef\@processme{%
7328         \global\pdfpageattr{%
7329           \the\pdfpageattr
7330             ^^J/Dur \@pdfpageduration\space
7331         }%
7332       }%

```

```

7333     \@processme
7334     \fi
7335 \fi
7336 }

```

`\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.

```

7337 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7338   \ifx\#2\%
7339     \global\pdfpageattr{#1}%
7340   \else
7341     \Hy@RemoveDurPageAttr#1#4\END
7342   \fi
7343 }

```

`\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).

```

7344 \def\hyper@pagehidden{%
7345   \ifHy@useHidKey
7346     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7347   \ifHy@pdfpagehidden
7348     \edef\@processme{%
7349       \global\pdfpageattr{%
7350         \the\pdfpageattr
7351         ^^J/Hid true % SPACE
7352       }%
7353     }%
7354     \@processme
7355   \fi
7356 \fi
7357 }

```

`\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.

```

7358 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7359   \ifx\#2\%
7360     \global\pdfpageattr{#1}%
7361   \else
7362     \Hy@RemoveHidPageAttr#1#4\END
7363   \fi
7364 }

```

```

7365 \g@addto@macro\Hy@EveryPageHook{%
7366   \hyper@pagetransition
7367   \hyper@pageduration
7368   \hyper@pagehidden
7369 }

```

```

7370 \AtBeginDocument{%
7371   \ifHy@setpagesize
7372     \expandafter\@firstofone
7373   \else

```

```

7374 \expandafter\@gobble
7375 \fi
7376 {%
7377 \@ifclassloaded{seminar}{%
7378 \setlength{\pdfhorigin}{1truein}%
7379 \setlength{\pdfvorigin}{1truein}%
7380 \ifportrait
7381 \ifdim\paperwidth=\z@
7382 \else
7383 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7384 \fi
7385 \ifdim\paperheight=\z@
7386 \else
7387 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7388 \fi
7389 \else
7390 \ifdim\paperheight=\z@
7391 \else
7392 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7393 \fi
7394 \ifdim\paperwidth=\z@
7395 \else
7396 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7397 \fi
7398 \fi
7399 }{%
7400 \@ifundefined{stockwidth}{%
7401 \ifdim\paperwidth=\z@
7402 \else
7403 \setlength{\pdfpagewidth}{\paperwidth}%
7404 \fi
7405 \ifdim\paperheight=\z@
7406 \else
7407 \setlength{\pdfpageheight}{\paperheight}%
7408 \fi
7409 }{%
7410 \ifdim\stockwidth=\z@
7411 \else
7412 \setlength{\pdfpagewidth}{\stockwidth}%
7413 \fi
7414 \ifdim\stockheight=\z@
7415 \else
7416 \setlength{\pdfpageheight}{\stockheight}%
7417 \fi
7418 }%
7419 }%
7420 }%
7421 \Hy@DisableOption{setpagesize}%
7422 }
7423 \def\Acrobatmenu#1#2{%
7424 \Hy@Acrobatmenu{#1}{#2}{%
7425 \pdfstartlink
7426 attr{%
7427 \Hy@setpdfborder
7428 \ifx\@pdfhighlight\@empty
7429 \else
7430 /H\@pdfhighlight

```

```

7431      \fi
7432      \ifx\@menubordercolor\relax
7433      \else
7434      /C[\@menubordercolor]%
7435      \fi
7436    }%
7437    user{%
7438      /Subtype/Link%
7439      \ifHy@pdfa /F 4\fi
7440      /A<<%
7441      /S/Named/N/#1%
7442      >>%
7443    }%
7444    \relax
7445    \Hy@colorlink\@menucolor#2%
7446    \close@pdflink
7447  }%
7448 }
7449 </pdftex>
7450 <*hypertex>

```

46.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is 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.

```

7451 \providecommand*{\XR@ext}{dvi}
7452 \def\PDF@FinishDoc{

```

```

7453 \def\PDF@SetupDoc{%
7454   \ifx\@baseurl\@empty
7455   \else
7456     \special{html:<base href="\@baseurl">}%
7457   \fi
7458 }
7459 \def\hyper@anchor#1{%
7460   \Hy@SaveLastskip
7461   \begingroup
7462     \let\protect=\string
7463     \hyper@chars
7464     \special{html:<a name=%
7465       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7466   \endgroup
7467   \Hy@activeanchortrue
7468   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7469   \special{html:</a>}%
7470   \Hy@activeanchorfalse
7471   \Hy@RestoreLastskip
7472 }
7473 \def\hyper@anchorstart#1{%
7474   \Hy@SaveLastskip
7475   \begingroup
7476     \hyper@chars
7477     \special{html:<a name=%
7478       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7479   \endgroup
7480   \Hy@activeanchortrue
7481 }
7482 \def\hyper@anchorend{%
7483   \special{html:</a>}%
7484   \Hy@activeanchorfalse
7485   \Hy@RestoreLastskip
7486 }
7487 \def\@urlltype{url}
7488 \def\hyper@linkstart#1#2{%
7489   \expandafter\Hy@colorlink\csname @#1color\endcsname
7490   \def\Hy@tempa{#1}%
7491   \ifx\Hy@tempa\@urlltype
7492     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7493   \else
7494     \begingroup
7495       \hyper@chars
7496       \special{html:<a href=%
7497         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
7498     \endgroup
7499   \fi
7500 }
7501 \def\hyper@linkend{%
7502   \special{html:</a>}%
7503   \Hy@endcolorlink
7504 }
7505 \def\hyper@linkfile#1#2#3{%
7506   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7507 }
7508 \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.

```

7509 \leavevmode
7510 \ifHy@raiselinks
7511   \setbox\@tempboxa=\color@hbox #1\color@endbox
7512   \@linkdim\dp\@tempboxa
7513   \lower\@linkdim\hbox{%
7514     \hyper@chars
7515     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7516   }%
7517   \Hy@colorlink\@urlcolor#1%
7518   \@linkdim\ht\@tempboxa

```

Because of the interaction with the `dvihs` 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).

```

7519   \advance\@linkdim by -6.5\p@
7520   \raise\@linkdim\hbox{\special{html:</a>}}%
7521   \Hy@endcolorlink
7522 \else
7523   \begingroup
7524   \hyper@chars
7525   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7526   \Hy@colorlink\@urlcolor#1%
7527   \special{html:</a>}}%
7528   \Hy@endcolorlink
7529   \endgroup
7530 \fi
7531 }

```

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

```

7532 \def\hyper@link#1#2#3{%
7533   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
7534 }

7535 \def\hyper@image#1#2{%
7536   \begingroup
7537   \hyper@chars
7538   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7539   \endgroup
7540 }
7541 </hypertex>
7542 <*dviwindo>

```

46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to `dvi` files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` `cfg`. For `dviwindo`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

7543 \providecommand*{\XR@ext}{dvi}
7544 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
7545 \def\hyper@anchor#1{%
7546   \Hy@SaveLastskip
7547   \begingroup
7548     \let\protect=\string
7549     \special{mark: #1}%
7550   \endgroup
7551   \Hy@activeanchortrue
7552   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7553   \Hy@activeanchorfalse
7554   \Hy@RestoreLastskip
7555 }
7556 \def\hyper@anchorstart#1{%
7557   \Hy@SaveLastskip
7558   \special{mark: #1}%
7559   \Hy@activeanchortrue
7560 }
7561 \def\hyper@anchorend{%
7562   \Hy@activeanchorfalse
7563   \Hy@RestoreLastskip
7564 }
7565 \def\hyper@linkstart#1#2{%
7566   \expandafter\Hy@colorlink\csname @#1color\endcsname
7567   \special{button: %
7568     10000000 %
7569     \number\baselineskip\space
7570     #2%
7571   }%
7572 }
7573 \def\hyper@linkend{%
7574   \Hy@endcolorlink
7575 }
7576 \def\hyper@link#1#2#3{%
7577   \setbox\@tempboxa=\color@hbox #3\color@endbox
7578   \leavevmode
7579   \ifHy@raiselinks
7580     \@linkdim\dp\@tempboxa
7581     \lower\@linkdim\hbox{%
7582       \special{button: %
7583         \number\wd\@tempboxa\space
7584         \number\ht\@tempboxa\space
7585         #2%
7586       }%
7587       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7588       \Hy@endcolorlink
7589     }%
7590     \@linkdim\ht\@tempboxa
7591     \advance\@linkdim by -6.5\p@
7592     \raise\@linkdim\hbox{}%
7593   \else
7594     \special{button: %
7595       \number\wd\@tempboxa\space
7596       \number\ht\@tempboxa\space
7597       #2%
7598     }%
7599     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%

```

```

7600 \Hy@endcolorlink
7601 \fi
7602 }
7603 \def\hyper@linkurl#1#2{%
7604 \begingroup
7605 \hyper@chars
7606 \leavevmode
7607 \setbox\@tempboxa=\color@hbox #1\color@endbox
7608 \ifHy@raiselinks
7609 \@linkdim\dp\@tempboxa
7610 \lower\@linkdim\hbox{%
7611 \special{button: %
7612 \number\wd\@tempboxa\space
7613 \number\ht\@tempboxa\space
7614 launch: \wwwbrowser\space
7615 #2%
7616 }%
7617 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7618 }%
7619 \@linkdim\ht\@tempboxa
7620 \advance\@linkdim by -6.5\p@
7621 \raise\@linkdim\hbox{}}%
7622 \else
7623 \special{button: %
7624 \number\wd\@tempboxa\space
7625 \number\ht\@tempboxa\space
7626 launch: \wwwbrowser\space
7627 #2%
7628 }%
7629 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7630 \fi
7631 \endgroup
7632 }
7633 \def\hyper@linkfile#1#2#3{%
7634 \begingroup
7635 \hyper@chars
7636 \leavevmode
7637 \setbox\@tempboxa=\color@hbox #1\color@endbox
7638 \ifHy@raiselinks
7639 \@linkdim\dp\@tempboxa
7640 \lower\@linkdim\hbox{%
7641 \special{button: %
7642 \number\wd\@tempboxa\space
7643 \number\ht\@tempboxa\space
7644 #3,%
7645 file: #2%
7646 }%
7647 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7648 }%
7649 \@linkdim\ht\@tempboxa
7650 \advance\@linkdim by -6.5\p@
7651 \raise\@linkdim\hbox{}}%
7652 \else
7653 \special{button: %
7654 \number\wd\@tempboxa\space
7655 \number\ht\@tempboxa\space
7656 #3,%

```



```

7657         file: #2%
7658     }%
7659     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7660 \fi
7661 \endgroup
7662 }
7663 \ifx\@pdfproducer\relax
7664 \def\@pdfproducer{dviwindo + Distiller}%
7665 \fi
7666 \def\PDF@FinishDoc{%
7667 \Hy@UseMaketitleInfos
7668 \special{PDF: Keywords \@pdfkeywords}%
7669 \special{PDF: Title \@pdftitle}%
7670 \special{PDF: Creator \@pdfcreator}%
7671 \ifx\@pdfcreationdate\@empty
7672 \else
7673 \special{PDF: CreationDate \@pdfcreationdate}%
7674 \fi
7675 \ifx\@pdfmoddate\@empty
7676 \else
7677 \special{PDF: ModDate \@pdfmoddate}%
7678 \fi
7679 \special{PDF: Author \@pdfauthor}%
7680 \ifx\@pdfproducer\relax
7681 \else
7682 \special{PDF: Producer \@pdfproducer}%
7683 \fi
7684 \special{PDF: Subject \@pdfsubject}%
7685 \Hy@DisableOption{pdfauthor}%
7686 \Hy@DisableOption{pdftitle}%
7687 \Hy@DisableOption{pdfsubject}%
7688 \Hy@DisableOption{pdfcreator}%
7689 \Hy@DisableOption{pdfcreationdate}%
7690 \Hy@DisableOption{pdfmoddate}%
7691 \Hy@DisableOption{pdfproducer}%
7692 \Hy@DisableOption{pdfkeywords}%
7693 }
7694 \def\PDF@SetupDoc{%
7695 \ifx\@baseurl\@empty
7696 \else
7697 \special{PDF: Base \@baseurl}%
7698 \fi
7699 \ifx\@pdfpagescrop\@empty\else
7700 \special{PDF: BBox \@pdfpagescrop}%
7701 \fi
7702 \def\Hy@temp{%
7703 \ifx\@pdfstartpage\@empty
7704 \else
7705 \ifx\@pdfstartview\@empty
7706 \else
7707 \edef\Hy@temp{%
7708 ,Page=\@pdfstartpage
7709 ,View=\@pdfstartview
7710 }%
7711 \fi
7712 \fi
7713 \edef\Hy@temp{%

```

```

7714 \noexpand\pdfmark{%
7715 pdfmark=/DOCVIEW,%
7716 PageMode=/\@pdfpagemode
7717 \Hy@temp
7718 }%
7719 }%
7720 \Hy@temp
7721 \ifx\@pdfpagescrop\@empty
7722 \else
7723 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7724 \fi
7725 \edef\Hy@temp{%
7726 \ifHy@toolbar\else /HideToolbar true\fi
7727 \ifHy@menubar\else /HideMenubar true\fi
7728 \ifHy>windowui\else /HideWindowUI true\fi
7729 \ifHy@fitwindow /FitWindow true\fi
7730 \ifHy@centerwindow /CenterWindow true\fi
7731 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7732 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7733 \Hy@UseNameKey{Direction}\@pdfdirection
7734 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7735 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7736 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7737 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7738 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7739 \Hy@UseNameKey{Duplex}\@pdfduplex
7740 \ifx\@pdfpicktraybypdfsize\@empty
7741 \else
7742 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7743 \fi
7744 \ifx\@pdfprintpagerange\@empty
7745 \else
7746 /PrintPageRange[\@pdfprintpagerange]%
7747 \fi
7748 \ifx\@pdfnumcopies\@empty
7749 \else
7750 /NumCopies \@pdfnumcopies
7751 \fi
7752 }%
7753 \pdfmark{pdfmark=/PUT,%
7754 Raw={%
7755 \string{Catalog\string}<<%
7756 \ifx\Hy@temp\@empty
7757 \else
7758 /ViewerPreferences<<\Hy@temp>>%
7759 \fi
7760 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7761 \ifx\@pdflang\@empty
7762 \else
7763 /Lang(\@pdflang)%
7764 \fi
7765 >>%
7766 }%
7767 }%
7768 }
7769 </dviwindo>
7770 < *dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
7771 \providecommand*{\XR@ext}{pdf}
7772 \Hy@setbreaklinks{true}
7773 \newsavebox{\pdfm@box}
7774 \def\@pdfm@mark#1{\special{pdf:#1}}
7775 \def\@pdfm@dest#1{%
7776   \Hy@SaveLastskip
7777   \begingroup
7778     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7779     \def\x{XYZ}%
7780     \ifx\x\@pdfview
7781       \def\x{XYZ @xpos @ypos null}%
7782     \else
7783       \def\x{FitH}%
7784       \ifx\x\@pdfview
7785         \def\x{FitH @ypos}%
7786       \else
7787         \def\x{FitBH}%
7788         \ifx\x\@pdfview
7789           \def\x{FitBH @ypos}%
7790         \else
7791           \def\x{FitV}%
7792           \ifx\x\@pdfview
7793             \def\x{FitV @xpos}%
7794           \else
7795             \def\x{FitBV}%
7796             \ifx\x\@pdfview
7797               \def\x{FitBV @xpos}%
7798             \else
7799               \def\x{Fit}%
7800               \ifx\x\@pdfview
7801                 \let\x\@pdfview
7802               \else
7803                 \def\x{FitB}%
7804                 \ifx\x\@pdfview
7805                   \let\x\@pdfview
7806                 \else
7807                   \def\x{FitR}%
7808                   \ifx\x\@pdfview
7809                     \Hy@Warning{'pdfview=FitR' is not supported}%
7810                     \def\x{XYZ @xpos @ypos null}%
7811                   \else
7812                     \@onelevel@sanitize\@pdfview
7813                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7814                     \def\x{XYZ @xpos @ypos null}%
7815                   \fi
7816                 \fi
7817               \fi
7818             \fi
7819           \fi
7820         \fi
7821       \fi
7822     \fi
7823     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7824   \endgroup
```

```

7825 \Hy@RestoreLastskip
7826 }
7827 \providecommand*\@pdfview{XYZ}
7828 \providecommand*\@pdfborder{0 0 1}
7829 \providecommand*\@pdfborderstyle{}
7830 \def\hyper@anchor#1{%
7831 \@pdfm@dest{#1}%
7832 }
7833 \def\hyper@anchorstart#1{%
7834 \Hy@activeanchortrue
7835 \@pdfm@dest{#1}%
7836 }
7837 \def\hyper@anchorend{%
7838 \Hy@activeanchorfalse
7839 }

7840 \ifHy@ocgcolorlinks
7841 \def\OBJ@OCG@view{@OCG@view}%
7842 \@pdfm@mark{%
7843 obj \OBJ@OCG@view <<%
7844 /Type/OCG%
7845 /Name(View)%
7846 /Usage<<%
7847 /Print<<%
7848 /PrintState/OFF%
7849 >>%
7850 /View<<%
7851 /ViewState/ON%
7852 >>%
7853 >>%
7854 >>%
7855 }%
7856 \@pdfm@mark{close \OBJ@OCG@view}%
7857 \def\OBJ@OCG@print{@OCG@print}%
7858 \@pdfm@mark{%
7859 obj \OBJ@OCG@print <<%
7860 /Type/OCG%
7861 /Name(Print)%
7862 /Usage<<%
7863 /Print<<%
7864 /PrintState/ON%
7865 >>%
7866 /View<<%
7867 /ViewState/OFF%
7868 >>%
7869 >>%
7870 >>%
7871 }%
7872 \@pdfm@mark{close \OBJ@OCG@print}%
7873 \def\OBJ@OCGs{@OCGs}%
7874 \@pdfm@mark{%
7875 obj \OBJ@OCGs [%
7876 \OBJ@OCG@view\space\OBJ@OCG@print
7877 ]%
7878 }%
7879 \@pdfm@mark{close \OBJ@OCGs}%
7880 \@pdfm@mark{%
7881 put @catalog <<%

```

```

7882      /OCProperties<<%
7883      /OCGs \OBJ@OCGs
7884      /D<<%
7885      /OFF[\OBJ@OCG@print]%
7886      /AS[%
7887      <<%
7888      /Event/View%
7889      /OCGs \OBJ@OCGs
7890      /Category[/View]%
7891      >>%
7892      <<%
7893      /Event/Print%
7894      /OCGs \OBJ@OCGs
7895      /Category[/Print]%
7896      >>%
7897      <<%
7898      /Event/Export%
7899      /OCGs \OBJ@OCGs
7900      /Category[/Print]%
7901      >>%
7902      ]%
7903      >>%
7904      >>%
7905      >>%
7906      }%
7907      \AtBeginShipout{%
7908      \setbox\AtBeginShipoutBox=\hbox{%
7909      \copy\AtBeginShipoutBox
7910      \@pdfm@mark{%
7911      put @resources <<%
7912      /Properties<<%
7913      /OCView \OBJ@OCG@view
7914      /OCPrint \OBJ@OCG@print
7915      >>%
7916      >>%
7917      }%
7918      }%
7919      }%
7920      \AtBeginDocument{%
7921      \def\Hy@colorlink#1{%
7922      \begingroup
7923      \ifHy@ocgcolorlinks
7924      \def\Hy@ocgcolor{#1}%
7925      \setbox0=\color@hbox
7926      \else
7927      \HyColor@UseColor#1%
7928      \fi
7929      }%
7930      \def\Hy@endcolorlink{%
7931      \ifHy@ocgcolorlinks
7932      \color@endbox
7933      \mbox{%
7934      \@pdfm@mark{content /OC/OCPrint BDC}%
7935      \rlap{\copy0}%
7936      \@pdfm@mark{content EMC/OC/OCView BDC}%
7937      \begingroup
7938      \expandafter\HyColor@UseColor\Hy@ocgcolor

```

```

7939         \box0 %
7940     \endgroup
7941     \@pdfm@mark{content EMC}%
7942 }%
7943 \fi
7944 \endgroup
7945 }%
7946 }%
7947 \else
7948   \Hy@DisableOption{ocgcolorlinks}%
7949 \fi

7950 \def\Hy@undefinedname{UNDEFINED}
7951 \def\hyper@linkstart#1#2{%
7952   \protected@edef\Hy@testname{#2}%
7953   \ifx\Hy@testname\@empty
7954     \let\Hy@testname\Hy@undefinedname
7955   \else
7956     \Hy@pstringdef\Hy@testname{%
7957       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7958     }%
7959   \fi
7960   \@pdfm@mark{%
7961     bann<<%
7962     /Type/Annot%
7963     /Subtype/Link%
7964     \ifHy@pdfa /F 4\fi
7965     \Hy@setpdfborder
7966     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7967     \else
7968       /C[\csname @#1bordercolor\endcsname]%
7969     \fi
7970     /A<<%
7971     /S/GoTo%
7972     /D(\Hy@testname)%
7973     >>%
7974     >>%
7975   }%
7976   \expandafter\Hy@colorlink\csname @#1color\endcsname
7977 }
7978 \def\hyper@linkend{%
7979   \Hy@endcolorlink
7980   \@pdfm@mark{eann}%
7981 }
7982 \def\hyper@link#1#2#3{%
7983   \hyper@linkstart{#1}{#2}#3\hyper@linkend
7984 }
7985 \def\hyper@linkfile#1#2#3{%
7986   \Hy@pstringdef\Hy@pstringF{#2}%
7987   \Hy@pstringdef\Hy@pstringD{#3}%
7988   \leavevmode
7989   \@pdfm@mark{%
7990     bann<<%
7991     /Type/Annot%
7992     /Subtype/Link%
7993     \ifHy@pdfa /F 4\fi
7994     \Hy@setpdfborder
7995     \ifx\@filebordercolor\relax

```

```

7996     \else
7997         /C[\@filebordercolor]%
7998     \fi
7999     /A<<%
8000         /S/GoToR%
8001         /F(\Hy@pstringF)%
8002         /D\ifx\#3\[0 \@pdfstartview]\else(\Hy@pstringD)\fi
8003         \Hy@SetNewWindow
8004     >>%
8005 >>%
8006 }%
8007 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8008 \@pdfmark{eann}%
8009 }
8010 \def\hyper@linkurl#1#2{%
8011     \Hy@pstringdef\Hy@pstringURI{#2}%
8012     \leavevmode
8013     \@pdfmark{%
8014         bann<<%
8015             /Type/Annot%
8016             /Subtype/Link%
8017             \ifHy@pdfa /F 4\fi
8018             \Hy@setpdfborder
8019             \ifx\@urlbordercolor\relax
8020                 \else
8021                 /C[\@urlbordercolor]%
8022             \fi
8023             /A<<%
8024             /S/URI%
8025             /URI(\Hy@pstringURI)%
8026         >>%
8027     >>%
8028 }%
8029 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8030 \@pdfmark{eann}%
8031 }
8032 \def\Acrobatmenu#1#2{%
8033     \Hy@Acrobatmenu{#1}{#2}{%
8034         \@pdfmark{%
8035             bann<<%
8036                 /Type/Annot%
8037                 /Subtype/Link%
8038                 \ifHy@pdfa /F 4\fi
8039                 /A<<%
8040                 /S/Named%
8041                 /N/#1%
8042             >>%
8043             \Hy@setpdfborder
8044             \ifx\@menubordercolor\relax
8045                 \relax
8046             /C[\@menubordercolor]%
8047             \fi
8048         >>%
8049     }%
8050     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8051     \@pdfmark{eann}%
8052 }%

```

```

8053 }
8054 \ifx\@pdfproducer\relax
8055 \def\@pdfproducer{dvipdfm}%

```

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

```

8056 \begingroup\expandafter\expandafter\expandafter\endgroup
8057 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8058 \else
8059 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8060 \fi
8061 \fi
8062 \def\PDF@FinishDoc{%
8063 \Hy@UseMaketitleInfos
8064 \@pdfm@mark{%
8065 docinfo<<%
8066 /Title(\@pdftitle)%
8067 /Subject(\@pdfsubject)%
8068 /Creator(\@pdfcreator)%
8069 \ifx\@pdfcreationdate\empty
8070 \else
8071 /CreationDate(\@pdfcreationdate)%
8072 \fi
8073 \ifx\@pdfmoddate\empty
8074 \else
8075 /ModDate(\@pdfmoddate)%
8076 \fi
8077 /Author(\@pdfauthor)%
8078 \ifx\@pdfproducer\relax
8079 \else
8080 /Producer(\@pdfproducer)%
8081 \fi
8082 /Keywords(\@pdfkeywords)%
8083 >>%
8084 }%
8085 \Hy@DisableOption{pdfauthor}%
8086 \Hy@DisableOption{pdftitle}%
8087 \Hy@DisableOption{pdfsubject}%
8088 \Hy@DisableOption{pdfcreator}%
8089 \Hy@DisableOption{pdfcreationdate}%
8090 \Hy@DisableOption{pdfmoddate}%
8091 \Hy@DisableOption{pdfproducer}%
8092 \Hy@DisableOption{pdfkeywords}%
8093 }

8094 \def\PDF@SetupDoc{%
8095 \edef\Hy@temp{%
8096 \ifHy@toolbar\else /HideToolbar true\fi
8097 \ifHy@menubar\else /HideMenubar true\fi
8098 \ifHy>windowui\else /HideWindowUI true\fi
8099 \ifHy@fitwindow /FitWindow true\fi
8100 \ifHy@centerwindow /CenterWindow true\fi
8101 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8102 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8103 \Hy@UseNameKey{Direction}\@pdfdirection
8104 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8105 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8106 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8107 \Hy@UseNameKey{PrintClip}\@pdfprintclip

```



```

8108 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8109 \Hy@UseNameKey{Duplex}\@pdfduplex
8110 \ifx\@pdfpicktraybypdfsize\@empty
8111 \else
8112 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8113 \fi
8114 \ifx\@pdfprintpagerange\@empty
8115 \else
8116 /PrintPageRange[\@pdfprintpagerange]%
8117 \fi
8118 \ifx\@pdfnumcopies\@empty
8119 \else
8120 /NumCopies \@pdfnumcopies
8121 \fi
8122 }%
8123 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8124 \@pdfm@mark{%
8125 docview<<%
8126 \ifx\@pdfstartpage\@empty
8127 \else
8128 \ifx\@pdfstartview\@empty
8129 \else
8130 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8131 \fi
8132 \fi
8133 \ifx\@baseurl\@empty
8134 \else
8135 /URI<</Base(\Hy@pstringB)>>%
8136 \fi
8137 /PageMode/\@pdfpagemode
8138 \ifx\Hy@temp\@empty
8139 \else
8140 /ViewerPreferences<<\Hy@temp>>%
8141 \fi
8142 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8143 \ifx\@pdflang\@empty
8144 \else
8145 /Lang(\@pdflang)%
8146 \fi
8147 >>%
8148 }%
8149 \ifx\@pdfpagescrop\@empty
8150 \else
8151 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8152 \fi
8153 }

8154 \AtBeginShipoutFirst{%
8155 \ifx\special@paper\@empty\else
8156 \ifHy@setpagesize
8157 \special{papersize=\special@paper}%
8158 \fi
8159 \fi
8160 \Hy@DisableOption{setpagesize}%
8161 }
8162 </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.

```
8163 <*vtexhtml>
8164 \providecommand*{\XR@ext}{htm}
8165 \RequirePackage{vtexhtml}
8166 \newif\if@Localurl
8167 \def\PDF@FinishDoc{}
8168 \def\PDF@SetupDoc{%
8169   \ifx\@baseurl\@empty
8170   \else
8171     \special{!direct <base href="\@baseurl">}%
8172   \fi
8173 }
8174 \def\@urltype{url}
8175 \def\hyper@link#1#2#3{%
8176   \leavevmode
8177   \special{!direct <a href=%
8178     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8179   #3%
8180   \special{!direct </a>}%
8181 }
8182 \def\hyper@linkurl#1#2{%
8183   \begingroup
8184     \hyper@chars
8185     \leavevmode
8186     \MathBSuppress=1\relax
8187     \special{!direct <a href=%
8188       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8189     #1%
8190     \MathBSuppress=0\relax
8191     \special{!direct </a>}%
8192   \endgroup
8193 }
8194 \def\hyper@linkfile#1#2#3{%
8195   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
8196 }
8197 \def\hyper@linkstart#1#2{%
8198   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8199     \@Localurltrue
8200     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8201   \else
8202     \@Localurlfalse
8203     \begingroup
8204       \hyper@chars
8205       \special{!aref \HyperDestNameFilter{#2}}%
8206     \endgroup
8207   \fi
8208 }
8209 \def\hyper@linkend{%
8210   \if@Localurl
8211     \special{!endaref}%
8212   \else
8213     \special{!direct </a>}%
8214   \fi
8215 }
```

```

8216 \def\hyper@anchorstart#1{%
8217   \Hy@SaveLastskip
8218   \begingroup
8219     \hyper@chars
8220     \special{!aname #1}%
8221     \special{!direct <a name=%
8222       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8223   \endgroup
8224   \Hy@activeanchortrue
8225 }
8226 \def\hyper@anchorend{%
8227   \special{!direct </a>}%
8228   \Hy@activeanchorfalse
8229   \Hy@RestoreLastskip
8230 }
8231 \def\hyper@anchor#1{%
8232   \Hy@SaveLastskip
8233   \begingroup
8234     \let\protect=\string
8235     \hyper@chars
8236     \leavevmode
8237     \special{!aname #1}%
8238     \special{!direct <a name=%
8239       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8240   \endgroup
8241   \Hy@activeanchortrue
8242   \bgroup\anchor@spot\egroup
8243   \special{!direct </a>}%
8244   \Hy@activeanchorfalse
8245   \Hy@RestoreLastskip
8246 }
8247 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8248 \def\@endForm{}
8249 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8250   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8251 }
8252 \def\@TextField[#1]#2{% parameters, label
8253   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8254 }
8255 \def\@CheckBox[#1]#2{% parameters, label
8256   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8257 }
8258 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8259   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8260 }
8261 \def\@PushButton[#1]#2{% parameters, label
8262   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8263 }
8264 \def\@Reset[#1]#2{%
8265   \typeout{Sorry, TeXpider does not yet support FORMs}%
8266 }
8267 \def\@Submit[#1]#2{%
8268   \typeout{Sorry, TeXpider does not yet support FORMs}%
8269 }
8270 </vtexhtml>
8271 <*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.

```

8272 \ifx\mediaheight\@undefined
8273 \else
8274   \ifx\mediaheight\relax
8275   \else
8276     \ifHy@setpagesize
8277       \providecommand*\VTexInitMediaSize{%
8278         \ifundefined{stockwidth}{%
8279           \ifdim\paperheight>0pt %
8280             \setlength\mediaheight\paperheight
8281           \fi
8282           \ifdim\paperheight>0pt %
8283             \setlength\mediawidth\paperwidth
8284           \fi
8285         }{%
8286           \ifdim\stockheight>0pt %
8287             \setlength\mediaheight\stockheight
8288           \fi
8289           \ifdim\stockwidth>0pt %
8290             \setlength\mediawidth\stockwidth
8291           \fi
8292         }%
8293       }%
8294     \AtBeginDocument{\VTexInitMediaSize}%
8295   \fi
8296   \Hy@DisableOption{setpagesize}%
8297 \fi
8298 \fi

```

Older versions of VTeX require xyz in lower case.

```

8299 \providecommand*\@pdfview{xyz}
8300 \providecommand*\@pdfborder{0 0 1}
8301 \providecommand*\@pdfborderstyle{}
8302 \let\CurrentBorderColor\@linkbordercolor
8303 \def\hyper@anchor#1{%
8304   \Hy@SaveLastskip
8305   \begingroup
8306     \let\protect=\string
8307     \hyper@chars
8308     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8309   \endgroup
8310   \Hy@activeanchortrue
8311   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8312   \Hy@activeanchorfalse
8313   \Hy@RestoreLastskip
8314 }
8315 \def\hyper@anchorstart#1{%
8316   \Hy@SaveLastskip
8317   \begingroup
8318     \hyper@chars
8319     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8320   \endgroup
8321   \Hy@activeanchortrue
8322 }
8323 \def\hyper@anchorend{%
8324   \Hy@activeanchorfalse

```

```

8325 \Hy@RestoreLastskip
8326 }
8327 \def\@urltype{url}
8328 \def\Hy@undefinedname{UNDEFINED}
8329 \def\hyper@linkstart#1#2{%
8330 \Hy@pstringdef\Hy@pstringURI{#2}%
8331 \expandafter\Hy@colorlink\csname @#1color\endcsname
8332 \@ifundefined{#@#1bordercolor}{%
8333 \let\CurrentBorderColor\relax
8334 }{%
8335 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8336 }%
8337 \def\Hy@tempa{#1}%
8338 \ifx\Hy@tempa\@urltype
8339 \special{!%
8340 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8341 a=<%
8342 \ifHy@pdfa /F 4\fi
8343 \Hy@setpdfborder
8344 \ifx\CurrentBorderColor\relax
8345 \else
8346 /C [\CurrentBorderColor]%
8347 \fi
8348 >%
8349 }%
8350 \else
8351 \protected@edef\Hy@testname{#2}%
8352 \ifx\Hy@testname\@empty
8353 \let\Hy@testname\Hy@undefinedname
8354 \fi
8355 \special{!%
8356 aref \expandafter\HyperDestNameFilter
8357 \expandafter{\Hy@testname};%
8358 a=<%
8359 \ifHy@pdfa /F 4\fi
8360 \Hy@setpdfborder
8361 \ifx\CurrentBorderColor\relax
8362 \else
8363 /C [\CurrentBorderColor]%
8364 \fi
8365 >%
8366 }%
8367 \fi
8368 }
8369 \def\hyper@linkend{%
8370 \special{!endaref}%
8371 \Hy@endcolorlink
8372 }
8373 \def\hyper@linkfile#1#2#3{%
8374 \leavevmode
8375 \special{!%
8376 aref <%
8377 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8378 f=#2>#3;%
8379 a=<%
8380 \ifHy@pdfa /F 4\fi
8381 \Hy@setpdfborder

```

```

8382     \ifx\@filebordercolor\relax
8383     \else
8384     /C [\@filebordercolor]%
8385     \fi
8386     >%
8387 }%
8388 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8389 \special{!endaref}%
8390 }
8391 \def\hyper@linkurl#1#2{%
8392   \begingroup
8393   \Hy@pstringdef\Hy@pstringURI{#2}%
8394   \hyper@chars
8395   \leavevmode
8396   \special{!%
8397     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8398     a=<%
8399     \ifHy@pdfa /F 4\fi
8400     \Hy@setpdfborder
8401     \ifx\@urlbordercolor\relax
8402     \else
8403     /C [\@urlbordercolor]%
8404     \fi
8405     >%
8406   }%
8407   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8408   \special{!endaref}%
8409   \endgroup
8410 }
8411 \def\hyper@link#1#2#3{%
8412   \ifundefined{@#1bordercolor}{%
8413     \let\CurrentBorderColor\relax
8414   }{%
8415     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8416   }%
8417   \leavevmode
8418   \protected@edef\Hy@testname{#2}%
8419   \ifx\Hy@testname\@empty
8420     \let\Hy@testname\Hy@undefinedname
8421   \fi
8422   \special{!%
8423     aref \expandafter\HyperDestNameFilter
8424     \expandafter{\Hy@testname};%
8425     a=<%
8426     \ifHy@pdfa /F 4\fi
8427     \Hy@setpdfborder
8428     \ifx\CurrentBorderColor\relax
8429     \else
8430     /C [\CurrentBorderColor]%
8431     \fi
8432     >%
8433   }%
8434   \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8435   \special{!endaref}%
8436 }
8437 \def\hyper@image#1#2{%
8438   \hyper@linkurl{#2}{#1}%

```

```

8439 }
8440 \def\@hyper@launch run:#1\#2#3{%
8441   \Hy@pstringdef\Hy@pstringF{#1}%
8442   \Hy@pstringdef\Hy@pstringP{#3}%
8443   \leavevmode
8444   \special{!aref %
8445     <u=%
8446       /Type/Action%
8447       /S/Launch%
8448       /F(\Hy@pstringF)%
8449       \Hy@SetNewWindow
8450       \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8451     >,%
8452     a=<%
8453       \ifHy@pdfa /F 4\fi
8454       \Hy@setpdfborder
8455       \ifx\@runbordercolor\relax
8456       \else
8457         /C[\@runbordercolor]%
8458       \fi
8459     >%
8460   }%
8461   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8462   \special{!endaref}%
8463 }
8464 \def\Acrobatmenu#1#2{%
8465   \Hy@Acrobatmenu{#1}{#2}{%
8466     \special{!%
8467       aref <u=/S /Named /N /#1>,%
8468       a=<%
8469         \ifHy@pdfa /F 4\fi
8470         \Hy@setpdfborder
8471         \ifx\@menubordercolor\relax
8472         \else
8473           /C[\@menubordercolor]%
8474         \fi
8475       >%
8476     }%
8477     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8478     \special{!endaref}%
8479   }%
8480 }

```

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

The code below makes sense for \TeX 7.02 or later.

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

```

8481 \ifnum\Hy@VTeXversion<702 %
8482 \else
8483   \def\hyper@pagetransition{%
8484     \ifx\@pdfpagetransition\relax
8485     \else
8486       \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8487   \else
8488     \hvtex@parse@trans\@pdfpagetransition
8489   \fi

```

```

8490     \fi
8491 }%

```

I have to write an “honest” parser to convert raw PDF code into VT_EX \special.
(AVK)

Syntax of VT_EX \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:

```

8492 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8493 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8494 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8495 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8496 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8497 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8498 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8499 \def\hvtex@par@dimension{/Dm}%
8500 \def\hvtex@par@direction{/Di}%
8501 \def\hvtex@par@duration{/D}%
8502 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8503 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8504 \def\hvtex@gettoken#1 #2\@nil{%
8505     \edef\hvtex@token{#1}%
8506     \edef\hvtex@buffer{#2}%
8507 }%
8508 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8509 \let\hvtex@trans@code\@empty
8510 \let\hvtex@param@dimension\@empty
8511 \let\hvtex@param@direction\@empty
8512 \let\hvtex@param@duration\@empty
8513 \let\hvtex@param@motion\@empty
8514 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8515 \hvtex@gettoken
8516 \ifx\hvtex@token\@empty

```


Leading space(s)?

```
8517      \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8518      \else
8519      \hvtex@gettoken
8520      \fi
8521      \fi
8522      \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8523      \hvtex@trans@params
8524  }%
```

Reentrant macro to parse optional parameters.

```
8525  \def\hvtex@trans@params{%
8526      \ifx\hvtex@buffer\@empty
8527      \else
8528      \hvtex@gettoken
8529      \let\hvtex@trans@par\hvtex@token
8530      \ifx\hvtex@buffer\@empty
8531      \else
8532      \hvtex@gettoken
8533      \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
8534      \let\hvtex@param@duration\hvtex@token
8535      \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8536      \expandafter\edef\expandafter\hvtex@param@motion
8537      \expandafter{\expandafter\@gobble\hvtex@token}%
8538      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8539      \expandafter\edef\expandafter\hvtex@param@dimension
8540      \expandafter{\expandafter\@gobble\hvtex@token}%
8541      \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).

```
8542      \let\hvtex@param@direction\hvtex@token
8543      \fi\fi\fi\fi
8544      \fi
8545      \fi
8546      \ifx\hvtex@buffer\@empty
8547      \let\next\hvtex@produce@trans
8548      \else
8549      \let\next\hvtex@trans@params
8550      \fi
8551      \next
8552  }%
```

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

```
8553  \def\hvtex@produce@trans{%
8554      \let\vtex@trans@special\@empty
8555      \if S\hvtex@trans@code
8556      \edef\vtex@trans@special{\hvtex@trans@code
8557      \hvtex@param@dimension\hvtex@param@motion}%

```

```

8558 \else\if B\hvtex@trans@code
8559 \edef\vtex@trans@special{%
8560 \hvtex@trans@code\hvtex@param@dimension
8561 }%
8562 \else\if X\hvtex@trans@code
8563 \edef\vtex@trans@special{%
8564 \hvtex@trans@code\hvtex@param@motion
8565 }%
8566 \else\if W\hvtex@trans@code
8567 \edef\vtex@trans@special{%
8568 \hvtex@trans@code\hvtex@param@direction
8569 }%
8570 \else\if D\hvtex@trans@code
8571 \let\vtex@trans@special\hvtex@trans@code
8572 \else\if R\hvtex@trans@code
8573 \let\vtex@trans@special\hvtex@trans@code
8574 \else\if G\hvtex@trans@code
8575 \edef\vtex@trans@special{%
8576 \hvtex@trans@code\hvtex@param@direction
8577 }%
8578 \fi\fi\fi\fi\fi\fi\fi
8579 \ifx\vtex@trans@special\@empty
8580 \else
8581 \ifx\hvtex@param@duration\@empty
8582 \else
8583 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8584 \multiply\dimen@\@m
8585 \edef\vtex@trans@special{%
8586 \vtex@trans@special,\strip@pt\dimen@
8587 }%
8588 \fi

```

And all the mess is just for this.

```

8589 \special{!trans \vtex@trans@special}%
8590 \fi
8591 }%
8592 \def\hyper@pageduration{%
8593 \ifx\@pdfpageduration\relax
8594 \else
8595 \ifx\@pdfpageduration\@empty
8596 \special{!duration-}%
8597 \else
8598 \special{!duration \@pdfpageduration}%
8599 \fi
8600 \fi
8601 }%
8602 \def\hyper@pagehidden{%
8603 \ifHy@useHidKey
8604 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8605 \fi
8606 }%
8607 \g@addto@macro\Hy@EveryPageBoxHook{%
8608 \hyper@pagetransition
8609 \hyper@pageduration
8610 \hyper@pagehidden
8611 }%

```

8612 \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

```

8613 \ifx\@pdfproducer\relax
8614   \def\@pdfproducer{VTeX}%
8615   \ifnum\Hy@VTeXversion>\z@
8616     \count@VTeXversion
8617     \divide\count@ 100 %
8618     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8619     \multiply\count@ -100 %
8620     \advance\count@VTeXversion
8621     \edef\@pdfproducer{%
8622       \@pdfproducer
8623       .\ifnum\count@<10 0\fi\the\count@
8624       \ifx\VTeXOS\@undefined\else
8625         \ifnum\VTeXOS>0 %
8626           \ifnum\VTeXOS<6 %
8627             \space%
8628             \ifcase\VTeXOS
8629               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8630             \fi
8631           )%
8632         \fi
8633       \fi
8634     ,\space
8635     \ifnum\OpMode=\@ne PDF\else PS\fi
8636     \space backend%
8637     \ifx\gexmode\@undefined\else
8638       \ifnum\gexmode>\z@\space with GeX\fi
8639     \fi
8640   }%
8641 \fi
8642 \fi
8643 \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).

```
8644 \def\PDF@SetupDoc{%
8645   \ifx\@pdfpagescrop\@empty
8646   \else
8647     \special{!pdfinfo b=<\@pdfpagescrop>}%
8648   \fi
8649   \ifx\@pdfstartpage\@empty
8650   \else
8651     \ifx\@pdfstartview\@empty
8652     \else
8653       \special{!onopen Page\@pdfstartpage}%
8654     \fi
8655   \fi
8656   \special{!pdfinfo p=</\@pdfpagemode>}%
8657   \ifx\@baseurl\@empty
8658   \else
8659     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8660   \fi
8661   \special{!pdfinfo v=<<<%
8662     \ifHy@toolbar\else /HideToolbar true\fi
8663     \ifHy@menubar\else /HideMenubar true\fi
8664     \ifHy>windowui\else /HideWindowUI true\fi
8665     \ifHy@fitwindow /FitWindow true\fi
8666     \ifHy@centerwindow /CenterWindow true\fi
8667     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8668     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8669     \Hy@UseNameKey{Direction}\@pdfdirection
8670     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8671     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8672     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8673     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8674     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8675     \Hy@UseNameKey{Duplex}\@pdfduplex
8676     \ifx\@pdfpicktraybypdfsize\@empty
8677     \else
8678       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8679     \fi
8680     \ifx\@pdfprintpagerange\@empty
8681     \else
8682       /PrintPageRange[\@pdfprintpagerange]%
8683     \fi
8684     \ifx\@pdfnumcopies\@empty
8685     \else
8686       /NumCopies \@pdfnumcopies
8687     \fi
8688   >>>}%
8689   \ifx\@pdfpagelayout\@empty
8690   \else
8691     \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8692   \fi
8693 }%
8694 \def\PDF@FinishDoc{%
8695   \Hy@UseMaketitleInfos
8696   \special{!pdfinfo a=<\@pdfauthor>}%
8697   \special{!pdfinfo t=<\@pdftitle>}%
8698   \special{!pdfinfo s=<\@pdfsubject>}%
8699   \special{!pdfinfo c=<\@pdfcreator>}%
```

```

8700 \ifx\@pdfproducer\relax
8701 \else
8702   \special{!pdfinfo r=<\@pdfproducer>}%
8703 \fi
8704 \special{!pdfinfo k=<\@pdfkeywords>}%
8705 \Hy@DisableOption{pdfauthor}%
8706 \Hy@DisableOption{pdftitle}%
8707 \Hy@DisableOption{pdfsubject}%
8708 \Hy@DisableOption{pdfcreator}%
8709 \Hy@DisableOption{pdfcreationdate}%
8710 \Hy@DisableOption{pdfmoddate}%
8711 \Hy@DisableOption{pdfproducer}%
8712 \Hy@DisableOption{pdfkeywords}%
8713 }
8714 </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.

```

8715 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8716 <package>\providecommand*{\Hy@DistillerDestFix}{}
8717 <*pdfmark | dviwindo>
8718 \def\Hy@DistillerDestFix{%
8719   \begin{group}
8720     \let\x\literalps@out

```

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

```

8721   \ifnum \@ifundefined{OpMode}{0}{}%
8722     \ifundefined{gexmode}{0}{}%
8723     \ifnum\gexmode>0 \OpMode\else 0\fi
8724   }>1 %
8725   \def\x##1{%
8726     \immediate\special{!=##1}%
8727   }%
8728 \fi
8729 \x{%
8730   /product where{%
8731     pop %
8732     product(Distiller)search{%
8733       pop pop pop %
8734       version(.)search{%
8735         exch pop exch pop%
8736         (3011)eq{%
8737           gsave %
8738           newpath 0 0 moveto closepath clip%
8739           /Courier findfont 10 scalefont setfont %
8740           72 72 moveto(.)show %
8741           grestore%

```

```

8742         }if%
8743         }{pop}ifelse%
8744     }{pop}ifelse%
8745     }if%
8746     }%
8747 \endgroup
8748 }
8749 </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

```

```

8750 <*pdfmark>
8751 \Hy@breaklinks@unsupported
8752 \def\hyper@anchor#1{%
8753   \Hy@SaveLastskip
8754   \beginngroup
8755     \pdfmark[\anchor@spot]{%
8756       pdfmark=/DEST,%
8757       linktype=anchor,%
8758       View=/\@pdfview \@pdfviewparams,%
8759       DestAnchor={#1}%
8760     }%
8761   \endgroup
8762   \Hy@RestoreLastskip
8763 }
8764 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8765 \def\hyper@anchorstart#1{%
8766   \Hy@SaveLastskip
8767   \literalps@out{H.S}%
8768   \xdef\hyper@currentanchor{#1}%
8769   \Hy@activeanchortrue
8770 }
8771 \def\hyper@anchorend{%
8772   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8773   \pdfmark{%
8774     pdfmark=/DEST,%
8775     linktype=anchor,%
8776     View=/\@pdfview \@pdfviewparams,%
8777     DestAnchor=\hyper@currentanchor,%
8778   }%
8779   \Hy@activeanchorfalse
8780   \Hy@RestoreLastskip
8781 }
8782 \def\hyper@linkstart#1#2{%

```

```

8783 \ifHy@breaklinks
8784 \else
8785   \leavevmode\hbox\bgroup
8786   \fi
8787   \expandafter\Hy@colorlink\csname @#1color\endcsname
8788   \literalps@out{H.S}%
8789   \xdef\hyper@currentanchor{#2}%
8790   \gdef\hyper@currentlinktype{#1}%
8791 }
8792 \def\hyper@linkend{%
8793   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8794   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8795     \let\Hy@tempcolor\relax
8796   }{%
8797     \edef\Hy@tempcolor{%
8798       \csname @\hyper@currentlinktype bordercolor\endcsname
8799     }%
8800   }%
8801   \pdfmark{%
8802     pdfmark=/ANN,%
8803     linktype=link,%
8804     Subtype=/Link,%
8805     PDFAFlags=4,%
8806     Dest=\hyper@currentanchor,%
8807     AcroHighlight=\@pdfhighlight,%
8808     Border=\@pdfborder,%
8809     BorderStyle=\@pdfborderstyle,%
8810     Color=\Hy@tempcolor,%
8811     Raw=H.B%
8812   }%
8813   \Hy@endcolorlink
8814   \ifHy@breaklinks
8815   \else
8816     \egroup
8817   \fi
8818 }

```

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.

```

8819 \begingroup
8820 \catcode'P=12 %
8821 \catcode'T=12 %
8822 \lowercase{\endgroup
8823 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8824 }
8825 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8826 \def\hyper@pagetransition{%
8827   \ifx\@pdfpagetransition\relax
8828   \else
8829     \ifx\@pdfpagetransition\@empty
8830       % 1. Does an old entry have to be deleted?
8831       % 2. If 1=yes, how to delete?
8832     \else
8833       \pdfmark{%

```

```

8834         pdfmark=/PUT,%
8835         Raw={%
8836             \string{ThisPage\string}%
8837             <</Trans << /S /\@pdfpagetransition\space >> >>%
8838         }%
8839     }%
8840 \fi
8841 \fi
8842 }

```

\hyper@pageduration

```

8843 \def\hyper@pageduration{%
8844     \ifx\@pdfpageduration\relax
8845     \else
8846         \ifx\@pdfpageduration\@empty
8847             % 1. Does an old entry have to be deleted?
8848             % 2. If 1=yes, how to delete?
8849         \else
8850             \pdfmark{%
8851                 pdfmark=/PUT,%
8852                 Raw={%
8853                     \string{ThisPage\string}%
8854                     <</Dur \@pdfpageduration>>%
8855                 }%
8856             }%
8857         \fi
8858     \fi
8859 }

```

\hyper@pagehidden

```

8860 \def\hyper@pagehidden{%
8861     \ifHy@useHidKey
8862         \pdfmark{%
8863             pdfmark=/PUT,%
8864             Raw={%
8865                 \string{ThisPage\string}%
8866                 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8867             }%
8868         }%
8869     \fi
8870 }

```

```

8871 \g@addto@macro\Hy@EveryPageBoxHook{%
8872     \hyper@pagetransition
8873     \hyper@pageduration
8874     \hyper@pagehidden
8875 }

```

```

8876 \def\hyper@image#1#2{%
8877     \hyper@linkurl{#2}{#1}%
8878 }
8879 \def\Hy@undefinedname{UNDEFINED}
8880 \def\hyper@link#1#2#3{%
8881     \@ifundefined{#1bordercolor}{%
8882         \let\Hy@tempcolor\relax
8883     }{%
8884         \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
8885     }%

```



```

8886 \beginngroup
8887   \protected@edef\Hy@testname{#2}%
8888   \ifx\Hy@testname\@empty
8889     \let\Hy@testname\Hy@undefinedname
8890   \fi
8891   \pdfmark[{#3}]{%
8892     Color=\Hy@tempcolor,%
8893     linktype={#1},%
8894     AcroHighlight=\@pdfhighlight,%
8895     Border=\@pdfborder,%
8896     BorderStyle=\@pdfborderstyle,%
8897     pdfmark=/ANN,%
8898     Subtype=/Link,%
8899     PDFAFlags=4,%
8900     Dest=\Hy@testname
8901   }%
8902 \endgroup
8903 }
8904 \newtoks\pdf@docset
8905 \def\PDF@FinishDoc{%
8906   \Hy@UseMaketitleInfos
8907   \let\Hy@temp\@empty
8908   \ifx\@pdfcreationdate\@empty
8909     \else
8910       \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8911     \fi
8912   \ifx\@pdfmoddate\@empty
8913     \else
8914       \expandafter\def\expandafter\Hy@temp\expandafter{%
8915         \Hy@temp
8916         ModDate=\@pdfmoddate,%
8917       }%
8918     \fi
8919   \ifx\@pdfproducer\relax
8920     \else
8921       \expandafter\def\expandafter\Hy@temp\expandafter{%
8922         \Hy@temp
8923         Producer=\@pdfproducer,%
8924       }%
8925     \fi
8926   \expandafter
8927   \pdfmark\expandafter{%
8928     \Hy@temp
8929     pdfmark=/DOCINFO,%
8930     Title=\@pdftitle,%
8931     Subject=\@pdfsubject,%
8932     Creator=\@pdfcreator,%
8933     Author=\@pdfauthor,%
8934     Keywords=\@pdfkeywords
8935   }%
8936   \Hy@DisableOption{pdfauthor}%
8937   \Hy@DisableOption{pdftitle}%
8938   \Hy@DisableOption{pdfsubject}%
8939   \Hy@DisableOption{pdfcreator}%
8940   \Hy@DisableOption{pdfcreationdate}%
8941   \Hy@DisableOption{pdfmoddate}%
8942   \Hy@DisableOption{pdfproducer}%

```

```

8943 \Hy@DisableOption{pdfkeywords}%
8944 }
8945 \def\PDF@SetupDoc{%
8946 \def\Hy@temp{%
8947 \ifx\@pdfstartpage\@empty
8948 \else
8949 \ifx\@pdfstartview\@empty
8950 \else
8951 \edef\Hy@temp{%
8952 ,Page=\@pdfstartpage
8953 ,View=\@pdfstartview
8954 }%
8955 \fi
8956 \fi
8957 \edef\Hy@temp{%
8958 \noexpand\pdfmark{%
8959 pdfmark=/DOCVIEW,%
8960 PageMode=/\@pdfpagemode
8961 \Hy@temp
8962 }%
8963 }%
8964 \Hy@temp
8965 \ifx\@pdfpagescrop\@empty
8966 \else
8967 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8968 \fi
8969 \edef\Hy@temp{%
8970 \ifHy@toolbar\else /HideToolbar true\fi
8971 \ifHy@menubar\else /HideMenubar true\fi
8972 \ifHy>windowui\else /HideWindowUI true\fi
8973 \ifHy@fitwindow /FitWindow true\fi
8974 \ifHy@centerwindow /CenterWindow true\fi
8975 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8976 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8977 \Hy@UseNameKey{Direction}\@pdfdirection
8978 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8979 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8980 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8981 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8982 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8983 \Hy@UseNameKey{Duplex}\@pdfduplex
8984 \ifx\@pdfpicktraybypdfsize\@empty
8985 \else
8986 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8987 \fi
8988 \ifx\@pdfprintpagerange\@empty
8989 \else
8990 /PrintPageRange[\@pdfprintpagerange]%
8991 \fi
8992 \ifx\@pdfnumcopies\@empty
8993 \else
8994 /NumCopies \@pdfnumcopies
8995 \fi
8996 }%
8997 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8998 \pdfmark{%
8999 pdfmark=/PUT,%

```

```

9000 Raw={%
9001   \string{Catalog\string}<<%
9002   \ifx\Hy@temp\@empty
9003   \else
9004     /ViewerPreferences<<\Hy@temp>>%
9005   \fi
9006   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9007   \ifx\@pdflang\@empty
9008   \else
9009     /Lang(\@pdflang)%
9010   \fi
9011   \ifx\@baseurl\@empty
9012   \else
9013     /URI<</Base(\Hy@pstringB)>>%
9014   \fi
9015   >>%
9016 }%
9017 }%
9018 }
9019 </pdfmark>
9020 <*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.

```

9021 \newif\ifHy@pdfmarkerror
9022 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
9023 \def\pdfmark@[#1]#2{%
9024   \Hy@pdfmarkerrorfalse
9025   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9026   \@processme
9027   \let\pdf@type\relax
9028   \setkeys{PDF}{#2}%
9029   \ifHy@pdfmarkerror
9030   \else
9031     \ifx\pdf@type\relax
9032       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9033       \ifx\#1\%
9034       \else
9035         \pdf@rect{#1}%
9036       \fi
9037     \else
9038       \ifx\#1\%
9039         \literalps@out{%
9040           [\the\pdf@toks\space\pdf@type\space pdfmark%
9041           ]%
9042         \else
9043           \@ifundefined{@\pdf@linktype color}{%
9044             \Hy@colorlink\@linkcolor
9045           }{%
9046             \expandafter\Hy@colorlink
9047               \csname @\pdf@linktype color\endcsname
9048           }%
9049           \pdf@rect{#1}%
9050           \literalps@out{%

```

```

9051          [\the\pdf@toks\space\pdf@type\space pdfmark%
9052          ]%
9053          \Hy@endcolorlink
9054      \fi
9055  \fi
9056  \fi
9057 }

```

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}

```

```

9058 \newsavebox{\pdf@box}
9059 \providecommand*{\Hy@setouterhbox}{\sbox}
9060 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9061 \def\Hy@DEST{/DEST}
9062 \def\pdf@rect#1{%
9063   \leavevmode
9064   \ifHy@breaklinks
9065     \Hy@setouterhbox\pdf@box{#1}%
9066   \else
9067     \sbox\pdf@box{#1}%
9068   \fi
9069   \dimen@ht\pdf@box
9070   \ifdim\dp\pdf@box=\z@
9071     \literalps@out{H.S}%
9072   \else
9073     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9074   \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...).

```

9075   \ifHy@breaklinks
9076     \expandafter\Hy@breaklinksunhbox
9077   \else
9078     \expandafter\box
9079   \fi
9080   \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

9081 \ifdim\dimen@=\z@
9082   \literalps@out{H.R}%
9083 \else
9084   \raise\dimen@\hbox{\literalps@out{H.R}}%
9085 \fi
9086 \ifx\pdf@type\Hy@DEST
9087 \else

```

```

9088 \pdf@addtoksx{H.B}%
9089 \fi
9090 }

```

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.

```

9091 \newtoks\pdf@toks
9092 \newtoks\pdf@defaulttoks
9093 \pdf@defaulttoks={}
9094 \def\pdf@addtoks#1#2{%
9095 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9096 \@processme
9097 }
9098 \def\pdf@addtoksx#1{%
9099 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9100 \@processme
9101 }
9102 \def\PDFdefaults#1{%
9103 \pdf@defaulttoks={#1}%
9104 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

9105 % what is the type of pdfmark?
9106 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9107 % what is the link type?
9108 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9109 \def\pdf@linktype{link}
9110 % parameter is a stream of PDF
9111 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9112 % parameter is a name
9113 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9114 % parameter is a array
9115 \define@key{PDF}{Border}{%
9116 \edef\Hy@temp{#1}%
9117 \ifx\Hy@temp\@empty
9118 \else
9119 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9120 \fi
9121 }
9122 \let\Hy@BorderArrayPatch\@empty
9123 % parameter is a dictionary
9124 \define@key{PDF}{BorderStyle}{%
9125 \edef\Hy@temp{#1}%
9126 \ifx\Hy@temp\@empty
9127 \else
9128 \pdf@addtoks{<<#1>>}{BS}%
9129 \fi
9130 }
9131 % parameter is a array
9132 \define@key{PDF}{Color}{%
9133 \ifx\relax#1\relax
9134 \else
9135 \pdf@addtoks{[#1]}{Color}% hash-ok
9136 \fi
9137 }
9138 % parameter is a string
9139 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9140 % parameter is a integer

```

```

9141 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9142 % parameter is a array
9143 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9144 % parameter is a string
9145 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9146 % parameter is a string or file
9147 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9148 % parameter is a destination
9149 \define@key{PDF}{Dest}{%
9150   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9151   \ifx\Hy@pstringDest\@empty
9152     \Hy@pdfmarkerrortrue
9153     \Hy@Warning{Destination with empty name ignored}%
9154   \else
9155     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9156   \fi
9157 }
9158 \define@key{PDF}{DestAnchor}{%
9159   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9160   \ifx\Hy@pstringDest\@empty
9161     \Hy@pdfmarkerrortrue
9162     \Hy@Warning{Destination with empty name ignored}%
9163   \else
9164     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9165   \fi
9166 }
9167 % parameter is a string
9168 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9169 % parameter is a string
9170 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9171 % parameter is a int
9172 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9173 \define@key{PDF}{PDFAFlags}{%
9174   \ifHy@pdfa
9175     \pdf@addtoks{#1}{F}%
9176   \fi
9177 }
9178 % parameter is a name
9179 \define@key{PDF}{AcroHighlight}{%
9180   \begingroup
9181     \edef\x{#1}%
9182     \expandafter\endgroup\ifx\x\@empty
9183   \else
9184     \pdf@addtoks{#1}{H}%
9185   \fi
9186 }
9187 % parameter is a string
9188 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9189 % parameter is a string
9190 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9191 % parameter is a string
9192 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9193 % parameter is a string
9194 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9195 % parameter is a Boolean
9196 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9197 % parameter is a integer or name

```

```

9198 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9199 % parameter is a name
9200 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9201 % parameter is a string
9202 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
9203 % parameter is a array
9204 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
9205 % parameter is a integer
9206 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9207 % parameter is a name
9208 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9209 % parameter is a string
9210 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
9211 % parameter is a string
9212 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
9213 % parameter is a string
9214 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
9215 % parameter is an array
9216 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
9217 % parameter is a string
9218 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9219 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
9220 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
9221 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
9222 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9223 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
9224 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
9225 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
9226 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
9227 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
9228 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9229 </pdfmarkbase>
9230 <*pdfmark>
9231 \def\Acrobatmenu#1#2{%
9232   \Hy@Acrobatmenu{#1}{#2}{%
9233     \pdfmark[{#2}]{%
9234       linktype=menu,%
9235       pdfmark=/ANN,%
9236       AcroHighlight=\pdfhighlight,%
9237       Border=\pdfborder,%
9238       BorderStyle=\pdfborderstyle,%
9239       Action={<< /Subtype /Named /N /#1 >>},%
9240       Subtype=/Link,%
9241       PDFAPFlags=4%
9242     }%
9243   }%
9244 }

```

And now for some useful examples:

```

9245 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9246 \def\PDFNextPage@[#1]#2{%
9247   \pdfmark[{#2}]{%
9248     #1,%
9249     Border=\pdfborder,%
9250     BorderStyle=\pdfborderstyle,%
9251     Color=.2 .1 .5,%

```

```

9252 pdfmark=/ANN,%
9253 Subtype=/Link,%
9254 PDFAFlags=4,%
9255 Page=/Next%
9256 }%
9257 }
9258 \def\PDFPreviousPage{%
9259 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9260 }
9261 \def\PDFPreviousPage@[#1]#2{%
9262 \pdfmark[{#2}]{%
9263 #1,%
9264 Border=\pdfborder,%
9265 BorderStyle=\pdfborderstyle,%
9266 Color=.4 .4 .1,%
9267 pdfmark=/ANN,%
9268 Subtype=/Link,%
9269 PDFAFlags=4,%
9270 Page=/Prev%
9271 }%
9272 }
9273 \def\PDFOpen#1{%
9274 \pdfmark{#1,pdfmark=/DOCVIEW}%
9275 }

```

This will only work if you use Distiller 2.1 or higher.

```

9276 \def\hyper@linkurl#1#2{%
9277 \begingroup
9278 \Hy@pstringdef\Hy@pstringURI{#2}%
9279 \hyper@chars
9280 \leavevmode
9281 \pdfmark[{#1}]{%
9282 pdfmark=/ANN,%
9283 linktype=url,%
9284 AcroHighlight=\pdfhighlight,%
9285 Border=\pdfborder,%
9286 BorderStyle=\pdfborderstyle,%
9287 Color=\urlbordercolor,%
9288 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9289 Subtype=/Link,%
9290 PDFAFlags=4%
9291 }%
9292 \endgroup
9293 }
9294 \def\hyper@linkfile#1#2#3{%
9295 \begingroup
9296 \Hy@pstringdef\Hy@pstringF{#2}%
9297 \Hy@pstringdef\Hy@pstringD{#3}%
9298 \leavevmode
9299 \pdfmark[{#1}]{%
9300 pdfmark=/ANN,%
9301 Subtype=/Link,%
9302 PDFAFlags=4,%
9303 AcroHighlight=\pdfhighlight,%
9304 Border=\pdfborder,%
9305 BorderStyle=\pdfborderstyle,%
9306 linktype=file,%
9307 Color=\filebordercolor,%

```



```

9308     Action={%
9309         <<%
9310             /S/GoToR%
9311             \Hy@SetNewWindow
9312             /F(\Hy@pstringF)%
9313             /D\ifx\#3\[/O \@pdfstartview]\else(\Hy@pstringD)cvn\fi
9314         >>%
9315     }%
9316 }%
9317 \endgroup
9318 }
9319 \def\@hyper@launch run:#1\#2#3{%
9320     \begingroup
9321     \Hy@pstringdef\Hy@pstringF{#1}%
9322     \Hy@pstringdef\Hy@pstringP{#3}%
9323     \leavevmode
9324     \pdfmark[{#2}]{%
9325         pdfmark=/ANN,%
9326         Subtype=/Link,%
9327         PDFAFlags=4,%
9328         AcroHighlight=\@pdfhighlight,%
9329         Border=\@pdfborder,%
9330         BorderStyle=\@pdfborderstyle,%
9331         linktype=run,%
9332         Color=\@runbordercolor,%
9333         Action={%
9334             <<%
9335                 /S/Launch%
9336                 \Hy@SetNewWindow
9337                 /F(\Hy@pstringF)%
9338                 \ifx\#3\%
9339                 \else
9340                 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9341                 \fi
9342             >>%
9343         }%
9344     }%
9345 \endgroup
9346 }
9347 \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.

```

9348 \*dvips>
9349 \providecommand*\XR@ext{pdf}
9350 \def\Hy@raisedlink{}
9351 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9352 \def\headerps@out#1{\special{! #1}}%
9353 \input{pdfmark.def}%
9354 \ifx\@pdfproducer\relax
9355     \def\@pdfproducer{dvips + Distiller}%

```

```

9356 \fi
9357 \providecommand*\pdfborder{0 0 1}
9358 \providecommand*\pdfborderstyle{}
9359 \providecommand*\pdfview{XYZ}
9360 \providecommand*\pdfviewparams{ H.V}
9361 \def\Hy@BorderArrayPatch{BorderArrayPatch}

9362 \g@addto@macro\Hy@FirstPageHook{%
9363   \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.

```

9364   /DvipsToPDF{72.27 mul Resolution div} def%
9365   /PDFToDvips{72.27 div Resolution mul} def%
9366   /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.

```

9367   /BorderArrayPatch{%
9368     [exch{%
9369       dup dup type/integertype eq exch type/realtype eq or%
9370       {BPToDvips}if%
9371     }forall]%
9372   }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.

```

9373   /HyperBorder {1 PDFToDvips} def%
9374   /H.V {pdf@hoff pdf@voff null} def%
9375   /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

```

9376   /H.S {%
9377     currentpoint %
9378     HyperBorder add /pdf@lly exch def %
9379     dup DvipsToPDF 72 add /pdf@hoff exch def %
9380     HyperBorder sub /pdf@llx exch def%
9381   } def%

```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The x and y coordinates of the current point, minus the `baselineskip`

```

9382 /H.L {%
9383 2 sub dup%
9384 /HyperBasePt exch def %
9385 PDFToDvips /HyperBaseDvips exch def %
9386 currentpoint %
9387 HyperBaseDvips sub /pdf@ury exch def%
9388 /pdf@urx exch def%
9389 } def%
9390 /H.A {%
9391 H.L %
9392 % | /pdf@voff| = the distance from the top of the page to a point
9393 % | \baselineskip| above the current point in PDF coordinates
9394 currentpoint exch pop %
9395 vsize 72 sub exch DvipsToPDF %
9396 HyperBasePt sub % baseline skip
9397 sub /pdf@voff exch def%
9398 } def%
9399 /H.R {%
9400 currentpoint %
9401 HyperBorder sub /pdf@ury exch def %
9402 HyperBorder add /pdf@urx exch def %
9403 % | /pdf@voff| = the distance from the top of the page to the current point, in
9404 % PDF coordinates
9405 currentpoint exch pop vsize 72 sub %
9406 exch DvipsToPDF sub /pdf@voff exch def%
9407 } def%
9408 }%
9409 }
9410 \AfterBeginDocument{%
9411 \ifx\special@paper\@empty\else
9412 \ifHy@setpagesize
9413 \special{papersize=\special@paper}%
9414 \fi
9415 \fi
9416 \Hy@DisableOption{setpagesize}%
9417 }
9418 </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.

```

9419 <*vtexpdfmark>
9420 \providecommand*{\XR@ext}{pdf}
9421 \def\Hy@raisedlink{}
9422 \def\literalps@out#1{\special{pS:#1}}%
9423 \def\headerps@out#1{\immediate\special{pS:#1}}%
9424 \input{pdfmark.def}%
9425 \ifx\@pdfproducer\relax
9426 \ifnum\OpMode=\@ne
9427 \def\@pdfproducer{VTeX}%
9428 \else
9429 \def\@pdfproducer{VTeX + Distiller}%
9430 \fi

```

```

9431 \fi
9432 \providecommand*\@pdfborder{0 0 1}
9433 \providecommand*\@pdfborderstyle{}
9434 \providecommand*\@pdfview{XYZ}
9435 \providecommand*\@pdfviewparams{ H.V}
9436 \g@addto@macro\Hy@FirstPageHook{%
9437   \headerps@out{%
9438     /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.

```

9439   /HyperBorder {1} def%
9440   /H.V {pdf@hoff pdf@voff null} def%
9441   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9442   /H.S {%
9443     currentpoint %
9444     HyperBorder sub%
9445     /pdf@lly exch def %
9446     dup 72 add /pdf@hoff exch def %
9447     HyperBorder sub%
9448     /pdf@llx exch def%
9449   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9450   /H.L {%
9451     2 sub%
9452     /HyperBasePt exch def %
9453     currentpoint %
9454     HyperBasePt add HyperBorder add%
9455     /pdf@ury exch def %
9456     HyperBorder add%
9457     /pdf@urx exch def%
9458   } def%
9459   /H.A {%
9460     H.L %
9461     currentpoint exch pop %
9462     vsize 72 sub exch %
9463     HyperBasePt add add%
9464     /pdf@voff exch def%
9465   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9466   /H.R {%
9467     currentpoint %
9468     HyperBorder add%
9469     /pdf@ury exch def %
9470     HyperBorder add%
9471     /pdf@urx exch def %
9472     currentpoint exch pop vsize 72 sub add%
9473     /pdf@voff exch def%
9474   } def%
9475 }%
9476 }
9477 </vtxpdfmark>

```

46.11 Textures

```
9478 <*textures>
9479 \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.

```
9480 \begingroup
9481   \obeylines %
9482   \gdef\Hy@ps@CR{\noexpand
9483     }%
9484 \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.

```
9485 \def\literalps@out#1{%
9486   \special{postscript 0 0 transform}%
9487   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9488 }%
9489 %
```

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.

```
9490 \def\headerps@out#1{%
9491   \special{%
9492     prepostscript TeXdict begin\Hy@ps@CR
9493       #1\Hy@ps@CR
9494     end%
9495   }%
9496 }%
9497 %
```

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.

```
9498 \g@addto@macro\Hy@FirstPageHook{%
9499   \headerps@out{%
9500     /betterpdfmark {%
9501       systemdict begin %
9502         dup /BP eq%
9503         {cleartomark gsave nulldevice []}%
9504         {dup /EP eq%
9505           {cleartomark cleartomark grestore}}%
```

```

9506         {cleartomark}%
9507         ifelse%
9508     }ifelse %
9509     end%
9510 }def\Hy@ps@CR
9511 __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9512 }% end of \headerps@out
9513 }% end of \AtBeginShipoutFirst
9514 %
9515 \input{pdfmark.def}%
9516 %
9517 \ifx\@pdfproducer\relax
9518   \def\@pdfproducer{Textures + Distiller}%
9519 \fi
9520 \providecommand*\@pdfborder{0 0 1}
9521 \providecommand*\@pdfborderstyle{}
9522 \providecommand*\@pdfview{XYZ}
9523 \providecommand*\@pdfviewparams{ H.V}
9524 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

9525 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9526 /vsize {\Hy@pageheight} def%
9527 /DvipsToPDF {} def%
9528 /PDFToDvips {} def%
9529 /BPToDvips {} def%
9530 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9531 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9532 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9533 /H.S {%
9534   currentpoint %
9535   HyperBorder add /pdf@lly exch def %
9536   dup DvipsToPDF 72 add /pdf@hoff exch def %
9537   HyperBorder sub /pdf@llx exch def%
9538 } def\Hy@ps@CR
9539 /H.L {%
9540   2 sub %
9541   PDFToDvips /HyperBase exch def %
9542   currentpoint %
9543   HyperBase sub /pdf@ury exch def%
9544   /pdf@urx exch def%
9545 } def\Hy@ps@CR
9546 /H.A {%
9547   H.L %
9548   currentpoint exch pop %
9549   vsize 72 sub exch DvipsToPDF %
9550   HyperBase sub % baseline skip
9551   sub /pdf@voff exch def%
9552 } def\Hy@ps@CR
9553 /H.R {%
9554   currentpoint %
9555   HyperBorder sub /pdf@ury exch def %

```

```

9556   HyperBorder add /pdf@urx exch def %
9557   currentpoint exch pop vsize 72 sub %
9558   exch DvipsToPDF sub /pdf@voff exch def%
9559 } def\Hy@ps@CR
9560 }

9561 \AfterBeginDocument{%
9562   \ifHy@colorlinks
9563     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9564   \fi
9565 }

```

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.

```

9566 \expandafter\let\expandafter\keepPDF@SetupDoc
9567 \csname PDF@SetupDoc\endcsname
9568 \def\PDF@SetupDoc{%
9569   \ifx\@baseurl\@empty
9570   \else
9571     \special{html:<base href="\@baseurl">}%
9572   \fi
9573   \keepPDF@SetupDoc
9574 }

9575 \def\hyper@anchor#1{%
9576   \Hy@SaveLastskip
9577   \begingroup
9578     \let\protect=\string
9579     \special{html:<a name=%
9580       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9581   \endgroup
9582   \Hy@activeanchortrue
9583   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9584   \special{html:</a>}%
9585   \Hy@activeanchorfalse
9586   \Hy@RestoreLastskip
9587 }

9588 \def\hyper@anchorstart#1{%
9589   \Hy@SaveLastskip
9590   \begingroup
9591     \hyper@chars
9592     \special{html:<a name=%
9593       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9594   \endgroup
9595   \Hy@activeanchortrue
9596 }

9597 \def\hyper@anchorend{%
9598   \special{html:</a>}%
9599   \Hy@activeanchorfalse
9600   \Hy@RestoreLastskip
9601 }

9602 \def\@urltype{url}
9603 \def\hyper@linkstart#1#2{%
9604   \expandafter\Hy@colorlink\csname @#1color\endcsname
9605   \def\Hy@tempa{#1}%
9606   \ifx\Hy@tempa\@urltype
9607     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9608   \else
9609     \begingroup

```

```

9610     \hyper@chars
9611     \special{html:<a href=%
9612         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9613     \endgroup
9614 \fi
9615 }
9616 \def\hyper@linkend{%
9617     \special{html:</a>}%
9618     \Hy@endcolorlink
9619 }
9620 \def\hyper@linkfile#1#2#3{%
9621     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9622 }
9623 \def\hyper@linkurl#1#2{%
9624     \leavevmode
9625     \ifHy@raiselinks
9626         \setbox\@tempboxa=\color@hbox #1\color@endbox
9627         \@linkdim\dp\@tempboxa
9628         \lower\@linkdim\hbox{%
9629             \hyper@chars
9630             \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9631             }%
9632         \Hy@colorlink\@urlcolor#1%
9633         \@linkdim\ht\@tempboxa
9634         \advance\@linkdim by -6.5\p@
9635         \raise\@linkdim\hbox{\special{html:</a>}}%
9636         \Hy@endcolorlink
9637     \else
9638         \begingroup
9639         \hyper@chars
9640         \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9641         \Hy@colorlink\@urlcolor#1%
9642         \special{html:</a>}%
9643         \Hy@endcolorlink
9644     \endgroup
9645 \fi
9646 }

```

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

```

9647 \def\hyper@link#1#2#3{%
9648     \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9649 }
9650 \def\hyper@image#1#2{%
9651     \begingroup
9652     \hyper@chars
9653     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9654     \endgroup
9655 }
9656 </textures>

```

46.12 dvipsone

```

9657 % \subsection{dvipsone driver}
9658 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9659 % |special| commands.
9660 <*dvipsone>
9661 \providecommand*{\XR@ext}{pdf}
9662 \def\Hy@raisedlink{}

```



```

9663 \providecommand*\@pdfborder{0 0 1}
9664 \providecommand*\@pdfborderstyle{}
9665 \def\literalps@out#1{\special{ps:#1}}%
9666 \def\headerps@out#1{\special{headertext=#1}}%
9667 \input{pdfmark.def}%
9668 \ifx\@pdfproducer\relax
9669   \def\@pdfproducer{dvipsone + Distiller}%
9670 \fi
9671 \def\PDF@FinishDoc{%
9672   \Hy@UseMaketitleInfos
9673   \special{PDF: Keywords \@pdfkeywords}%
9674   \special{PDF: Title \@pdftitle}%
9675   \special{PDF: Creator \@pdfcreator}%
9676   \ifx\@pdfcreationdate\@empty
9677   \else
9678     \special{PDF: CreationDate \@pdfcreationdate}%
9679   \fi
9680   \ifx\@pdfmoddate\@empty
9681   \else
9682     \special{PDF: ModDate \@pdfmoddate}%
9683   \fi
9684   \special{PDF: Author \@pdfauthor}%
9685   \ifx\@pdfproducer\relax
9686   \else
9687     \special{PDF: Producer \@pdfproducer}%
9688   \fi
9689   \special{PDF: Subject \@pdfsubject}%
9690   \Hy@DisableOption{pdfauthor}%
9691   \Hy@DisableOption{pdftitle}%
9692   \Hy@DisableOption{pdfsubject}%
9693   \Hy@DisableOption{pdfcreator}%
9694   \Hy@DisableOption{pdfcreationdate}%
9695   \Hy@DisableOption{pdfmoddate}%
9696   \Hy@DisableOption{pdfproducer}%
9697   \Hy@DisableOption{pdfkeywords}%
9698 }
9699 \def\PDF@SetupDoc{%
9700   \def\Hy@temp{}%
9701   \ifx\@pdfstartpage\@empty
9702   \else
9703     \ifx\@pdfstartview\@empty
9704     \else
9705       \edef\Hy@temp{%
9706         ,Page=\@pdfstartpage
9707         ,View=\@pdfstartview
9708       }%
9709     \fi
9710   \fi
9711   \edef\Hy@temp{%
9712     \noexpand\pdfmark{%
9713       pdfmark=/DOCVIEW,%
9714       PageMode=/\@pdfpagemode
9715     }\Hy@temp
9716   }%
9717 }%
9718 \Hy@temp
9719 \ifx\@pdfpagescrop\@empty

```

```

9720 \else
9721 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9722 \fi
9723 \edef\Hy@temp{%
9724 \ifHy@toolbar\else /HideToolbar true\fi
9725 \ifHy@menubar\else /HideMenubar true\fi
9726 \ifHy@windowui\else /HideWindowUI true\fi
9727 \ifHy@fitwindow /FitWindow true\fi
9728 \ifHy@centerwindow /CenterWindow true\fi
9729 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9730 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9731 \Hy@UseNameKey{Direction}\@pdfdirection
9732 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9733 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9734 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9735 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9736 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9737 \Hy@UseNameKey{Duplex}\@pdfduplex
9738 \ifx\@pdfpicktraybypdfsize\@empty
9739 \else
9740 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9741 \fi
9742 \ifx\@pdfprintpagerange\@empty
9743 \else
9744 /PrintPageRange[\@pdfprintpagerange]%
9745 \fi
9746 \ifx\@pdfnumcopies\@empty
9747 \else
9748 /NumCopies \@pdfnumcopies
9749 \fi
9750 }%
9751 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9752 \pdfmark{%
9753 pdfmark=/PUT,%
9754 Raw={%
9755 \string{Catalog\string}<<%
9756 \ifx\Hy@temp\@empty
9757 \else
9758 /ViewerPreferences<<\Hy@temp>>%
9759 \fi
9760 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9761 \ifx\@pdflang\@empty
9762 \else
9763 /Lang(\@pdflang)%
9764 \fi
9765 \ifx\@baseurl\@empty
9766 \else
9767 /URI<</Base(\Hy@pstringB)>>%
9768 \fi
9769 >>%
9770 }%
9771 }%
9772 }
9773 \providecommand*\@pdfview{XYZ}
9774 \providecommand*\@pdfviewparams{ %
9775 gsave revscl currentpoint grestore %
9776 72 add exch pop null exch null%

```

```

9777 }
9778 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

9779 \g@addto@macro\Hy@FirstPageHook{%
9780   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9781   /DvipsToPDF { 65781 div } def%
9782   /PDFToDvips { 65781 mul } def%
9783   /BPToDvips{65781 mul}def%
9784   /HyperBorder { 1 PDFToDvips } def%
9785   /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.

```

9786   /BorderArrayPatch{%
9787     [exch%
9788       dup dup type/integertype eq exch type/realtype eq or%
9789       {BPToDvips}if%
9790     ]forall}%
9791   }def%
9792   /H.S {%
9793     currentpoint %
9794     HyperBorder add /pdf@lly exch def %
9795     dup DvipsToPDF 72 add /pdf@hoff exch def %
9796     HyperBorder sub /pdf@llx exch def%
9797   } def%
9798   /H.L {%
9799     2 sub %
9800     PDFToDvips /HyperBase exch def %
9801     currentpoint %
9802     HyperBase sub /pdf@ury exch def%
9803     /pdf@urx exch def%
9804   } def%
9805   /H.A {%
9806     H.L %
9807     currentpoint exch pop %
9808     HyperBase sub % baseline skip
9809     DvipsToPDF /pdf@voff exch def%
9810   } def%
9811   /H.R {%
9812     currentpoint %
9813     HyperBorder sub /pdf@ury exch def %
9814     HyperBorder add /pdf@urx exch def %
9815     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9816   } def%
9817   }%
9818 }
9819 \</dvipsone>

```

46.13 \TeX 4ht

```

9820 \<tex4ht>

```

```

9821 \providecommand*{\XR@ext}{html}
9822 \def\Hy@raisedlink{}
9823 \@ifpackageloaded{tex4ht}{%
9824   \typeout{hyperref tex4ht: tex4ht already loaded}%
9825 }{%
9826   \RequirePackage[htex4ht]{tex4ht}%
9827 }
9828 \hyperlinkfileprefix{}
9829 \def\PDF@FinishDoc{}
9830 \def\PDF@SetupDoc{%
9831   \ifx\@baseurl\@empty
9832   \else
9833     \special{t4ht=<base href="\@baseurl">}%
9834   \fi
9835 }
9836 \def\hyper@anchor#1{%
9837   \Hy@SaveLastskip
9838   \begingroup
9839     \let\protect=\string
9840     \special{t4ht=<a name=%
9841       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9842   \endgroup
9843   \Hy@activeanchortrue
9844   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9845   \special{t4ht=</a>}%
9846   \Hy@activeanchorfalse
9847   \Hy@RestoreLastskip
9848 }
9849 \def\hyper@anchorstart#1{%
9850   \Hy@SaveLastskip
9851   \begingroup
9852     \hyper@chars\special{t4ht=<a name=%
9853       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9854   \endgroup
9855   \Hy@activeanchortrue
9856 }
9857 \def\hyper@anchorend{%
9858   \special{t4ht=</a>}%
9859   \Hy@activeanchorfalse
9860   \Hy@RestoreLastskip
9861 }
9862 \def\@urltype{url}
9863 \def\hyper@linkstart#1#2{%
9864   \expandafter\Hy@colorlink\csname @#1color\endcsname
9865   \def\Hy@tempa{#1}%
9866   \ifx\Hy@tempa\@urltype
9867     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9868   \else
9869     \begingroup
9870       \hyper@chars
9871       \special{t4ht=<a href=%
9872         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9873     \endgroup
9874   \fi
9875 }
9876 \def\hyper@linkend{%
9877   \special{t4ht=</a>}%

```

```

9878 \Hy@endcolorlink
9879 }
9880 \def\hyper@linkfile#1#2#3{%
9881 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9882 }
9883 \def\hyper@linkurl#1#2{%
9884 \leavevmode
9885 \ifHy@raiselinks
9886 \setbox\@tempboxa=\color@hbox #1\color@endbox
9887 \@linkdim\dp\@tempboxa
9888 \lower\@linkdim\hbox{%
9889 \begingroup
9890 \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9891 \endgroup
9892 }%
9893 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9894 \@linkdim\ht\@tempboxa
9895 \advance\@linkdim by -6.5\p@
9896 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9897 \else
9898 \begingroup
9899 \hyper@chars
9900 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9901 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9902 \special{t4ht=</a>}}%
9903 \endgroup
9904 \fi
9905 }

```

Poor implementation of \hyper@link without considering #1.

```

9906 \def\hyper@link#1#2#3{%
9907 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
9908 }
9909 \def\hyper@image#1#2{%
9910 \begingroup
9911 \hyper@chars
9912 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
9913 \endgroup
9914 }
9915 \let\autoref\ref
9916 \ifx \rEfLiNK \UnDef
9917 \def\rEfLiNK #1#2{#2}%
9918 \fi
9919 \def\backref#1{}
9920 </tex4ht>
9921 <*tex4htcfg>
9922 \IfFileExists{\jobname.cfg}{\endinput}{}
9923 \Preamble{html}
9924 \begin{document}%
9925 \EndPreamble
9926 \def\TeX{TeX}
9927 \def\OMEGA{\Omega}
9928 \def\LaTeX{LaTeX}
9929 \def\LaTeXe{\LaTeX2e}
9930 \def\eTeX{e-TeX}
9931 \def\MF{Metafont}
9932 \def\MP{MetaPost}
9933 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```
9934 <*pdfmark>
9935 \long\def\@Form[#1]{%
9936 \g@addto@macro\Hy@FirstPageHook{%
9937 \headerps@out{%
9938 [%
9939 \_objdef{pdfDocEncoding}%
9940 /type/dict%
9941 /OBJ pdfmark%
9942 [%
9943 {pdfDocEncoding}%
9944 <<%
9945 /Type/Encoding%
9946 /Differences[%
9947 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9948 /tilde %
9949 39/quotesingle %
9950 96/grave %
9951 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9952 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9953 /quotedblbase/quotedblleft/quotedblright/quoteleft%
9954 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9955 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9956 164/currency %
9957 166/brokenbar %
9958 168/dieresis/copyright/ordfeminine %
9959 172/logicalnot/.notdef/registered/macron/degree/plusminus%
9960 /twosuperior/threesuperior/acute/mu %
9961 183/periodcentered/cedilla/onesuperior/ordmasculine %
9962 188/onequarter/onehalf/threequarters %
9963 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9964 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9965 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9966 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
9967 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9968 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
9969 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9970 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
9971 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9972 /ucircumflex/udieresis/yacute/thorn/ydieresis%
9973 ]%
9974 >>%
9975 /PUT pdfmark%
9976 [%
9977 \_objdef{ZaDb}%
9978 /type/dict%
9979 /OBJ pdfmark%
9980 [%
9981 {ZaDb}%
9982 <<%
9983 /Type/Font%
9984 /Subtype/Type1%
9985 /Name/ZaDb%
9986 /BaseFont/ZapfDingbats%
```

```

9987  >>%
9988 /PUT pdfmark%
9989 [%
9990   /_objdef{Helv}%
9991   /type/dict%
9992 /OBJ pdfmark%
9993 [%
9994   {Helv}%
9995   <<%
9996     /Type/Font%
9997     /Subtype/Type1%
9998     /Name/Helv%
9999     /BaseFont/Helvetica%
10000     /Encoding{pdfDocEncoding}%
10001   >>%
10002 /PUT pdfmark%
10003 [%
10004   /_objdef{aform}%
10005   /type/dict%
10006 /OBJ pdfmark%
10007 [%
10008   /_objdef{afields}%
10009   /type/array%
10010 /OBJ pdfmark%
10011 {%
10012   [%
10013     /BBox[0 0 100 100]%
10014     /_objdef{Check}%
10015 /BP pdfmark %
10016 1 0 0 setrgbcolor%
10017 /ZapfDingbats 80 selectfont %
10018 20 20 moveto%
10019 (4)show%
10020 [/EP pdfmark%
10021 [%
10022   /BBox[0 0 100 100]%
10023   /_objdef{Cross}%
10024 /BP pdfmark %
10025 1 0 0 setrgbcolor%
10026 /ZapfDingbats 80 selectfont %
10027 20 20 moveto%
10028 (8)show%
10029 [/EP pdfmark%
10030 [%
10031   /BBox[0 0 250 100]%
10032   /_objdef{Submit}%
10033 /BP pdfmark %
10034 0.6 setgray %
10035 0 0 250 100 rectfill %
10036 1 setgray %
10037 2 2 moveto %
10038 2 98 lineto %
10039 248 98 lineto %
10040 246 96 lineto %
10041 4 96 lineto %
10042 4 4 lineto %
10043 fill %

```

```

10044 0.34 setgray %
10045 248 98 moveto %
10046 248 2 lineto %
10047 2 2 lineto %
10048 4 4 lineto %
10049 246 4 lineto %
10050 246 96 lineto %
10051 fill%
10052 /Helvetica 76 selectfont %
10053 0 setgray %
10054 8 22.5 moveto%
10055 (Submit)show%
10056 [/EP pdfmark%
10057 [%
10058 /BBox[0 0 250 100]%
10059 /_objdef{SubmitP}%
10060 /BP pdfmark %
10061 0.6 setgray %
10062 0 0 250 100 rectfill %
10063 0.34 setgray %
10064 2 2 moveto %
10065 2 98 lineto %
10066 248 98 lineto %
10067 246 96 lineto %
10068 4 96 lineto %
10069 4 4 lineto %
10070 fill %
10071 1 setgray %
10072 248 98 moveto %
10073 248 2 lineto %
10074 2 2 lineto %
10075 4 4 lineto %
10076 246 4 lineto %
10077 246 96 lineto %
10078 fill%
10079 /Helvetica 76 selectfont %
10080 0 setgray %
10081 10 20.5 moveto%
10082 (Submit)show%
10083 [/EP pdfmark%
10084 } ?pdfmark%
10085 [%
10086 {aform}%
10087 <<%
10088 /Fields{afields}%
10089 /DR<<%
10090 /Font<<%
10091 /ZaDb{ZaDb}%
10092 /Helv{Helv}%
10093 >>%
10094 >>%
10095 /DA(/Helv 10 Tf 0 g)%
10096 /CO{corder}%
10097 \ifHy@pdfa
10098 \else
10099 /NeedAppearances true%
10100 \fi

```



```

10101 >>%
10102 /PUT pdfmark%
10103 [%
10104 {Catalog}%
10105 <<%
10106 /AcroForm{aform}%
10107 >>%
10108 /PUT pdfmark%
10109 [%
10110 /_objdef{corder}%
10111 /type/array%
10112 /OBJ pdfmark% dps
10113 }}%
10114 \setkeys{Form}{#1}%
10115 }
10116 \def\@endForm{}
10117 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10118 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10119 }
10120 \def\@TextField[#1]#2{% parameters, label
10121 \def\Fld@name{#2}%
10122 \def\Fld@default{}%
10123 \let\Fld@value\@empty
10124 \def\Fld@width{\DefaultWidthofText}%
10125 \def\Fld@height{%
10126 \ifFld@multiline
10127 \DefaultHeightofTextMultiline
10128 \else
10129 \DefaultHeightofText
10130 \fi
10131 }%
10132 \beginngroup
10133 \Field@toks={ }%
10134 \expandafter\HyField@SetKeys\expandafter{%
10135 \DefaultOptionsofText,#1%
10136 }%
10137 \HyField@FlagsText
10138 \ifFld@hidden\def\Fld@width{1sp}\fi
10139 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10140 \LayoutTextField{#2}{%
10141 \Hy@escapeform\PDFForm@Text
10142 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10143 pdfmark=/ANN,Raw={\PDFForm@Text}%
10144 }%
10145 }%
10146 \endgroup
10147 }
10148 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10149 \def\Fld@name{#2}%
10150 \let\Fld@default\relax
10151 \let\Fld@value\relax
10152 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10153 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10154 \beginngroup
10155 \Fld@menulength=0 %
10156 \@tempdima\z@
10157 \@for\@curropt:=#3\do{%

```

```

10158 \expandafter\Fld@checkequals\@curropt==\%
10159 \Hy@StepCount\Fld@menulength
10160 \settowidth{\@tempdimb}{\@currDisplay}%
10161 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10162 }%
10163 \advance\@tempdima by 15\p@
10164 \Field@toks={ }%
10165 \beginngroup
10166 \HyField@SetKeys{#1}%
10167 \edef\x{\endgroup
10168 \noexpand\expandafter
10169 \noexpand\HyField@SetKeys
10170 \noexpand\expandafter{%
10171 \expandafter\noexpand\csname DefaultOptionsof%
10172 \ifFld@radio
10173 Radio%
10174 \else
10175 \ifFld@combo
10176 \ifFld@popdown
10177 PopdownBox%
10178 \else
10179 ComboBox%
10180 \fi
10181 \else
10182 ListBox%
10183 \fi
10184 \fi
10185 \endcsname
10186 }%
10187 }\x
10188 \HyField@SetKeys{#1}%
10189 \ifFld@hidden\def\Fld@width{1sp}\fi
10190 \ifx\Fld@value\relax
10191 \let\Fld@value\Fld@default
10192 \fi
10193 \LayoutChoiceField{#2}{%
10194 \ifFld@radio
10195 \HyField@FlagsRadioButton
10196 \@@Radio{#3}%
10197 \else
10198 \beginngroup
10199 \HyField@FlagsChoice
10200 \ifdim\Fld@width<\@tempdima
10201 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10202 \edef\Fld@width{\the\@tempdima}%
10203 \fi
10204 \ifFld@combo
10205 \else
10206 \@tempdima=\the\Fld@menulength\Fld@charsize
10207 \advance\@tempdima by \Fld@borderwidth bp %
10208 \advance\@tempdima by \Fld@borderwidth bp %
10209 \edef\Fld@height{\the\@tempdima}%
10210 \fi
10211 \@@ListBox{#3}%
10212 \endgroup
10213 \fi
10214 }%

```

```

10215 \endgroup
10216 }
10217 \def\@@Radio#1{%
10218   \Fld@listcount=0 %
10219   \@for\@curropt:=#1\do{%
10220     \expandafter\Fld@checkequals\@curropt==\%
10221     \Hy@StepCount\Fld@listcount
10222     \@currDisplay\space
10223     \Hy@escapeform\PDFForm@Radio
10224     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10225       pdfmark=/ANN,%
10226       Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10227     } % deliberate space between radio buttons
10228   }%
10229 }
10230 \newcount\Fld@listcount
10231 \def\@@ListBox#1{%
10232   \HyField@PDFChoices{#1}%
10233   \Hy@escapeform\PDFForm@List
10234   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10235     pdfmark=/ANN,Raw={\PDFForm@List}%
10236   }%
10237 }
10238 \def\@PushButton[#1]#2{% parameters, label
10239   \def\Fld@name{#2}%
10240   \begingroup
10241     \Field@toks={ }%
10242     \expandafter\HyField@SetKeys\expandafter{%
10243       \DefaultOptionsofPushButton,#1%
10244     }%
10245     \ifHy@pdfa
10246       \PackageError{hyperref}{%
10247         PDF/A: Push button with JavaScript is prohibited%
10248       }\@ehc
10249       \LayoutPushButtonField{%
10250         \leavevmode
10251         \MakeButtonField{#2}%
10252       }%
10253     \else
10254       \HyField@FlagsPushButton
10255       \ifFld@hidden\def\Fld@width{1sp}\fi
10256       \LayoutPushButtonField{%
10257         \leavevmode
10258         \Hy@escapeform\PDFForm@Push
10259         \pdfmark[\MakeButtonField{#2}]{%
10260           pdfmark=/ANN,Raw={\PDFForm@Push}%
10261         }%
10262       }%
10263     \fi
10264   \endgroup
10265 }
10266 \def\@Submit[#1]#2{%
10267   \Field@toks={ }%
10268   \def\Fld@width{\DefaultWidthofSubmit}%
10269   \def\Fld@height{\DefaultHeightofSubmit}%
10270   \begingroup
10271     \expandafter\HyField@SetKeys\expandafter{%

```

```

10272     \DefaultOptionsofSubmit,#1%
10273 }%
10274 \HyField@FlagsPushButton
10275 \HyField@FlagsSubmit
10276 \ifFld@hidden\def\Fld@width{1sp}\fi
10277 \Hy@escapeform\PDFForm@Submit
10278 \pdfmark[\MakeButtonField{#2}]{%
10279     pdfmark=/ANN,%
10280     Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}}%
10281 }%
10282 \endgroup
10283 }
10284 \def\@Reset[#1]#2{%
10285     \Field@toks={ }%
10286     \def\Fld@width{\DefaultWidthofReset}%
10287     \def\Fld@height{\DefaultHeightofReset}%
10288     \begingroup
10289     \expandafter\HyField@SetKeys\expandafter{%
10290         \DefaultOptionsofReset,#1%
10291     }%
10292     \leavevmode
10293     \ifHy@pdfa
10294         \PackageError{hyperref}{%
10295             PDF/A: Reset action is prohibited%
10296         }{\@ehc
10297             \MakeButtonField{#2}}%
10298     \else
10299         \HyField@FlagsPushButton
10300         \ifFld@hidden\def\Fld@width{1sp}\fi
10301         \Hy@escapeform\PDFForm@Reset
10302         \pdfmark[\MakeButtonField{#2}]{%
10303             pdfmark=/ANN,Raw={\PDFForm@Reset}}%
10304         }%
10305     \fi
10306 \endgroup
10307 }%
10308 \def\@CheckBox[#1]#2{% parameters, label
10309     \def\Fld@name{#2}%
10310     \def\Fld@default{0}%
10311     \begingroup
10312     \def\Fld@width{\DefaultWidthofCheckBox}%
10313     \def\Fld@height{\DefaultHeightofCheckBox}%
10314     \Field@toks={ }%
10315     \expandafter\HyField@SetKeys\expandafter{%
10316         \DefaultOptionsofCheckBox,#1%
10317     }%
10318     \HyField@FlagsCheckBox
10319     \ifFld@hidden\def\Fld@width{1sp}\fi
10320     \LayoutCheckField{#2}{%
10321         \Hy@escapeform\PDFForm@Check
10322         \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10323             pdfmark=/ANN,Raw={\PDFForm@Check}}%
10324         }%
10325     }%
10326 \endgroup
10327 }
10328 \pdfmark

```

47.2 HyperTeX

```
10329 <*hypertext>
10330 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10331 \def\@endForm{}
10332 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10333   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10334 }
10335 \def\@TextField[#1]#2{% parameters, label
10336   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10337 }
10338 \def\@CheckBox[#1]#2{% parameters, label
10339   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10340 }
10341 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10342   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10343 }
10344 \def\@PushButton[#1]#2{% parameters, label
10345   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10346 }
10347 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10348 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10349 </hypertext>
```

47.3 TeX4ht

```
10350 <*tex4ht>
10351 \def\@Form[#1]{%
10352   \setkeys{Form}{#1}%
10353   \HCode{<form action="\Form@action" method="\Form@method">}%
10354 }
10355 \def\@endForm{\HCode{</form>}}
10356 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10357   \typeout{Sorry, TeX4ht does not support gauges}%
10358 }
10359 \def\@TextField[#1]#2{% parameters, label
10360   \let\Hy@reserved@a\@empty
10361   \def\Fld@name{#2}%
10362   \def\Fld@default{}%
10363   \bgroup
10364     \Field@toks={ }%
10365     \setkeys{Field}{#1}%
10366     \HCode{<label for="\Fld@name">#2</label>}%
10367     \ifFld@password
10368       \@@PasswordField
10369     \else
10370       \@@TextField
10371     \fi
10372   \egroup
10373 }
10374 \def\@@PasswordField{%
10375   \HCode{%
10376     <input type="password" %
10377       id="\Fld@name" %
10378       name="\Fld@name" %
10379       \ifFld@hidden type="hidden" \fi
10380       value="\Fld@default" %
10381       \the\Field@toks
10382     >%
```

```

10383 }%
10384 }
10385 \def\@@TextField{%
10386   \ifFld@multiline
10387     \HCode{<textarea %
10388       \ifFld@readonly readonly \fi
10389       id="\Fld@name" %
10390       name="\Fld@name" %
10391       \ifFld@hidden type="hidden" \fi
10392       \the\Field@toks>%
10393   }%
10394   \Fld@default
10395   \HCode{</textarea>}%
10396 \else
10397   \HCode{<input type="text" %
10398     \ifFld@readonly readonly \fi
10399     id="\Fld@name" %
10400     name="\Fld@name" %
10401     \ifFld@hidden type="hidden" \fi
10402     value="\Fld@default" %
10403     \the\Field@toks>%
10404   }%
10405 \fi
10406 }
10407 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10408   \def\Fld@name{#2}%
10409   \def\Fld@default{ }%
10410   \let\Hy@reserved@a\relax
10411   \begingroup
10412     \expandafter\Fld@findlength#3\\%
10413     \Field@toks={ }%
10414     \setkeys{Field}{#1}%
10415     #2%
10416     \ifFld@radio
10417       \expandafter\@@Radio#3\\%
10418     \else
10419       \expandafter\@@Menu#3\\%
10420     \fi
10421   \endgroup
10422 }
10423 \def\Fld@findlength#1\\{%
10424   \Fld@menulength=0 %
10425   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10426 }
10427 \def\@@Menu#1\\{%
10428   \HCode{<select size="\the\Fld@menulength" %
10429     name="\Fld@name" %
10430     \the\Field@toks>%
10431   }%
10432   \@for\@curropt:=#1\do{%
10433     \expandafter\Fld@checkequals\@curropt==\\%
10434     \HCode{<option %
10435       \ifx\@curropt\Fld@default selected \fi
10436       value="\@currValue">\@currDisplay</option>%
10437     }%
10438   }%
10439   \HCode{</select>}%

```

```

10440 }
10441 \def\@@Radio#1\{%
10442   \@for\@curropt:=#1\do{%
10443     \expandafter\Fld@checkequals\@curropt==\%
10444     \HCode{<input type="radio" %
10445       \ifx\@curropt\Fld@default checked \fi
10446       name="\Fld@name" %
10447       value="\@currValue" %
10448       \the\Field@toks>%
10449     }%
10450     \@currDisplay
10451   }%
10452 }
10453 \def\@PushButton[#1]#2{% parameters, label
10454   \def\Fld@name{#2}%
10455   \bgroup
10456     \Field@toks={ }%
10457     \setkeys{Field}{#1}%
10458     \HCode{<input type="button" %
10459       name="\Fld@name" %
10460       value="#2" %
10461       \the\Field@toks>%
10462     }%
10463     \HCode{</button>}%
10464   \egroup
10465 }
10466 \def\@Submit[#1]#2{%
10467   \HCode{<button type="submit">#2</button>}%
10468 }
10469 \def\@Reset[#1]#2{%
10470   \HCode{<button type="reset">#2</button>}%
10471 }
10472 \def\@CheckBox[#1]#2{% parameters, label
10473   \let\Hy@reserved@a\@empty
10474   \def\Fld@name{#2}%
10475   \def\Fld@default{0}%
10476   \bgroup
10477     \Field@toks={ }%
10478     \setkeys{Field}{#1}%
10479     \HCode{<input type="checkbox" %
10480       \ifFld@checked checked \fi
10481       \ifFld@disabled disabled \fi
10482       \ifFld@readonly readonly \fi
10483       name="\Fld@name" %
10484       \ifFld@hidden type="hidden" \fi
10485       value="\Fld@default" %
10486       \the\Field@toks>%
10487     #2%
10488   }%
10489   \egroup
10490 }
10491 </tex4ht>

```

47.4 pdfTeX

```

10492 <*pdftex>
10493 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10494   \typeout{Sorry, pdftex does not support FORM gauges}%

```

```

10495 }
10496 \def\MakeFieldObject#1#2{\sbox0{#1}%
10497   \immediate\pdfxform0 %
10498   \expandafter\edef\csname #2Object\endcsname{%
10499     \the\pdflastxform\space 0 R%
10500   }%
10501 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10502 }%
10503 \def\HyField@afields{}
10504 \begingroup\expandafter\expandafter\expandafter\endgroup
10505 \expandafter\ifx\csname pdfastlink\endcsname\relax
10506   \let\HyField@AddToFields\relax
10507   \PackageInfo{hyperref}{%
10508     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10509     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10510     but other PDF viewers might complain%
10511   }%
10512 \else
10513   \def\HyField@AddToFields{%
10514     \xdef\HyField@afields{%
10515       \ifx\HyField@afields\@empty
10516         \else
10517           \HyField@afields
10518         \space
10519       \fi
10520       \the\pdfastlink\space 0 R%
10521     }%
10522   }%
10523 \fi
10524 \def\@Form[#1]{%
10525   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10526   \setkeys{Form}{#1}%
10527   \ifnum\pdfTeXversion>13 %
10528     \pdfrefobj\OBJ@pdfdocencoding
10529     \pdfrefobj\OBJ@ZaDb
10530     \pdfrefobj\OBJ@Helv
10531   \fi
10532   \AtEndDocument{%
10533     \immediate\pdfobj{%
10534       <<%
10535         /Fields[\HyField@afields]%
10536         /DR<<%
10537         /Font<<%
10538           /ZaDb \OBJ@ZaDb\space 0 R%
10539           /Helv \OBJ@Helv\space 0 R%
10540         >>%
10541       >>%
10542       /DA(/Helv 10 Tf 0 g)%
10543       \ifHy@pdfa
10544       \else
10545         /NeedAppearances true%
10546       \fi
10547     >>%
10548   }%
10549   \edef\OBJ@acroform{\the\pdfastobj}%
10550   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10551 }%

```



```

10552 \MakeFieldObject{%
Same as \ding{123} of package pifont.
10553 \beginngroup
10554 \fontfamily{pzd}%
10555 \fontencoding{U}%
10556 \fontseries{m}%
10557 \fontshape{n}%
10558 \selectfont
10559 \char123 %
10560 \endgroup
10561 }{Ding}%
10562 \MakeFieldObject{%
10563 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10564 }{Submit}%
10565 \MakeFieldObject{%
10566 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10567 }{SubmitP}%
10568 }
10569 \def\@endForm{
10570 \def\@TextField[#1]#2{% parameters, label
10571 \def\Fld@name{#2}%
10572 \def\Fld@default{}%
10573 \let\Fld@value\@empty
10574 \def\Fld@width{\DefaultWidthofText}%
10575 \def\Fld@height{%
10576 \ifFld@multiline
10577 \DefaultHeightofTextMultiline
10578 \else
10579 \DefaultHeightofText
10580 \fi
10581 }%
10582 \beginngroup
10583 \Fld@toks={ }%
10584 \expandafter\HyField@SetKeys\expandafter{%
10585 \DefaultOptionsofText,#1%
10586 }%
10587 \PDFForm@Name
10588 \HyField@FlagsText
10589 \ifFld@hidden\def\Fld@width{1sp}\fi
10590 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10591 \LayoutTextField{#2}{%
10592 \Hy@escapeform\PDFForm@Text
10593 \pdfstartlink user {\PDFForm@Text}\relax
10594 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10595 \HyField@AddToFields
10596 }%
10597 \endgroup
10598 }
10599 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10600 \def\Fld@name{#2}%
10601 \let\Fld@default\relax
10602 \let\Fld@value\relax
10603 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10604 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10605 \beginngroup
10606 \Fld@menulength=0 %
10607 \@tempdima\z@

```

```

10608 \@for\@curropt:=#3\do{%
10609 \expandafter\Fld@checkequals\@curropt==\%
10610 \Hy@StepCount\Fld@menulength
10611 \settowidth{\@tempdimb}{\@currDisplay}%
10612 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10613 }%
10614 \advance\@tempdima by 15\p@
10615 \Field@toks={ }%
10616 \beginngroup
10617 \HyField@SetKeys{#1}%
10618 \edef\x{\endgroup
10619 \noexpand\expandafter
10620 \noexpand\HyField@SetKeys
10621 \noexpand\expandafter{%
10622 \expandafter\noexpand\csname DefaultOptionsof%
10623 \ifFld@radio
10624 Radio%
10625 \else
10626 \ifFld@combo
10627 \ifFld@popdown
10628 PopdownBox%
10629 \else
10630 ComboBox%
10631 \fi
10632 \else
10633 ListBox%
10634 \fi
10635 \fi
10636 \endcsname
10637 }%
10638 }\x
10639 \HyField@SetKeys{#1}%
10640 \PDFForm@Name
10641 \ifFld@hidden\def\Fld@width{1sp}\fi
10642 \ifx\Fld@value\relax
10643 \let\Fld@value\Fld@default
10644 \fi
10645 \LayoutChoiceField{#2}{%
10646 \ifFld@radio
10647 \HyField@FlagsRadioButton
10648 \@@Radio{#3}%
10649 \else
10650 \beginngroup
10651 \HyField@FlagsChoice
10652 \ifdim\Fld@width<\@tempdima
10653 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10654 \edef\Fld@width{\the\@tempdima}%
10655 \fi
10656 \ifFld@combo
10657 \else
10658 \@tempdima=\the\Fld@menulength\Fld@charsize
10659 \advance\@tempdima by \Fld@borderwidth bp %
10660 \advance\@tempdima by \Fld@borderwidth bp %
10661 \edef\Fld@height{\the\@tempdima}%
10662 \fi
10663 \@@Listbox{#3}%
10664 \endgroup

```

```

10665      \fi
10666    }%
10667  \endgroup
10668 }
10669 \def\@@Radio#1{%
10670   \Fld@listcount=0 %
10671   \@for\@curropt:=#1\do{%
10672     \expandafter\Fld@checkequals\@curropt==\%
10673     \Hy@StepCount\Fld@listcount
10674     \@currDisplay\space
10675     \leavevmode
10676     \Hy@escapeform\PDFForm@Radio
10677     \pdfstartlink user {%
10678       \PDFForm@Radio
10679       /AP<<%
10680       /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.

```

10681       /\@currValue\space \DingObject
10682       >>%
10683     >>%
10684   }%
10685   \relax
10686   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10687   \ifnum\Fld@listcount=1 %
10688     \HyField@AddToFields
10689   \fi
10690   \space % deliberate space between radio buttons
10691 }%
10692 }
10693 \newcount\Fld@listcount
10694 \def\@@ListBox#1{%
10695   \HyField@PDFChoices{#1}%
10696   \leavevmode
10697   \Hy@escapeform\PDFForm@List
10698   \pdfstartlink user {\PDFForm@List}\relax
10699   \MakeChoiceField{\Fld@width}{\Fld@height}%
10700   \pdfendlink
10701   \HyField@AddToFields
10702 }
10703 \def\@PushButton[#1]#2{% parameters, label
10704   \def\Fld@name{#2}%
10705   \beginngroup
10706     \Field@toks={ }%
10707     \expandafter\HyField@SetKeys\expandafter{%
10708       \DefaultOptionsofPushButton,#1%
10709     }%
10710     \PDFForm@Name
10711     \ifHy@pdfa
10712       \PackageError{hyperref}{%
10713         PDF/A: Push button with JavaScript is prohibited%
10714       }\@ehc
10715     \LayoutPushButtonField{%
10716       \leavevmode
10717       \MakeButtonField{#2}%
10718     }%

```

```

10719 \else
10720 \HyField@FlagsPushButton
10721 \ifFld@hidden\def\Fld@width{1sp}\fi
10722 \LayoutPushButtonField{%
10723 \leavevmode
10724 \Hy@escapeform\PDFForm@Push
10725 \pdfstartlink user {\PDFForm@Push}\relax
10726 \MakeButtonField{#2}%
10727 \pdfendlink
10728 \HyField@AddToFields
10729 }%
10730 \fi
10731 \endgroup
10732 }
10733 \def\@Submit[#1]#2{%
10734 \Field@toks={ }%
10735 \def\Fld@width{\DefaultWidthofSubmit}%
10736 \def\Fld@height{\DefaultHeightofSubmit}%
10737 \begingroup
10738 \expandafter\HyField@SetKeys\expandafter{%
10739 \DefaultOptionsofSubmit,#1%
10740 }%
10741 \HyField@FlagsPushButton
10742 \HyField@FlagsSubmit
10743 \ifFld@hidden\def\Fld@width{1sp}\fi
10744 \leavevmode
10745 \Hy@escapeform\PDFForm@Submit
10746 \pdfstartlink user {%
10747 \PDFForm@Submit
10748 /AP<</N \SubmitObject/D \SubmitPObject>>%
10749 }%
10750 \relax
10751 \MakeButtonField{#2}%
10752 \pdfendlink
10753 \HyField@AddToFields
10754 \endgroup
10755 }
10756 \def\@Reset[#1]#2{%
10757 \Field@toks={ }%
10758 \def\Fld@width{\DefaultWidthofReset}%
10759 \def\Fld@height{\DefaultHeightofReset}%
10760 \begingroup
10761 \expandafter\HyField@SetKeys\expandafter{%
10762 \DefaultOptionsofReset,#1%
10763 }%
10764 \leavevmode
10765 \ifHy@pdfa
10766 \PackageError{hyperref}{%
10767 PDF/A: Reset action is prohibited%
10768 }{\@ehc
10769 \MakeButtonField{#2}%
10770 \else
10771 \HyField@FlagsPushButton
10772 \ifFld@hidden\def\Fld@width{1sp}\fi
10773 \Hy@escapeform\PDFForm@Reset
10774 \pdfstartlink user {\PDFForm@Reset}\relax
10775 \MakeButtonField{#2}%

```

```

10776     \pdfendlink
10777     \HyField@AddToFields
10778     \fi
10779 \endgroup
10780 }
10781 \def\@CheckBox[#1]#2{% parameters, label
10782   \def\Fld@name{#2}%
10783   \def\Fld@default{0}%
10784   \begingroup
10785     \def\Fld@width{\DefaultWidthofCheckBox}%
10786     \def\Fld@height{\DefaultHeightofCheckBox}%
10787     \Field@toks={ }%
10788     \expandafter\HyField@SetKeys\expandafter{%
10789       \DefaultOptionsofCheckBox,#1%
10790     }%
10791     \PDFForm@Name
10792     \HyField@FlagsCheckBox
10793     \ifFld@hidden\def\Fld@width{1sp}\fi
10794     \LayoutCheckField{#2}{%
10795       \Hy@escapeform\PDFForm@Check
10796       \pdfstartlink user {\PDFForm@Check}\relax
10797       \MakeCheckField{\Fld@width}{\Fld@height}%
10798       \pdfendlink
10799       \HyField@AddToFields
10800     }%
10801 \endgroup
10802 }
10803 \pdfobj {%
10804   <<%
10805     /Type/Encoding%
10806     /Differences[%
10807       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10808       /ring/tilde %
10809       39/quotesingle %
10810       96/grave %
10811       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10812       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10813       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10814       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10815       /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10816       164/currency %
10817       166/brokenbar %
10818       168/dieresis/copyright/ordfeminine %
10819       172/logicalnot/.notdef/registered/macron/degree/plusminus%
10820       /twosuperior/threesuperior/acute/mu %
10821       183/periodcentered/cedilla/onesuperior/ordmasculine %
10822       188/onequarter/onehalf/threequarters %
10823       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10824       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10825       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10826       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10827       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10828       /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10829       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10830       /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10831       /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10832       /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

10833    ]%
10834    >>%
10835 }
10836 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10837 \pdfobj{%
10838   <<%
10839     /Type/Font%
10840     /Subtype/Type1%
10841     /Name/ZaDb%
10842     /BaseFont/ZapfDingbats%
10843   >>%
10844 }
10845 \edef\OBJ@ZaDb{\the\pdflastobj}
10846 \pdfobj{%
10847   <<%
10848     /Type/Font%
10849     /Subtype/Type1%
10850     /Name/Helv%
10851     /BaseFont/Helvetica%
10852     /Encoding \OBJ@pdfdocencoding\space 0 R%
10853   >>%
10854 }
10855 \edef\OBJ@Helv{\the\pdflastobj}
10856 \pdfTeX

```

47.5 dvipdfm

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

10857 \dvipdfm

```

\@Gauge

```

10858 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10859   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10860 }

```

\@Form

```

10861 \def\@Form[#1]{%
10862   \ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10863   \setkeys{Form}{#1}%
10864   \@pdfm@mark{obj @afields []}%
10865   \@pdfm@mark{obj @corder []}%
10866   \@pdfm@mark{%
10867     obj @aform <<%
10868       /Fields @afields%
10869       /DR<<%
10870       /Font<<%
10871       /ZaDb @OBJZaDb%
10872       /Helv @OBJHelv%
10873     >>%
10874     >>%
10875     /DA(/Helv 10 Tf 0 g)%
10876     /CO @corder%
10877     \ifHy@pdfa
10878     \else
10879       /NeedAppearances true%
10880     \fi

```

```

10881     >>%
10882   }%
10883   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10884 }

\@endForm

10885 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

10886 \def\dvipdfm@setdim{%
10887   height \the\ht\pdfm@box\space
10888   width \the\wd\pdfm@box\space
10889   depth \the\dp\pdfm@box\space
10890 }

\HyField@AnnotCount

10891 \newcount\HyField@AnnotCount
10892 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

10893 \def\HyField@AdvanceAnnotCount{%
10894   \global\advance\HyField@AnnotCount\@ne
10895 }

\HyField@TheAnnotCount

10896 \def\HyField@TheAnnotCount{%
10897   \the\HyField@AnnotCount
10898 }

\@TextField

10899 \def\@TextField[#1]#2{% parameters, label
10900   \def\Fld@name{#2}%
10901   \def\Fld@default{}%
10902   \let\Fld@value\@empty
10903   \def\Fld@width{\DefaultWidthofText}%
10904   \def\Fld@height{%
10905     \ifFld@multiline
10906       \DefaultHeightofTextMultiline
10907     \else
10908       \DefaultHeightofText
10909     \fi
10910   }%
10911   \begingroup
10912     \Field@toks={ }%
10913     \expandafter\HyField@SetKeys\expandafter{%
10914       \DefaultOptionsofText,#1%
10915     }%
10916     \PDFForm@Name
10917     \HyField@FlagsText
10918     \ifFld@hidden\def\Fld@width{1sp}\fi
10919     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10920     \setbox\pdfm@box=\hbox{%
10921       \MakeTextField{\Fld@width}{\Fld@height}%
10922     }%
10923     \HyField@AdvanceAnnotCount
10924     \LayoutTextField{#2}{%

```

```

10925 \Hy@escapeform\PDFForm@Text
10926 \@pdfm@mark{%
10927   ann @text\HyField@TheAnnotCount\space
10928   \dvipdfm@setdim << \PDFForm@Text >>%
10929 }%
10930 }%
10931 \unhbox\pdfm@box
10932 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10933 % record in @afields array
10934 \endgroup
10935 }

```

\@ChoiceMenu

```

10936 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10937 \def\Fld@name{#2}%
10938 \let\Fld@default\relax
10939 \let\Fld@value\relax
10940 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10941 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10942 \begingroup
10943 \Fld@menulength=0 %
10944 \@tempdima\z@
10945 \@for\@curropt:=#3\do{%
10946 \expandafter\Fld@checkequals\@curropt==\%
10947 \Hy@StepCount\Fld@menulength
10948 \settowidth{\@tempdimb}{\@currDisplay}%
10949 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10950 }%
10951 \advance\@tempdima by 15\p@
10952 \Field@toks={ }%
10953 \begingroup
10954 \HyField@SetKeys{#1}%
10955 \edef\x{\endgroup
10956 \noexpand\expandafter
10957 \noexpand\HyField@SetKeys
10958 \noexpand\expandafter{%
10959 \expandafter\noexpand\csname DefaultOptionsof%
10960 \ifFld@radio
10961 Radio%
10962 \else
10963 \ifFld@combo
10964 \ifFld@popdown
10965 PopdownBox%
10966 \else
10967 ComboBox%
10968 \fi
10969 \else
10970 ListBox%
10971 \fi
10972 \fi
10973 \endcsname
10974 }%
10975 }\x
10976 \HyField@SetKeys{#1}%
10977 \PDFForm@Name
10978 \ifFld@hidden\def\Fld@width{1sp}\fi
10979 \ifx\Fld@value\relax

```



```

10980     \let\Fld@value\Fld@default
10981     \fi
10982     \LayoutChoiceField{#2}{%
10983     \ifFld@radio
10984         \HyField@FlagsRadioButton
10985         \@@Radio{#3}%
10986     \else
10987         \beginngroup
10988             \HyField@FlagsChoice
10989             \ifdim\Fld@width<\@tempdima
10990                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10991                 \edef\Fld@width{\the\@tempdima}%
10992             \fi
10993             \ifFld@combo
10994             \else
10995                 \@tempdima=\the\Fld@menulength\Fld@charsize
10996                 \advance\@tempdima by \Fld@borderwidth bp %
10997                 \advance\@tempdima by \Fld@borderwidth bp %
10998                 \edef\Fld@height{\the\@tempdima}%
10999             \fi
11000             \@@ListBox{#3}%
11001         \endgroup
11002     \fi
11003 }%
11004 \endgroup
11005 }

```

\@@Radio

```

11006 \def\@@Radio#1{%
11007     \Fld@listcount=0 %
11008     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11009     \@for\@curropt:=#1\do{%
11010         \expandafter\Fld@checkequals\@curropt==\%
11011         \Hy@StepCount\Fld@listcount
11012         \@currDisplay\space
11013         \leavevmode
11014         \Hy@escapeform\PDFForm@Radio
11015         \ifnum\Fld@listcount=1 %
11016             \HyField@AdvanceAnnotCount
11017         \fi
11018         \@pdfm@mark{%
11019             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11020             \dvi pdfm@setdim
11021             <<%
11022                 \PDFForm@Radio
11023                 /AP<</N<</\@currValue /null>>>>%
11024             >>%
11025         }%
11026         \unhcopy\pdfm@box\space% deliberate space between radio buttons
11027         \ifnum\Fld@listcount=1 %
11028             \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11029         \fi
11030     }%
11031 }

```

\Fld@listcount

```

11032 \newcount\Fld@listcount

```

\@@Listbox

```
11033 \def\@@Listbox#1{%
11034   \HyField@PDFChoices{#1}%
11035   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11036   \leavevmode
11037   \Hy@escapeform\PDFForm@List
11038   \HyField@AdvanceAnnotCount
11039   \@pdfm@mark{%
11040     ann @list\HyField@TheAnnotCount\space
11041     \dvipdfm@setdim
11042     <<\PDFForm@List>>%
11043   }%
11044   \unhbox\pdfm@box
11045   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11046 }
```

\@PushButton

```
11047 \def\@PushButton[#1]#2{% parameters, label
11048   \def\Fld@name{#2}%
11049   \begingroup
11050     \Field@toks={ }%
11051     \expandafter\HyField@SetKeys\expandafter{%
11052       \DefaultOptionsofPushButton,#1%
11053     }%
11054     \PDFForm@Name
11055     \ifHy@pdfa
11056       \PackageError{hyperref}{%
11057         PDF/A: Push button with JavaScript is prohibited%
11058       }\@ehc
11059       \LayoutPushButtonField{%
11060         \leavevmode
11061         \MakeButtonField{#2}%
11062       }%
11063     \else
11064       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11065       \HyField@FlagsPushButton
11066       \ifFld@hidden\def\Fld@width{1sp}\fi
11067       \HyField@AdvanceAnnotCount
11068       \LayoutPushButtonField{%
11069         \leavevmode
11070         \Hy@escapeform\PDFForm@Push
11071         \@pdfm@mark{%
11072           ann @push\HyField@TheAnnotCount\space
11073           \dvipdfm@setdim
11074           <<\PDFForm@Push>>%
11075         }%
11076       }%
11077       \unhbox\pdfm@box
11078       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11079     \fi
11080   \endgroup
11081 }
```

\@Submit

```
11082 \def\@Submit[#1]#2{%
11083   \Field@toks={ }%
11084   \def\Fld@width{\DefaultWidthofSubmit}%

```

```

11085 \def\Fld@height{\DefaultHeightofSubmit}%
11086 \begingroup
11087   \expandafter\HyField@SetKeys\expandafter{%
11088     \DefaultOptionsofSubmit,#1%
11089   }%
11090   \HyField@FlagsPushButton
11091   \HyField@FlagsSubmit
11092   \ifFld@hidden\def\Fld@width{1sp}\fi
11093   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11094   \leavevmode
11095   \Hy@escapeform\PDFForm@Submit
11096   \HyField@AdvanceAnnotCount
11097   \@pdfm@mark{%
11098     ann @submit\HyField@TheAnnotCount\space
11099     \dvipdfm@setdim
11100     <<\PDFForm@Submit>>%
11101   }%
11102   \unhbox\pdfm@box%
11103   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11104 \endgroup
11105 }

```

\@Reset

```

11106 \def\@Reset[#1]#2{%
11107   \Field@toks={ }%
11108   \def\Fld@width{\DefaultWidthofReset}%
11109   \def\Fld@height{\DefaultHeightofReset}%
11110   \begingroup
11111     \expandafter\HyField@SetKeys\expandafter{%
11112       \DefaultOptionsofReset,#1%
11113     }%
11114     \leavevmode
11115     \ifHy@pdfa
11116       \PackageError{hyperref}{%
11117         PDF/A: Reset action is prohibited%
11118       }\@ehc
11119       \MakeButtonField{#2}%
11120     \else
11121       \HyField@FlagsPushButton
11122       \ifFld@hidden\def\Fld@width{1sp}\fi
11123       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11124       \Hy@escapeform\PDFForm@Reset
11125       \HyField@AdvanceAnnotCount
11126       \@pdfm@mark{%
11127         ann @reset\HyField@TheAnnotCount\space
11128         \dvipdfm@setdim
11129         <<\PDFForm@Reset>>%
11130       }%
11131       \unhbox\pdfm@box
11132       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11133     \fi
11134 \endgroup
11135 }

```

\@CheckBox

```

11136 \def\@CheckBox[#1]#2{% parameters, label
11137   \def\Fld@name{#2}%

```

```

11138 \def\Fld@default{0}%
11139 \begingroup
11140   \def\Fld@width{\DefaultWidthofCheckBox}%
11141   \def\Fld@height{\DefaultHeightofCheckBox}%
11142   \Field@toks={ }%
11143   \expandafter\HyField@SetKeys\expandafter{%
11144     \DefaultOptionsofCheckBox,#1%
11145   }%
11146   \PDFForm@Name
11147   \HyField@FlagsCheckBox
11148   \ifFld@hidden\def\Fld@width{1sp}\fi
11149   \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11150   \HyField@AdvanceAnnotCount
11151   \LayoutCheckField{#2}{%
11152     \Hy@escapeform\PDFForm@Check
11153     \@pdfm@mark{%
11154       ann @check\HyField@TheAnnotCount\space
11155       \dvipdfm@setdim
11156       <<\PDFForm@Check>>%
11157     }%
11158     \unhbox\pdfm@box
11159     \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11160   }%
11161 \endgroup
11162 }

11163 \@pdfm@mark{obj @OBJpdfdocencoding%
11164 <<%
11165   /Type/Encoding%
11166   /Differences[%
11167     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11168     39/quotesingle %
11169     96/grave %
11170     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11171     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11172     /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11173     /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11174     /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11175     164/currency %
11176     166/brokenbar %
11177     168/dieresis/copyright/ordfeminine %
11178     172/logicalnot/.notdef/registered/macron/degree/plusminus%
11179     /twosuperior/threesuperior/acute/mu %
11180     183/periodcentered/cedilla/onesuperior/ordmasculine %
11181     188/onequarter/onehalf/threequarters %
11182     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11183     /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11184     /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11185     /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11186     /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11187     /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11188     /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11189     /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11190     /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11191     /thorn/ydieresis%
11192   ]%
11193 >>%
11194 }

```

```

11195 \@pdfm@mark{obj @OBJZaDb%
11196 <<%
11197 /Type/Font%
11198 /Subtype/Type1%
11199 /Name/ZaDb%
11200 /BaseFont/ZapfDingbats%
11201 >>%
11202 }
11203 \@pdfm@mark{obj @OBJHelv%
11204 <<%
11205 /Type/Font%
11206 /Subtype/Type1%
11207 /Name/Helv%
11208 /BaseFont/Helvetica%
11209 /Encoding @OBJpdfdocencoding%
11210 >>%
11211 }
11212 </dvipdfm>

```

47.6 Common forms part

```

11213 < *pdfform>

\Hy@escapestring

11214 \begingroup\expandafter\expandafter\expandafter\endgroup
11215 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11216 \let\Hy@escapestring\@firstofone
11217 \def\Hy@escapeform#1{%
11218 \ifHy@escapeform
11219 \def\Hy@escapestring##1{%
11220 \noexpand\Hy@escapestring{\noexpand##1}%
11221 }%
11222 \edef\Hy@temp{#1}%
11223 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
11224 \def\Hy@escapestring##1{%
11225 \@ifundefined{Hy@esc@\string##1}{%
11226 ##1%
11227 \ThisShouldNotHappen
11228 }{%
11229 \csname Hy@esc@\string##1\endcsname
11230 }%
11231 }%
11232 \else
11233 \let\Hy@escapestring\@firstofone
11234 \fi
11235 }%
11236 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11237 \ifx\#3\%
11238 \else
11239 \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11240 \Hy@ReturnAfterFi{%
11241 \Hy@@escapeform#3\@nil
11242 }%
11243 \fi
11244 }%
11245 \else
11246 \def\Hy@escapeform#1{%

```

```

11247 \ifHy@escapeform
11248 \let\Hy@escapestring\pdfescapestring
11249 \else
11250 \let\Hy@escapestring\@firstofone
11251 \fi
11252 }%
11253 \Hy@escapeform{}%
11254 \fi

```

\PDFForm@Name

```

11255 \def\PDFForm@Name{%
11256 \begingroup
11257 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11258 \ifHy@unicode
11259 \Hy@unicodetrue
11260 \fi
11261 \fi
11262 \pdfstringdef\Hy@gtemp\Fld@name
11263 \endgroup
11264 \let\Fld@name\Hy@gtemp
11265 }

```

\PDFForm@Check

```

11266 \def\PDFForm@Check{%
11267 /Subtype/Widget%
11268 \Fld@annotflags
11269 /T(\Fld@name)%
11270 /FT/Btn%
11271 \Fld@flags
11272 /Q \Fld@align
11273 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11274 /MK<<%
11275 \ifnum\Fld@rotation=\z@
11276 \else
11277 /R \Fld@rotation
11278 \fi
11279 \ifx\Fld@bordercolor\relax
11280 \else
11281 /BC[\Fld@bordercolor]%
11282 \fi
11283 \ifx\Fld@bcolor\relax
11284 \else
11285 /BG[\Fld@bcolor]%
11286 \fi
11287 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11288 >>%
11289 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11290 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11291 /H/P%
11292 \ifFld@checked /V/Yes\else /V/Off\fi
11293 }

```

\PDFForm@Push

```

11294 \ifHy@pdfa
11295 \else
11296 \def\PDFForm@Push{%
11297 /Subtype/Widget%

```

```

11298 \Fld@annotflags
11299 /T(\Fld@name)%
11300 /FT/Btn%
11301 \Fld@flags
11302 /H/P%
11303 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11304 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11305 \ifx\Fld@bordercolor\relax\else 1\fi
11306 \space
11307 \else
11308 /MK<<%
11309 \ifnum\Fld@rotation=\z@
11310 \else
11311 /R \Fld@rotation
11312 \fi
11313 \ifx\Fld@bordercolor\relax
11314 \else
11315 /BC[\Fld@bordercolor]%
11316 \fi
11317 >>%
11318 \fi
11319 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11320 }%
11321 \fi

```

\Fld@additionalactions

```

11322 \def\Fld@@additionalactions{%
K input (keystroke) format
11323 \ifx\Fld@keystroke@code\@empty
11324 \else
11325 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11326 \fi
F display format
11327 \ifx\Fld@format@code\@empty
11328 \else
11329 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11330 \fi
V validation
11331 \ifx\Fld@validate@code\@empty
11332 \else
11333 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11334 \fi
C calculation
11335 \ifx\Fld@calculate@code\@empty
11336 \else
11337 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11338 \fi
Fo receiving the input focus
11339 \ifx\Fld@onfocus@code\@empty
11340 \else
11341 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11342 \fi
Bl loosing the input focus (blurred)

```

```

11343 \ifx\Fld@onblur@code\@empty
11344 \else
11345   /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11346 \fi
D pressing the mouse button (down)
11347 \ifx\Fld@onmousedown@code\@empty
11348 \else
11349   /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11350 \fi
U releasing the mouse button (up)
11351 \ifx\Fld@onmouseup@code\@empty
11352 \else
11353   /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11354 \fi
E cursor enters the annotation's active area.
11355 \ifx\Fld@onenter@code\@empty
11356 \else
11357   /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11358 \fi
X cursor exits the annotation's active area.
11359 \ifx\Fld@onexit@code\@empty
11360 \else
11361   /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11362 \fi
11363 }
11364 \def\Fld@additionalactions{%
11365 \if-\Fld@@additionalactions-%
11366 \else
11367   \ifHy@pdfa
11368   \else
11369     /AA<<\Fld@@additionalactions>>%
11370   \fi
11371 \fi
11372 }

```

\PDFForm@List

```

11373 \def\PDFForm@List{%
11374 /Subtype/Widget%
11375 \Fld@annotflags
11376 /T(\Fld@name)%
11377 /FT/Ch%
11378 \Fld@flags
11379 /Q \Fld@align
11380 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11381 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11382   \ifx\Fld@bordercolor\relax\else 1\fi
11383   \ifx\Fld@bcolor\relax \else 1\fi
11384   \space
11385 \else
11386   /MK<<%
11387   \ifnum\Fld@rotation=\z@
11388   \else
11389     /R \Fld@rotation
11390   \fi
11391   \ifx\Fld@bordercolor\relax

```



```

11392     \else
11393         /BC[\Fld@bordercolor]%
11394     \fi
11395     \ifx\Fld@bcolor\relax
11396     \else
11397         /BG[\Fld@bcolor]%
11398     \fi
11399     >>%
11400 \fi
11401 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11402     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11403 \Fld@choices
11404 \Fld@additionalactions
11405 }

```

\PDFForm@Radio

```

11406 \def\PDFForm@Radio{%
11407     /Subtype/Widget%
11408     \Fld@annotflags
11409     /T(\Fld@name)%
11410     /FT/Btn%
11411     \Fld@flags
11412     /H/P%
11413     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11414     /MK<<%
11415         \ifnum\Fld@rotation=\z@
11416         \else
11417             /R \Fld@rotation
11418         \fi
11419         \ifx\Fld@bordercolor\relax
11420         \else
11421             /BC[\Fld@bordercolor]%
11422         \fi
11423         \ifx\Fld@bcolor\relax
11424         \else
11425             /BG[\Fld@bcolor]%
11426         \fi
11427         /CA(H)%
11428     >>%
11429     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11430         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11431     \ifx\@currValue\Fld@default
11432         /V/\Fld@default
11433     \else
11434         /V/Off%
11435     \fi
11436     \Fld@additionalactions
11437 }

```

\PDFForm@Text

```

11438 \def\PDFForm@Text{%
11439     /Subtype/Widget%
11440     \Fld@annotflags
11441     /T(\Fld@name)%
11442     /FT/Tx%
11443     \Fld@flags
11444     /Q \Fld@align

```

```

11445 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11446 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11447 \ifx\Fld@bordercolor\relax\else 1\fi
11448 \ifx\Fld@bcolor\relax \else 1\fi
11449 \space
11450 \else
11451 /MK<<%
11452 \ifnum\Fld@rotation=\z@
11453 \else
11454 /R \Fld@rotation
11455 \fi
11456 \ifx\Fld@bordercolor\relax
11457 \else
11458 /BC[\Fld@bordercolor]%
11459 \fi
11460 \ifx\Fld@bcolor\relax
11461 \else
11462 /BG[\Fld@bcolor]%
11463 \fi
11464 >>%
11465 \fi
11466 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11467 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11468 /DV(\Hy@escapestring{\Fld@default})%
11469 /V(\Hy@escapestring{\Fld@value})%
11470 \Fld@additionalactions
11471 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11472 }

```

\PDFForm@Submit

```

11473 \def\PDFForm@Submit{%
11474 /Subtype/Widget%
11475 \Fld@annotflags
11476 /T(\Fld@name)%
11477 /FT/Btn%
11478 \Fld@flags
11479 /H/P%
11480 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11481 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11482 \ifx\Fld@bordercolor\relax\else 1\fi
11483 \space
11484 \else
11485 /MK<<%
11486 \ifnum\Fld@rotation=\z@
11487 \else
11488 /R \Fld@rotation
11489 \fi
11490 \ifx\Fld@bordercolor\relax
11491 \else
11492 /BC[\Fld@bordercolor]%
11493 \fi
11494 >>%
11495 \fi
11496 /A<<%
11497 /S/SubmitForm%
11498 /F<<%
11499 /FS/URL%

```

```

11500      /F(\Hy@escapestring{\Form@action})%
11501      >>%
11502      \Fld@submitflags
11503      >>%
11504  }

\PDFForm@Reset

11505 \ifHy@pdfa
11506 \else
11507   \def\PDFForm@Reset{%
11508     /Subtype/Widget%
11509     \Fld@annotflags
11510     /T(\Fld@name)%
11511     /FT/Btn%
11512     \Fld@flags
11513     /H/P%
11514     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11515     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11516         \ifx\Fld@bordercolor\relax\else 1\fi
11517         \space
11518     \else
11519       /MK<<%
11520         \ifnum\Fld@rotation=\z@
11521         \else
11522           /R \Fld@rotation
11523           \fi
11524         \ifx\Fld@bordercolor\relax
11525         \else
11526           /BC[\Fld@bordercolor]%
11527           \fi
11528       /CA (Clear)
11529       /AC (Done)
11530       >>%
11531       \fi
11532       /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11533       /A<</S/ResetForm>>%
11534     }%
11535 \fi

11536 </pdfform>
11537 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` 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`

```

11538 \def\phantomsection{%
11539   \Hy@GlobalStepCount\Hy@linkcounter
11540   \xdef\@currentHref{section*.\the\Hy@linkcounter}%

```

```

11541 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11542 }
11543 \end{package}

```

48.1 Bookmarks

```
11544 \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.pdf and slides.pdf in the doc directory of hyperref.

```

11545 \def\Hy@writebookmark#1#2#3#4#5{%
11546   % section number, text, label, level, file
11547   \ifx\WriteBookmarks\relax%
11548   \else
11549     \ifnum#4>\Hy@bookmarksdepth\relax
11550     \else
11551       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11552     \fi
11553   \fi
11554 }
11555 \def\Hy@currentbookmarklevel{0}
11556 \def\Hy@numberline#1{#1 }
11557 \def\@writetorep#1#2#3#4#5{%
11558   \begingroup
11559     \edef\Hy@tempa{#5}%
11560     \ifx\Hy@tempa\Hy@bookmarkstype
11561       \edef\Hy@level{#4}%
11562       \ifx\Hy@levelcheck Y%
11563         \@tempcnta\Hy@level\relax
11564         \advance\@tempcnta by -1 %
11565         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11566           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11567           \advance\@tempcnta by 1 %
11568           \Hy@Warning{%
11569             Difference (\the\@tempcnta) between bookmark levels is %
11570             greater \MessageBreak than one, level fixed%
11571           }%
11572           \@tempcnta\Hy@currentbookmarklevel
11573           \advance\@tempcnta by 1 %
11574           \edef\Hy@level{\the\@tempcnta}%
11575         \fi
11576       \else
11577         \global\let\Hy@levelcheck Y%
11578       \fi
11579       \global\let\Hy@currentbookmarklevel\Hy@level
11580       \@tempcnta\Hy@level\relax
11581       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11582       \advance\@tempcnta by -1 %
11583       \edef\Hy@tempa{#3}%
11584       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11585       \ifx\Hy@tempa\Hy@tempb
11586         \Hy@Warning{%
11587           The anchor of a bookmark and its parent's must not%
11588           \MessageBreak be the same. Added a new anchor%

```

```

11589      }%
11590      \phantomsection
11591    \fi
11592    \ifHy@bookmarksnumbered
11593      \let\numberline\Hy@numberline
11594      \let\partnumberline\Hy@numberline
11595      \let\chapternumberline\Hy@numberline
11596    \else
11597      \let\numberline\@gobble
11598      \let\partnumberline\@gobble
11599      \let\chapternumberline\@gobble
11600    \fi
11601    \pdfstringdef\Hy@tempa{#2}%
11602    \if@filesw
11603      \protected@write\@outlinefile{}{%
11604        \protect\BOOKMARK
11605          [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11606          {\Hy@tempa}{\Hy@tempb}%
11607      }%
11608    \fi
11609  \fi
11610 \endgroup
11611 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

11612 \newcommand{\currentpdfbookmark}{%
11613   \pdfbookmark[\Hy@currentbookmarklevel]%
11614 }
11615 \newcommand{\subpdfbookmark}{%
11616   \@tempcnta\Hy@currentbookmarklevel
11617   \Hy@StepCount\@tempcnta
11618   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11619 }
11620 \newcommand{\belowpdfbookmark}[2]{%
11621   \@tempcnta\Hy@currentbookmarklevel
11622   \Hy@StepCount\@tempcnta
11623   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11624   \advance\@tempcnta by -1 %
11625   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11626 }

```

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.

```

11627 \renewcommand\pdfbookmark[3][0]{%
11628   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11629   \hyper@anchorstart{#3.#1}\hyper@anchorend
11630 }
11631 \def\BOOKMARK{\@ifnextchar[\@BOOKMARK]{\@BOOKMARK[1][-]}}
11632 \def\@BOOKMARK[#1]{\@ifnextchar[\@BOOKMARK[#1]]{\@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfopdf` macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (`denis.girou@idris.fr`), then by by Taco Hoekwater (`taco.hoekwater@wkap.nl`). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

11633 < *vtex >

```

```

11634 \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 num-
bers 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.

11635 \begingroup
11636   \catcode'\'=12 %
11637   \ifnum\Hy@VTeXversion<650 %
11638     \catcode'\=12 %
11639     \gdef\hv@pdf@char#1#2#3{%
11640       \char
11641       \ifcase'#1#2#3 %
11642         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11643         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11644         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11645         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11646         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11647         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11648         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11649         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11650         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11651         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11652         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11653         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11654         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11655         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11656         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11657         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11658         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11659         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11660         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11661         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11662         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11663         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11664         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11665         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11666         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11667         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11668         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11669         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11670         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11671         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11672         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11673         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11674       \fi
11675     }%
11676   \else
11677     \gdef\hv@pdf@char{\char'}%
11678   \fi
11679 \endgroup

\@@BOOKMARK

11680 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11681   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11682   \edef\@mycount{\the\@serial@counter}%
11683   \Hy@StepCount\@serial@counter
11684   \edef\@parcount{%

```

```

11685 \expandafter\ifx\csname @count@#5\endcsname\relax
11686 0%
11687 \else
11688 \csname @count@#5\endcsname
11689 \fi
11690 }%
11691 \immediate\special{%
11692 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11693 s=\ifx#2-c\else o\fi,t=#4%
11694 }%
11695 }%

```

\ReadBookmarks

```

11696 \def\ReadBookmarks{%
11697 \begingroup
11698 \def\0{\hv@pdf@char 0}%
11699 \def\1{\hv@pdf@char 1}%
11700 \def\2{\hv@pdf@char 2}%
11701 \def\3{\hv@pdf@char 3}%
11702 \def\({}%
11703 \def\)}%
11704 \def\do##1{%
11705 \ifnum\the\catcode'##1=\active
11706 \@makeother##1%
11707 \fi
11708 }%
11709 \dospecials
11710 \InputIfFileExists{\jobname.out}{-}{-}%
11711 \endgroup
11712 \ifx\WriteBookmarks\relax
11713 \else
11714 \if@filesw
11715 \newwrite\@outlinefile
11716 \immediate\openout\@outlinefile=\jobname.out\relax
11717 \ifHy@typexml
11718 \immediate\write\@outlinefile{<relaxxml>\relax}%
11719 \fi
11720 \fi
11721 \fi
11722 }

11723 </vtex>

11724 <!*vtex>
11725 \def\ReadBookmarks{%
11726 \begingroup
11727 \escapechar='\\%
11728 \let\escapechar@gobble %
11729 \def\@@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
11730 \InputIfFileExists{\jobname.out}{-}{-}%
11731 \ifx\WriteBookmarks\relax
11732 \global\let\WriteBookmarks\relax
11733 \fi
11734 \def\@@BOOKMARK[##1][##2]###4##5{%
11735 \def\Hy@temp{##4}%
11736 <*pdfTex>
11737 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11738 \Hy@OutlineName{}\Hy@pstringName%

```

```

11739      ##2\check@bm@number{##3}%
11740    }{%
11741      \expandafter\strip@prefix\meaning\Hy@temp
11742    }%
11743  </pdfTex>
11744  <*pdfmark>
11745    \pdfmark{%
11746      pdfmark=/OUT,%
11747      Count={##2\check@bm@number{##3}},%
11748      Dest={##3},%
11749      Title=\expandafter\strip@prefix\meaning\Hy@temp
11750    }%
11751  </pdfmark>
11752  <*dvipdfm>
11753    \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11754    \@pdfm@mark{%
11755      outline \ifHy@DvipdfmxOutlineOpen
11756        [%
11757          \ifnum##21>\z@
11758          \else
11759            -%
11760            \fi
11761          ] %
11762          \fi
11763          ##1<<%
11764          /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11765          /A<<%
11766          /S/GoTo%
11767          /D(\Hy@pstringName)%
11768          >>%
11769        >>%
11770      }%
11771  </dvipdfm>
11772  }%
11773  {%
11774    \def\WriteBookmarks{0}%
11775    \InputIfFileExists{\jobname.out}{-}{-}%
11776  }%
11777  {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11778  \ifx\WriteBookmarks\relax
11779  \else
11780    \if@files
11781      \newwrite\@outlinefile
11782      \immediate\openout\@outlinefile=\jobname.out\relax
11783      \ifHy@typexml
11784        \immediate\write\@outlinefile{<relaxxml>\relax}%
11785      \fi
11786    \fi
11787  \fi
11788  \endgroup
11789 }
11790 <*pdfTex>
11791 \def\Hy@OutlineName#1#2#3#4{%
11792   \pdfoutline goto name{#2}count#3{#4}%
11793 }
11794 </pdfTex>
11795 \def\check@bm@number#1{%

```



```

11796 \expandafter\ifx\csname B_#1\endcsname\relax
11797   0%
11798 \else
11799   \csname B_#1\endcsname
11800 \fi
11801 }
11802 \def\calc@bm@number#1{%
11803   \@tempcnta=\check@bm@number{#1}\relax
11804   \advance\@tempcnta by 1 %
11805   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11806 }
11807 </!vtx>

11808 \ifHy@implicit
11809 \else
11810   \expandafter\endinput
11811 \fi

11812 </outlines>
11813 <*outlines | hypertex>

11814 \let\H@old@ssect\@ssect
11815 \def\@ssect#1#2#3#4#5{%
11816   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11817   \phantomsection
11818 }
11819 \let\H@old@schapter\@schapter
11820 \def\@schapter#1{%
11821   \H@old@schapter{#1}%
11822   \begingroup
11823     \let\@mkboth\@gobbletwo
11824     \Hy@GlobalStepCount\Hy@linkcounter
11825     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11826     \Hy@raisedlink{%
11827       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11828     }%
11829   \endgroup
11830 }

```

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:

```

11831 \@ifundefined{@chapter}{}{%
11832   \let\Hy@org@chapter\@chapter
11833   \def\@chapter{%
11834     \def\Hy@next{%
11835       \Hy@GlobalStepCount\Hy@linkcounter
11836       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11837       \Hy@raisedlink{%
11838         \hyper@anchorstart{\@currentHref}\hyper@anchorend
11839       }%
11840     }%
11841     \ifnum\c@secnumdepth>\m@ne
11842       \@ifundefined{if@mainmatter}%
11843       \iftrue{\csname if@mainmatter\endcsname}%
11844       \let\Hy@next\relax
11845     \fi
11846   \fi
11847   \Hy@next

```

```

11848 \Hy@org@chapter
11849 }%
11850 }

11851 \let\H@old@part\@part
11852 \begingroup\expandafter\expandafter\expandafter\endgroup
11853 \expandafter\ifx\csname chapter\endcsname\relax
11854 \let\Hy@secnum@part\z@
11855 \else
11856 \let\Hy@secnum@part\m@ne
11857 \fi
11858 \def\@part{%
11859 \ifnum\Hy@secnum@part>\c@secnumdepth
11860 \phantomsection
11861 \fi
11862 \H@old@part
11863 }

11864 \let\H@old@spart\@spart
11865 \def\@spart#1{%
11866 \H@old@spart{#1}%
11867 \Hy@GlobalStepCount\Hy@linkcounter
11868 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11869 \Hy@raisedlink{%
11870 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11871 }%
11872 }

11873 \let\H@old@sect\@sect
11874 \def\@sect#1#2#3#4#5#6[#7]#8{%
11875 \ifnum #2>\c@secnumdepth
11876 \Hy@GlobalStepCount\Hy@linkcounter
11877 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11878 \fi
11879 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11880 \ifnum #2>\c@secnumdepth
11881 \Hy@raisedlink{%
11882 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11883 }%
11884 \fi
11885 }

11886 </outlines | hypertex>
11887 <*outlines>

11888 \expandafter\def\csname Parent-4\endcsname{}
11889 \expandafter\def\csname Parent-3\endcsname{}
11890 \expandafter\def\csname Parent-2\endcsname{}
11891 \expandafter\def\csname Parent-1\endcsname{}
11892 \expandafter\def\csname Parent0\endcsname{}
11893 \expandafter\def\csname Parent1\endcsname{}
11894 \expandafter\def\csname Parent2\endcsname{}
11895 \expandafter\def\csname Parent3\endcsname{}
11896 \expandafter\def\csname Parent4\endcsname{}

11897 </outlines>

```

49 Compatibility with koma-script classes

```

11898 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for komascript versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

11899 \def\Hy@tempa{%
11900   \def\@addchap{##1}##2{%
11901     \typeout{##2}%
11902     \if@twoside
11903       \mkboth{##1}{}%
11904     \else
11905       \mkboth{}{##1}%
11906     \fi
11907     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11908     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11909     \Hy@GlobalStepCount\Hy@linkcounter
11910     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11911     \Hy@raisedlink{%
11912       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11913     }%
11914     \if@twocolumn
11915       \topnewpage[\@makeschapterhead{##2}]%
11916     \else
11917       \@makeschapterhead{##2}%
11918       \@afterheading
11919     \fi
11920     \addcontentsline{toc}{chapter}{##1}%
11921   }%
11922 }
11923 \@ifclassloaded{scrbook}{%
11924   \@ifclasslater{scrbook}{2001/01/01}{%
11925     \let\Hy@tempa\@empty
11926   }{}%
11927 }{%
11928   \@ifclassloaded{scrreprt}{%
11929     \@ifclasslater{scrreprt}{2001/01/01}{%
11930       \let\Hy@tempa\@empty
11931     }{}%
11932   }{}%
11933   \let\Hy@tempa\@empty
11934 }%
11935 }%
11936 \Hy@tempa
11937 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

50.1 PD1 encoding

```

11938 <*pd1enc>
11939 \DeclareFontEncoding{PD1}{}{}

Accents
11940 \DeclareTextAccent{\' }{PD1}{\textasciigrave}
11941 \DeclareTextAccent{' }{PD1}{\textacute}
11942 \DeclareTextAccent{^ }{PD1}{\textasciicircum}
11943 \DeclareTextAccent{~ }{PD1}{\texttilde}

```

```

11944 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
11945 \DeclareTextAccent{\r}{PD1}{\textring}
11946 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
11947 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11948 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11949 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
11950 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
11951 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
11952 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
11953 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11954 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
11955 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11956 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
11957 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11958 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
11959 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11960 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11961 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
11962 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
11963 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
11964 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
11965 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
11966 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
11967 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
11968 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
11969 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
11970 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
11971 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
11972 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
11973 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
11974 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
11975 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
11976 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
11977 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
11978 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11979 % U+0009 (CHARACTER TABULATION)
11980 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
11981 % U+000A (LINE FEED)
11982 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
11983 % U+000D (CARRIAGE RETURN)
11984 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

11985 % U+02D8 BREVE; breve
11986 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
11987 % U+02C7 CARON; caron
11988 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
11989 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
11990 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
11991 % U+02D9 DOT ABOVE; dotaccent
11992 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
11993 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
11994 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
11995 % U+02DB OGONEK; ogonek
11996 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
11997 % U+02DA RING ABOVE; ring
11998 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

```

11999 % U+02DC SMALL TILDE; ilde, *tilde
 12000 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC
 \040: U+0020 SPACE; *space, spacehackarabic
 \041: U+0021 EXCLAMATION MARK; exclam
 12001 % U+0022 QUOTATION MARK; quotedbl
 12002 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 12003 % U+0023 NUMBER SIGN; numbersign
 12004 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 12005 % U+0024 DOLLAR SIGN; dollar
 12006 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 12007 % U+0025 PERCENT SIGN; percent
 12008 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12009 % U+0026 AMPERSAND; ampersand
 12010 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12011 % U+0028 LEFT PARENTHESIS; parenleft
 12012 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
 12013 % U+0029 RIGHT PARENTHESIS; parenright
 12014 \DeclareTextCommand{\textparenright}{PD1}{\string\)%}% \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
 12015 % U+002E FULL STOP; period
 12016 \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
 12017 % U+003C LESS-THAN SIGN; less
 12018 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12019 % U+003E GREATER-THAN SIGN; greater
 12020 \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
 12021 % U+005C REVERSE SOLIDUS; backslash
 12022 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12023 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12024 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12025 % U+005F LOW LINE; underscore
 12026 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12027 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12028 % U+0060 GRAVE ACCENT; grave
 12029 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

\141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 12030 % U+0069 LATIN SMALL LETTER I; i
 12031 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12032 % U+007B LEFT CURLY BRACKET; braceleft
 12033 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12034 % U+007C VERTICAL LINE; *bar, verticalbar
 12035 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12036 % U+007D RIGHT CURLY BRACKET; braceright
 12037 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12038 % U+007E TILDE; asciitilde
 12039 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12040 % U+2022 BULLET; bullet
 12041 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12042 % U+2020 DAGGER; dagger
 12043 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12044 % U+2021 DOUBLE DAGGER; daggerdbl
 12045 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12046 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12047 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12048 % U+2014 EM DASH; emdash
 12049 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12050 % U+2013 EN DASH; endash
 12051 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12052 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12053 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12054 % U+2044 FRACTION SLASH; fraction
 12055 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12056 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 12057 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 12058 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 12059 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 12060 % U+2212 MINUS SIGN; minus
 12061 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12062 % U+2030 PER MILLE SIGN; perthousand
 12063 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12064 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12065 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12066 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12067 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12068 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12069 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12070 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12071 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12072 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12073 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12074 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12075 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12076 % U+2122 TRADE MARK SIGN; trademark
 12077 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12078 % U+FB01 LATIN SMALL LIGATURE FI; fi

12079 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
12080 % U+FB02 LATIN SMALL LIGATURE FL; fl
12081 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
12082 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12083 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
12084 % U+0152 LATIN CAPITAL LIGATURE OE; OE
12085 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
12086 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
12087 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
12088 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
12089 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
12090 \DeclareTextCommand{\IJ}{PD1}{\230}
12091 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
12092 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
12093 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12094 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
12095 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12096 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
12097 % U+0153 LATIN SMALL LIGATURE OE; oe
12098 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
12099 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
12100 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
12101 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
12102 \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.
12103 % U+20AC EURO SIGN; *Euro, euro
12104 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
12105 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
12106 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
12107 % U+00A2 CENT SIGN; cent
12108 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
12109 % U+00A3 POUND SIGN; sterling
12110 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
12111 % U+00A4 CURRENCY SIGN; currency
12112 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
12113 % U+00A5 YEN SIGN; yen
12114 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
12115 % U+00A6 BROKEN BAR; brokenbar
12116 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
12117 % U+00A7 SECTION SIGN; section
12118 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
12119 % U+00A8 DIAERESIS; dieresis
12120 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
12121 % U+00A9 COPYRIGHT SIGN; copyright
12122 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
12123 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
12124 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
12125 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
12126 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
12127 % U+00AC NOT SIGN; logicalnot
12128 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
12129 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
12130 % U+00AE REGISTERED SIGN; registered
12131 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
12132 % U+00AF MACRON; *macron, overscore

12133 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
12134 % U+00B0 DEGREE SIGN; degree
12135 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
12136 % U+00B1 PLUS-MINUS SIGN; plusminus
12137 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
12138 % U+00B2 SUPERSCRIPT TWO; twosuperior
12139 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
12140 % U+00B3 SUPERSCRIPT THREE; threesuperior
12141 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
12142 % U+00B4 ACUTE ACCENT; acute
12143 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
12144 % U+00B5 MICRO SIGN; mu, mu1
12145 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
12146 % U+00B6 PILCROW SIGN; paragraph
12147 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
12148 % U+00B7 MIDDLE DOT; middot, *periodcentered
12149 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
12150 % U+00B8 CEDILLA; cedilla
12151 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
12152 % U+00B9 SUPERSCRIPT ONE; onesuperior
12153 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
12154 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
12155 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
12156 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
12157 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
12158 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
12159 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
12160 % U+00BD VULGAR FRACTION ONE HALF; onehalf
12161 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
12162 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
12163 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
12164 % U+00BF INVERTED QUESTION MARK; questiondown
12165 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
12166 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
12167 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
12168 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12169 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
12170 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12171 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
12172 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12173 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
12174 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12175 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
12176 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12177 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
12178 % U+00C6 LATIN CAPITAL LETTER AE; AE
12179 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
12180 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12181 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
12182 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12183 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
12184 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12185 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
12186 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12187 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
12188 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12189 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB

12190 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12191 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12192 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12193 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
12194 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12195 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
12196 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12197 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12198 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12199 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12200 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12201 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12202 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12203 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12204 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12205 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12206 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12207 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12208 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12209 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12210 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12211 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12212 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12213 % U+00D7 MULTIPLICATION SIGN; multiply
12214 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12215 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12216 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12217 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12218 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12219 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12220 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12221 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12222 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12223 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12224 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12225 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12226 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12227 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12228 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12229 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12230 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12231 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12232 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12233 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12234 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12235 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12236 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12237 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12238 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12239 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12240 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12241 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12242 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12243 % U+00E6 LATIN SMALL LETTER AE; ae
12244 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12245 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12246 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7

12247 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12248 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
12249 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12250 \DeclareTextCompositeCommand{\' }{PD1}{e}{\351}% U+00E9
12251 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12252 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
12253 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12254 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
12255 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12256 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
12257 \DeclareTextCompositeCommand{\' }{PD1}{i}{\354}% U+00EC
12258 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12259 \DeclareTextCompositeCommand{\' }{PD1}{i}{\355}% U+00ED
12260 \DeclareTextCompositeCommand{\' }{PD1}{i}{\355}% U+00ED
12261 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12262 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12263 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
12264 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12265 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
12266 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
12267 % U+00F0 LATIN SMALL LETTER ETH; eth
12268 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
12269 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12270 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
12271 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12272 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
12273 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12274 \DeclareTextCompositeCommand{\' }{PD1}{o}{\363}% U+00F3
12275 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12276 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
12277 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12278 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
12279 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12280 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
12281 % U+00F7 DIVISION SIGN; divide
12282 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
12283 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
12284 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
12285 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
12286 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
12287 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
12288 \DeclareTextCompositeCommand{\' }{PD1}{u}{\372}% U+00FA
12289 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12290 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
12291 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12292 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
12293 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12294 \DeclareTextCompositeCommand{\' }{PD1}{y}{\375}% U+00FD
12295 % U+00FE LATIN SMALL LETTER THORN; thorn
12296 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12297 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12298 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
12299 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12300 \DeclareTextCommand{\SS}{PD1}{SS}
12301 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

```

12302 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12303 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12304 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12305 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12306 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12307 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12308 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12309 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12310 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12311 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12312 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12313 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12314 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12315 \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;

```

12316 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12317 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12318 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12319 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12320 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12321 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12322 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12323 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12324 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12325 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12326 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12327 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12328 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12329 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12330 \pdfenc)

```

50.2 PU encoding

```

12331 \*puenc)
12332 \DeclareFontEncoding{PU}{}{}

```

50.2.1 NFSS2 accents

```

12333 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12334 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
12335 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12336 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12337 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12338 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12339 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
12340 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12341 % U+0304 COMBINING MACRON; macroncmb
12342 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12343 % U+0306 COMBINING BREVE; brevecmb
12344 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12345 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12346 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12347 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12348 % U+0308 COMBINING DIAERESIS; dieresiscmb
12349 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12350 % U+030A COMBINING RING ABOVE; ringcmb

```

```

12351 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12352 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12353 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12354 % U+030C COMBINING CARON; caroncmb
12355 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12356 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12357 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12358 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12359 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12360 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12361 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12362 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12363 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12364 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12365 % U+0327 COMBINING CEDILLA; cedillacmb
12366 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12367 % U+0328 COMBINING OGONEK; ogonekcmb
12368 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12369 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12370 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12371 % U+20DD COMBINING ENCLOSING CIRCLE
12372 \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.
12373 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12374 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12375 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12376 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12377 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12378 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12379 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12380 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12381 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12382 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12383 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12384 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12385 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12386 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12387 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12388 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12389 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12390 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12391 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

12392 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12393 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12394 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12395 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12396 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12397 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12398 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12399 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12400 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12401 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12402 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12403 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12404 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12405 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}

```

```

12406 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12407 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12408 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12409 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12410 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12411 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12412 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12413 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12414 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12415 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12416 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12417 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12418 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12419 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12420 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12421 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12422 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12423 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12424 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12425 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12426 % U+0009 (CHARACTER TABULATION)
12427 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12428 % U+000A (LINE FEED)
12429 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12430 % U+000D (CARRIAGE RETURN)
12431 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12432 % U+0022 QUOTATION MARK; quotedbl
12433 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12434 % U+0023 NUMBER SIGN; numbersign
12435 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12436 % U+0024 DOLLAR SIGN; dollar
12437 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12438 % U+0025 PERCENT SIGN; percent
12439 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12440 % U+0026 AMPERSAND; ampersand
12441 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12442 % U+0027 APOSTROPHE; quotesingle
12443 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12444 % U+0028 LEFT PARENTHESIS; parenleft
12445 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12446 % U+0029 RIGHT PARENTHESIS; parenright
12447 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12448 % U+002A ASTERISK; asterisk
12449 \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
 12450 % U+003C LESS-THAN SIGN; less
 12451 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 12452 % U+003E GREATER-THAN SIGN; greater
 12453 \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
 12454 % U+005C REVERSE SOLIDUS; backslash
 12455 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 12456 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12457 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 12458 % U+005F LOW LINE; underscore
 12459 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 12460 % U+0060 GRAVE ACCENT; grave
 12461 \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
 12462 % U+0069 LATIN SMALL LETTER I; i
 12463 \DeclareTextCompositeCommand{\.}{PU}{\i}{i}% \80\151 U+0069
 12464 \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
 12465 % U+007B LEFT CURLY BRACKET; braceleft
 12466 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 12467 % U+007C VERTICAL LINE; *bar, verticalbar
 12468 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 12469 % U+007D RIGHT CURLY BRACKET; braceright
 12470 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 12471 % U+007E TILDE; asciitilde
 12472 \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
 12473 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12474 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 12475 % U+00A2 CENT SIGN; cent
 12476 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 12477 % U+00A3 POUND SIGN; sterling
 12478 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 12479 % U+00A4 CURRENCY SIGN; currency

12480 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
12481 % U+00A5 YEN SIGN; yen
12482 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
12483 % U+00A6 BROKEN BAR; brokenbar
12484 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
12485 % U+00A7 SECTION SIGN; section
12486 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
12487 % U+00A8 DIAERESIS; dieresis
12488 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
12489 % U+00A9 COPYRIGHT SIGN; copyright
12490 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
12491 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
12492 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
12493 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
12494 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
12495 % U+00AC NOT SIGN; logicalnot
12496 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
12497 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
12498 % U+00AE REGISTERED SIGN; registered
12499 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
12500 % U+00AF MACRON; *macron, overscore
12501 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
12502 % U+00B0 DEGREE SIGN; degree
12503 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
12504 % U+00B1 PLUS-MINUS SIGN; plusminus
12505 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
12506 % U+00B2 SUPERScript TWO; twosuperior
12507 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
12508 % U+00B3 SUPERScript THREE; threesuperior
12509 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
12510 % U+00B4 ACUTE ACCENT; acute
12511 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
12512 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
12513 % U+00B5 MICRO SIGN; mu, mu1
12514 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
12515 % U+00B6 PILCROW SIGN; paragraph
12516 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
12517 % U+00B7 MIDDLE DOT; middot, *periodcentered
12518 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
12519 % U+00B8 CEDILLA; cedilla
12520 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
12521 % U+00B9 SUPERScript ONE; onesuperior
12522 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
12523 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
12524 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
12525 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
12526 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
12527 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
12528 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
12529 % U+00BD VULGAR FRACTION ONE HALF; onehalf
12530 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
12531 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
12532 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
12533 % U+00BF INVERTED QUESTION MARK; questiondown
12534 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
12535 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave

12536 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
12537 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
12538 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
12539 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
12540 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
12541 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
12542 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
12543 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
12544 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
12545 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
12546 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
12547 % U+00C6 LATIN CAPITAL LETTER AE; AE
12548 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
12549 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
12550 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
12551 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
12552 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
12553 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
12554 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
12555 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
12556 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
12557 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
12558 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
12559 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12560 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
12561 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12562 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
12563 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12564 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
12565 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12566 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
12567 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12568 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
12569 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12570 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
12571 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12572 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
12573 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12574 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
12575 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12576 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
12577 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12578 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
12579 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12580 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
12581 % U+00D7 MULTIPLICATION SIGN; multiply
12582 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
12583 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12584 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
12585 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12586 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
12587 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12588 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
12589 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12590 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
12591 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12592 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC

12593 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12594 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
12595 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12596 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
12597 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12598 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
12599 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12600 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
12601 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12602 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
12603 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12604 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
12605 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12606 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
12607 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12608 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
12609 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12610 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
12611 % U+00E6 LATIN SMALL LETTER AE; ae
12612 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
12613 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12614 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
12615 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
12616 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
12617 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
12618 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
12619 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
12620 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
12621 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
12622 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
12623 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
12624 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
12625 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
12626 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
12627 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
12628 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\355}% U+00ED
12629 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
12630 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
12631 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
12632 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
12633 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12634 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
12635 % U+00F0 LATIN SMALL LETTER ETH; eth
12636 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
12637 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
12638 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
12639 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
12640 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
12641 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
12642 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
12643 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
12644 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
12645 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
12646 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
12647 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
12648 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
12649 % U+00F7 DIVISION SIGN; divide

12650 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 12651 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 12652 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 12653 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12654 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 12655 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12656 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 12657 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12658 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 12659 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12660 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 12661 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12662 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 12663 % U+00FE LATIN SMALL LETTER THORN; thorn
 12664 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 12665 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12666 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

12667 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 12668 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 12669 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 12670 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 12671 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 12672 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 12673 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 12674 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 12675 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 12676 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 12677 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 12678 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 12679 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 12680 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 12681 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 12682 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 12683 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 12684 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 12685 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 12686 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 12687 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 12688 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 12689 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 12690 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 12691 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 12692 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 12693 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 12694 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 12695 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 12696 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 12697 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 12698 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 12699 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 12700 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 12701 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 12702 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 12703 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron

12704 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
12705 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
12706 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
12707 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
12708 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
12709 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
12710 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
12711 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
12712 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
12713 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
12714 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
12715 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
12716 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
12717 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
12718 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
12719 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
12720 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
12721 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
12722 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
12723 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
12724 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
12725 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
12726 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
12727 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
12728 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
12729 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
12730 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
12731 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
12732 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
12733 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
12734 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
12735 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
12736 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
12737 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
12738 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
12739 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
12740 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
12741 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
12742 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
12743 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
12744 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
12745 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
12746 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
12747 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
12748 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
12749 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
12750 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
12751 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
12752 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
12753 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
12754 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
12755 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
12756 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
12757 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
12758 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
12759 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
12760 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D

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12761 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
12762 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
12763 \DeclareTextCompositeCommand{\k}{PU}{\I}{\81\056}% U+012E
12764 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
12765 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
12766 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
12767 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
12768 \DeclareTextCompositeCommand{\.}{PU}{\I}{\81\060}% U+0130
12769 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12770 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
12771 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
12772 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
12773 % U+0133 LATIN SMALL LIGATURE IJ; ij
12774 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
12775 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
12776 \DeclareTextCompositeCommand{\^}{PU}{\J}{\81\064}% U+0134
12777 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
12778 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
12779 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
12780 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
12781 \DeclareTextCompositeCommand{\c}{PU}{\K}{\81\066}% U+0136
12782 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
12783 \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`.

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12784 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
12785 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
12786 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
12787 \DeclareTextCompositeCommand{\'}{PU}{\L}{\81\071}% U+0139
12788 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
12789 \DeclareTextCompositeCommand{\'}{PU}{\l}{\81\072}% U+013A
12790 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
12791 \DeclareTextCompositeCommand{\c}{PU}{\L}{\81\073}% U+013B
12792 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
12793 \DeclareTextCompositeCommand{\c}{PU}{\l}{\81\074}% U+013C
12794 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
12795 \DeclareTextCompositeCommand{\v}{PU}{\L}{\81\075}% U+013D
12796 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
12797 \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`.

```

12798 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
12799 \DeclareTextCompositeCommand{\.}{PU}{\L}{\81\077}% U+013F
12800 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
12801 \DeclareTextCompositeCommand{\.}{PU}{\l}{\81\100}% U+0140
12802 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12803 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
12804 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12805 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
12806 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
12807 \DeclareTextCompositeCommand{\'}{PU}{\N}{\81\103}% U+0143
12808 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
12809 \DeclareTextCompositeCommand{\'}{PU}{\n}{\81\104}% U+0144
12810 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
12811 \DeclareTextCompositeCommand{\c}{PU}{\N}{\81\105}% U+0145

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12812 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 12813 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 12814 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 12815 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 12816 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 12817 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 12818 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
 12819 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 12820 % U+014A LATIN CAPITAL LETTER ENG; Eng
 12821 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 12822 % U+014B LATIN SMALL LETTER ENG; eng
 12823 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 12824 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 12825 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
 12826 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 12827 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
 12828 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 12829 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 12830 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 12831 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 12832 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
 12833 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 12834 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
 12835 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 12836 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12837 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 12838 % U+0153 LATIN SMALL LIGATURE OE; oe
 12839 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
 12840 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 12841 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 12842 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 12843 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 12844 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
 12845 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 12846 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 12847 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 12848 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 12849 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 12850 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 12851 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 12852 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 12853 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 12854 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 12855 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
 12856 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
 12857 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
 12858 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
 12859 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
 12860 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
 12861 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
 12862 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
 12863 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
 12864 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 12865 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
 12866 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12867 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
 12868 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent

12869 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
12870 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
12871 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
12872 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
12873 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
12874 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
12875 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
12876 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
12877 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
12878 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
12879 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
12880 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
12881 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
12882 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
12883 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
12884 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
12885 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
12886 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
12887 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
12888 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
12889 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
12890 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
12891 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
12892 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
12893 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
12894 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
12895 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
12896 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
12897 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
12898 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
12899 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
12900 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
12901 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
12902 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
12903 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
12904 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
12905 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
12906 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
12907 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
12908 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
12909 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
12910 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
12911 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
12912 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
12913 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
12914 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
12915 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
12916 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
12917 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
12918 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
12919 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
12920 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
12921 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
12922 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
12923 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
12924 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
12925 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E

12926 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 12927 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

12928 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12929 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 12930 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 12931 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 12932 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón
 12933 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 12934 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 12935 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 12936 % U+01D0 LATIN SMALL LETTER I WITH CARON; icarón
 12937 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 12938 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 12939 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 12940 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 12941 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocarón
 12942 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 12943 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 12944 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 12945 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucarón
 12946 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 12947 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 12948 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 12949 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 12950 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 12951 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 12952 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 12953 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcarón
 12954 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 12955 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 12956 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 12957 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcarón
 12958 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 12959 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 12960 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 12961 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 12962 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 12963 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcarón
 12964 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 12965 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 12966 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
 12967 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
 12968 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
 12969 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
 12970 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
 12971 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
 12972 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
 12973 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
 12974 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
 12975 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
 12976 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
 12977 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
 12978 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacut
 12979 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
 12980 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute

12981 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
 12982 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
 12983 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
 12984 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
 12985 \DeclareTextCompositeCommand{\g}{PU}{a}{\82\001}% U+0201
 12986 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
 12987 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 12988 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 12989 \DeclareTextCompositeCommand{\g}{PU}{e}{\82\005}% U+0205
 12990 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 12991 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 12992 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 12993 \DeclareTextCompositeCommand{\g}{PU}{i}{\82\011}% U+0209
 12994 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 12995 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 12996 \DeclareTextCompositeCommand{\g}{PU}{o}{\82\015}% U+020D
 12997 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 12998 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 12999 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 13000 \DeclareTextCompositeCommand{\g}{PU}{r}{\82\021}% U+0211
 13001 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 13002 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 13003 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 13004 \DeclareTextCompositeCommand{\g}{PU}{u}{\82\025}% U+0215
 13005 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 13006 \DeclareTextCompositeCommand{\G}{PU}{H}{\82\036}% U+021E
 13007 % U+021E LATIN CAPITAL LETTER H WITH CARON
 13008 \DeclareTextCompositeCommand{\g}{PU}{h}{\82\037}% U+021F
 13009 % U+021F LATIN SMALL LETTER H WITH CARON
 13010 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\046}% U+0226
 13011 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 13012 \DeclareTextCompositeCommand{\g}{PU}{a}{\82\047}% U+0227
 13013 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 13014 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\050}% U+0228
 13015 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 13016 \DeclareTextCompositeCommand{\g}{PU}{e}{\82\051}% U+0229
 13017 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 13018 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\056}% U+022E
 13019 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 13020 \DeclareTextCompositeCommand{\g}{PU}{o}{\82\057}% U+022F
 13021 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13022 \DeclareTextCompositeCommand{\G}{PU}{Y}{\82\062}% U+0232
 13023 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13024 \DeclareTextCompositeCommand{\g}{PU}{y}{\82\063}% U+0233
 13025 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 13026 \DeclareTextCompositeCommand{\G}{PU}{J}{\82\067}% U+0237
 13027 % U+0237 LATIN SMALL LETTER DOTLESS J
 13028 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13029 % U+02C7 CARON; caron
 13030 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13031 % U+02D8 BREVE; breve
 13032 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13033 % U+02D9 DOT ABOVE; dotaccent
 13034 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13035 % U+02DA RING ABOVE; ring

13036 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13037 % U+02DB OGONEK; ogonek
 13038 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 13039 % U+02DC SMALL TILDE; ilde, *tilde
 13040 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13041 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13042 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13043 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13044 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13045 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13046 % U+02F7 MODIFIER LETTER LOW TILDE
 13047 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13048 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13049 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13050 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13051 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13052 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 13053 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13054 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13055 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13056 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 13057 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

13058 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13059 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13060 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13061 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13062 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 13063 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 13064 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 13065 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 13066 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 13067 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 13068 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 13069 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 13070 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 13071 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 13072 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
 13073 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 13074 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 13075 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 13076 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
 13077 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
 13078 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 13079 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 13080 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 13081 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 13082 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 13083 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 13084 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 13085 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 13086 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 13087 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 13088 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta

13089 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13090 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13091 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13092 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13093 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13094 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13095 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13096 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13097 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13098 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13099 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13100 % U+039C GREEK CAPITAL LETTER MU; Mu
13101 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13102 % U+039D GREEK CAPITAL LETTER NU; Nu
13103 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13104 % U+039E GREEK CAPITAL LETTER XI; Xi
13105 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13106 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13107 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13108 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13109 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13110 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13111 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13112 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13113 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13114 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13115 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13116 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13117 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13118 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13119 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13120 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13121 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13122 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13123 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13124 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13125 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13126 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
13127 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13128 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
13129 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
13130 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
13131 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
13132 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
13133 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
13134 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
13135 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
13136 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
13137 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
13138 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
13139 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
13140 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
13141 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13142 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13143 % U+03B2 GREEK SMALL LETTER BETA; beta
13144 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13145 % U+03B3 GREEK SMALL LETTER GAMMA; gamma

13146 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13147 % U+03B4 GREEK SMALL LETTER DELTA; delta
13148 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
13149 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13150 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13151 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13152 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13153 % U+03B7 GREEK SMALL LETTER ETA; eta
13154 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13155 % U+03B8 GREEK SMALL LETTER THETA; theta
13156 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13157 % U+03B9 GREEK SMALL LETTER IOTA; iota
13158 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13159 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13160 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13161 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13162 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13163 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13164 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13165 % U+03BD GREEK SMALL LETTER NU; nu
13166 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13167 % U+03BE GREEK SMALL LETTER XI; xi
13168 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13169 % U+03BF GREEK SMALL LETTER OMICRON; omicron
13170 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13171 % U+03C0 GREEK SMALL LETTER PI; pi
13172 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13173 % U+03C1 GREEK SMALL LETTER RHO; rho
13174 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13175 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13176 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13177 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
13178 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13179 % U+03C4 GREEK SMALL LETTER TAU; tau
13180 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13181 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
13182 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
13183 % U+03C6 GREEK SMALL LETTER PHI; phi
13184 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
13185 % U+03C7 GREEK SMALL LETTER CHI; chi
13186 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
13187 % U+03C8 GREEK SMALL LETTER PSI; psi
13188 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13189 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13190 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13191 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
13192 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13193 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13194 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13195 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13196 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13197 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13198 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13199 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13200 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13201 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13202 % U+03DA GREEK LETTER STIGMA; Stigmatgreek

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13203 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13204 % U+03DB GREEK SMALL LETTER STIGMA
13205 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13206 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13207 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13208 % U+03DD GREEK SMALL LETTER DIGAMMA
13209 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13210 % U+03DE GREEK LETTER KOPPA; Koppagreek
13211 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13212 % U+03DF GREEK SMALL LETTER KOPPA
13213 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13214 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13215 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13216 % U+03E1 GREEK SMALL LETTER SAMPI
13217 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vov@vov.vsu.ru) for the help with the Cyrillic glyph names.

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13218 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13219 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13220 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13221 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13222 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13223 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13224 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13225 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13226 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13227 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13228 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13229 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13230 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13231 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13232 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13233 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13234 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13235 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13236 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13237 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13238 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13239 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13240 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13241 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13242 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13243 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13244 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13245 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13246 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13247 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13248 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13249 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13250 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13251 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13252 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13253 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13254 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13255 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018

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13256 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13257 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13258 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13259 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13260 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13261 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13262 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13263 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13264 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13265 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13266 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13267 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13268 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13269 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13270 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13271 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13272 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13273 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13274 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13275 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13276 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13277 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13278 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13279 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13280 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13281 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13282 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13283 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13284 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13285 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13286 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13287 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13288 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13289 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
13290 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
13291 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13292 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13293 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13294 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13295 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13296 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13297 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13298 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13299 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13300 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13301 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13302 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13303 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13304 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13305 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13306 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13307 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13308 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13309 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13310 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13311 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13312 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047

13313 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13314 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
13315 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
13316 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
13317 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13318 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13319 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13320 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13321 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13322 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13323 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13324 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13325 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13326 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13327 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13328 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13329 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13330 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
13331 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
13332 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13333 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13334 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
13335 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13336 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13337 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13338 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13339 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13340 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13341 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13342 \DeclareTextCommand{\cyr1}{PU}{\84\073}% U+043B
13343 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13344 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
13345 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13346 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
13347 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
13348 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
13349 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
13350 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
13351 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
13352 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
13353 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
13354 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
13355 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
13356 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
13357 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
13358 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
13359 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
13360 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
13361 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
13362 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
13363 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
13364 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
13365 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
13366 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
13367 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
13368 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
13369 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic

13370 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
13371 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
13372 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
13373 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
13374 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
13375 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
13376 \DeclareTextCommand{\cyrstfn}{PU}{\84\114}% U+044C
13377 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
13378 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
13379 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
13380 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E
13381 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
13382 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F
13383 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
13384 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
13385 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
13386 \DeclareTextCommand{\cyrIo}{PU}{\84\121}% U+0451
13387 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
13388 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
13389 \DeclareTextCommand{\cyrDje}{PU}{\84\122}% U+0452
13390 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
13391 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
13392 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
13393 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% U+0454
13394 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
13395 \DeclareTextCommand{\cyrDze}{PU}{\84\125}% U+0455
13396 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
13397 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% U+0456
13398 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
13399 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% U+0457
13400 \DeclareTextCompositeCommand{\"}{PU}{\cyrIi}{\84\127}% U+0457
13401 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
13402 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% U+0458
13403 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
13404 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459
13405 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
13406 \DeclareTextCommand{\cyrNje}{PU}{\84\132}% U+045A
13407 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
13408 \DeclareTextCommand{\cyrTshe}{PU}{\84\133}% U+045B
13409 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
13410 \DeclareTextCompositeCommand{\'}{PU}{\cyrK}{\84\134}% U+045C
13411 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
13412 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
13413 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
13414 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
13415 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
13416 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
13417 \DeclareTextCommand{\cyrDzhe}{PU}{\84\137}% U+045F
13418 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
13419 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
13420 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
13421 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
13422 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
13423 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
13424 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
13425 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
13426 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic

13427 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
13428 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
13429 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
13430 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
13431 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
13432 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
13433 \DeclareTextCommand{\cyrljus}{PU}{\84\147}% U+0467
13434 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic
13435 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
13436 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic
13437 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
13438 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
13439 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
13440 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
13441 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
13442 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic
13443 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
13444 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
13445 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
13446 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
13447 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
13448 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
13449 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
13450 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
13451 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
13452 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
13453 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
13454 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
13455 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
13456 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
13457 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
13458 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
13459 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
13460 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
13461 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
13462 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
13463 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
13464 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
13465 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
13466 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
13467 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
13468 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
13469 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
13470 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
13471 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
13472 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
13473 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
13474 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
13475 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
13476 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
13477 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
13478 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
13479 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
13480 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
13481 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
13482 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
13483 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480

13484 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 13485 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 13486 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 13487 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 13488 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 13489 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 13490 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 13491 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 13492 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 13493 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 13494 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 13495 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 13496 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 13497 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 13498 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 13499 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 13500 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 13501 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 13502 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 13503 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 13504 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 13505 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 13506 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 13507 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 13508 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 13509 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 13510 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 13511 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 13512 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 13513 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 13514 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 13515 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 13516 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 13517 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 13518 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 13519 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 13520 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 13521 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 13522 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 13523 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 13524 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 13525 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 13526 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic
 13527 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 13528 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic
 13529 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D

13530 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 13531 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 13532 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 13533 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
 13534 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 13535 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 13536 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 13537 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 13538 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 13539 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 13540 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 13541 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 13542 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 13543 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 13544 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 13545 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 13546 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 13547 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 13548 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 13549 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 13550 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 13551 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 13552 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 13553 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 13554 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 13555 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 13556 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 13557 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 13558 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 13559 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
 13560 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 13561 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 13562 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 13563 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD
 13564 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 13565 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 13566 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 13567 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 13568 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 13569 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 13570 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
 13571 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 13572 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
 13573 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 13574 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 13575 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 13576 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 13577 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 13578 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 13579 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 13580 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 13581 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 13582 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 13583 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 13584 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic
 13585 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 13586 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic

13587 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
13588 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
13589 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
13590 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
13591 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
13592 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
13593 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
13594 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
13595 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
13596 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
13597 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
13598 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
13599 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
13600 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
13601 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
13602 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
13603 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
13604 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
13605 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
13606 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
13607 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
13608 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
13609 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
13610 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
13611 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
13612 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
13613 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
13614 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
13615 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
13616 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
13617 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
13618 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
13619 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
13620 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
13621 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
13622 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
13623 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
13624 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
13625 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
13626 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
13627 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
13628 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
13629 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
13630 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
13631 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
13632 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
13633 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
13634 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
13635 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
13636 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
13637 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
13638 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
13639 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
13640 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
13641 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
13642 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic

13643 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
13644 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
13645 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
13646 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
13647 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
13648 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadieresiscyrillic
13649 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
13650 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadieresiscyrillic
13651 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
13652 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic
13653 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
13654 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
13655 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD
13656 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
13657 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
13658 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
13659 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
13660 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
13661 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
13662 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
13663 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
13664 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
13665 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
13666 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
13667 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
13668 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
13669 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
13670 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
13671 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
13672 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
13673 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
13674 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
13675 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
13676 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
13677 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
13678 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
13679 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
13680 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
13681 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
13682 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
13683 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
13684 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
13685 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
13686 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
13687 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
13688 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
13689 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
13690 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
13691 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
13692 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
13693 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
13694 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
13695 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
13696 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
13697 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
13698 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
13699 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3

13700 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 13701 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 13702 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 13703 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 13704 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 13705 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 13706 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 13707 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 13708 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 13709 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 13710 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 13711 \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
 13712 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 13713 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 13714 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 13715 \DeclareTextCommand{\cyrhk}{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

13716 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 13717 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

13718 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 13719 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 13720 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 13721 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 13722 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 13723 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 13724 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 13725 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 13726 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 13727 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 13728 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 13729 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 13730 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 13731 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 13732 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 13733 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 13734 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 13735 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 13736 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 13737 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 13738 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 13739 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
 13740 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 13741 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
 13742 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 13743 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 13744 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 13745 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 13746 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent

13747 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
13748 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
13749 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
13750 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
13751 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
13752 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
13753 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
13754 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
13755 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
13756 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
13757 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
13758 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
13759 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
13760 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
13761 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
13762 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
13763 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
13764 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
13765 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
13766 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
13767 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
13768 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
13769 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
13770 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
13771 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
13772 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
13773 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
13774 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
13775 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
13776 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
13777 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
13778 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
13779 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
13780 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
13781 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
13782 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
13783 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
13784 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
13785 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
13786 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
13787 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
13788 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
13789 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
13790 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
13791 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
13792 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
13793 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
13794 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
13795 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
13796 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
13797 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
13798 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
13799 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
13800 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
13801 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
13802 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
13803 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60

13804 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
13805 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
13806 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
13807 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
13808 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
13809 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
13810 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
13811 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
13812 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
13813 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
13814 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
13815 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
13816 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
13817 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
13818 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
13819 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
13820 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
13821 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
13822 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
13823 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
13824 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
13825 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
13826 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
13827 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
13828 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
13829 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
13830 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
13831 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
13832 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
13833 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
13834 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
13835 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
13836 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
13837 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
13838 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
13839 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
13840 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
13841 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
13842 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
13843 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
13844 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
13845 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
13846 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
13847 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
13848 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
13849 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
13850 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
13851 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
13852 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
13853 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
13854 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
13855 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
13856 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
13857 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
13858 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
13859 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
13860 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde

13861 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EB3
 13862 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 13863 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 13864 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 13865 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 13866 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 13867 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 13868 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 13869 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 13870 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 13871 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

13872 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 13873 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 13874 % U+2013 EN DASH; endash
 13875 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 13876 % U+2014 EM DASH; emdash
 13877 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 13878 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 13879 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 13880 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 13881 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 13882 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 13883 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 13884 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 13885 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 13886 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 13887 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 13888 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 13889 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 13890 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 13891 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 13892 % U+2020 DAGGER; dagger
 13893 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 13894 % U+2021 DOUBLE DAGGER; daggerdbl
 13895 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 13896 % U+2022 BULLET; bullet
 13897 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 13898 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 13899 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 13900 % U+2030 PER MILLE SIGN; perthousand
 13901 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 13902 % U+2031 PER TEN THOUSAND SIGN
 13903 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 13904 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
 13905 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 13906 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
 13907 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 13908 % U+203B REFERENCE MARK; referencemark
 13909 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 13910 % U+203D INTERROBANG
 13911 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 13912 % U+2044 FRACTION SLASH; fraction
 13913 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 13914 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 13915 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045

13916 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 13917 \DeclareTextCommand{\texttrquill}{PU}{\9040\106}% U+2046
 13918 % U+2052 COMMERCIAL MINUS SIGN
 13919 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

13920 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 13921 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 13922 % U+2074 SUPERSCRIPT FOUR; foursuperior
 13923 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 13924 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 13925 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 13926 % U+2076 SUPERSCRIPT SIX; sixsuperior
 13927 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 13928 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 13929 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 13930 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 13931 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 13932 % U+2079 SUPERSCRIPT NINE; ninesuperior
 13933 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 13934 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 13935 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 13936 % U+207B SUPERSCRIPT MINUS
 13937 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 13938 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 13939 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 13940 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 13941 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 13942 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 13943 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 13944 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 13945 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 13946 % U+2080 SUBSCRIPT ZERO; zeroinferior
 13947 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 13948 % U+2081 SUBSCRIPT ONE; oneinferior
 13949 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 13950 % U+2082 SUBSCRIPT TWO; twoinferior
 13951 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 13952 % U+2083 SUBSCRIPT THREE; threeinferior
 13953 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 13954 % U+2084 SUBSCRIPT FOUR; fourinferior
 13955 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 13956 % U+2085 SUBSCRIPT FIVE; fiveinferior
 13957 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 13958 % U+2086 SUBSCRIPT SIX; sixinferior
 13959 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 13960 % U+2087 SUBSCRIPT SEVEN; seveninferior
 13961 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 13962 % U+2088 SUBSCRIPT EIGHT; eightinferior
 13963 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 13964 % U+2089 SUBSCRIPT NINE; nineinferior
 13965 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 13966 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 13967 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 13968 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 13969 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

13970 % U+20A1 COLON SIGN; *colonmonetary, colonsign
13971 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
13972 % U+20A4 LIRA SIGN; afii08941, *lira
13973 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
13974 % U+20A6 NAIRA SIGN
13975 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
13976 % U+20A7 PESETA SIGN; peseta
13977 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
13978 % U+20A9 WON SIGN; won
13979 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
13980 % U+20AB DONG SIGN; dong
13981 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
13982 % U+20AC EURO SIGN; *Euro, euro
13983 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
13984 % U+20B1 PESO SIGN
13985 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
13986 % U+20B2 GUARANI SIGN
13987 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

13988 % U+2103 DEGREE CELSIUS; centigrade
13989 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
13990 % U+2116 NUMERO SIGN; *afii61352, numero
13991 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
13992 % U+2117 SOUND RECORDING COPYRIGHT
13993 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
13994 % U+211E PRESCRIPTION TAKE; prescription
13995 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
13996 % U+2120 SERVICE MARK
13997 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
13998 % U+2122 TRADE MARK SIGN; trademark
13999 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
14000 % U+2126 OHM SIGN; Ohm, Omega
14001 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
14002 % U+2127 INVERTED OHM SIGN
14003 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
14004 % U+212B ANGSTROM SIGN; angstrom
14005 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
14006 % U+212E ESTIMATED SYMBOL; estimated
14007 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
14008 % U+2135 ALEF SYMBOL; aleph
14009 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14010 % U+2190 LEFTWARDS ARROW; arrowleft
14011 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
14012 % U+2191 UPWARDS ARROW; arrowup
14013 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
14014 % U+2192 RIGHTWARDS ARROW; arrowright
14015 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
14016 % U+2193 DOWNWARDS ARROW; arrowdown
14017 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

14018 % U+2212 MINUS SIGN; minus
14019 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212

14020 % U+221A SQUARE ROOT; radical
14021 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14022 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
14023 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
14024 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
14025 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

14026 % U+2422 BLANK SYMBOL
14027 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
14028 % U+2423 OPEN BOX; blank
14029 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14030 % U+2460 CIRCLED DIGIT ONE; onecircle
14031 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
14032 % U+2461 CIRCLED DIGIT TWO; twocircle
14033 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
14034 % U+2462 CIRCLED DIGIT THREE; threecircle
14035 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
14036 % U+2463 CIRCLED DIGIT FOUR; fourcircle
14037 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
14038 % U+2464 CIRCLED DIGIT FIVE; fivecircle
14039 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
14040 % U+2465 CIRCLED DIGIT SIX; sixcircle
14041 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
14042 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
14043 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
14044 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
14045 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
14046 % U+2468 CIRCLED DIGIT NINE; ninecircle
14047 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
14048 % U+2469 CIRCLED NUMBER TEN; tencircle
14049 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
14050 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
14051 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
14052 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
14053 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
14054 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
14055 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
14056 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
14057 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
14058 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
14059 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
14060 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
14061 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
14062 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
14063 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
14064 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
14065 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
14066 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
14067 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
14068 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
14069 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
14070 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle

14071 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
14072 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
14073 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
14074 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
14075 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
14076 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
14077 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
14078 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
14079 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
14080 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
14081 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
14082 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
14083 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
14084 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
14085 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
14086 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
14087 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
14088 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
14089 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
14090 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
14091 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
14092 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
14093 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
14094 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
14095 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
14096 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
14097 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
14098 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
14099 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
14100 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
14101 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
14102 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
14103 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14104 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14105 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14106 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14107 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14108 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14109 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14110 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14111 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14112 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14113 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14114 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14115 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14116 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14117 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14118 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14119 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14120 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14121 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14122 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14123 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14124 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14125 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14126 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14127 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2

14128 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 14129 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 14130 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 14131 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 14132 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 14133 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 14134 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 14135 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 14136 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 14137 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 14138 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 14139 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 14140 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 14141 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 14142 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 14143 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 14144 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 14145 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 14146 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 14147 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 14148 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 14149 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 14150 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 14151 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 14152 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 14153 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 14154 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14155 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14156 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14157 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14158 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14159 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14160 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14161 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14162 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14163 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14164 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14165 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14166 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14167 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14168 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14169 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14170 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14171 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14172 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14173 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14174 % U+24EA CIRCLED DIGIT ZERO
 14175 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

14176 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14177 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14178 % U+25EF LARGE CIRCLE; largecircle
 14179 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14180 % U+266A EIGHTH NOTE; musicalnote

```

14181 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
14182 % U+26AD MARRIAGE SYMBOL
14183 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
14184 % U+26AE DIVORCE SYMBOL
14185 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

```

14186 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14187 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14188 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14189 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```

14190 % U+FB01 LATIN SMALL LIGATURE FI; fi
14191 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14192 % U+FB02 LATIN SMALL LIGATURE FL; fl
14193 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

14194 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

14195 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14196 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14197 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14198 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14199 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14200 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14201 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14202 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

14203 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14204 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14205 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14206 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14207 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14208 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14209 <*puvnenc>
14210 \DeclareTextCommand{\abreve}{PU}{\81\003}
14211 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14212 \DeclareTextCommand{\dj}{PU}{\81\021}
14213 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14214 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14215 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14216 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14217 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14218 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14219 \DeclareTextCommand{\DJ}{PU}{\81\020}
14220 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}

```

14221 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14222 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14223 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14224 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14225 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14226 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14227 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14228 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14229 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14230 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14231 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14232 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14233 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14234 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14235 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14236 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14237 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14238 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14239 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14240 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14241 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14242 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14243 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14244 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14245 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14246 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14247 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14248 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14249 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14250 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14251 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14252 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14253 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14254 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14255 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14256 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
14257 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
14258 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14259 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
14260 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
14261 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
14262 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
14263 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
14264 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
14265 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
14266 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
14267 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
14268 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
14269 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
14270 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
14271 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
14272 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
14273 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
14274 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
14275 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
14276 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
14277 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}

14278 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
14279 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
14280 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
14281 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
14282 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
14283 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
14284 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
14285 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
14286 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
14287 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
14288 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
14289 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
14290 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
14291 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
14292 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
14293 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
14294 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
14295 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
14296 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
14297 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
14298 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
14299 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
14300 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
14301 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
14302 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
14303 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
14304 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
14305 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
14306 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
14307 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
14308 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
14309 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
14310 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
14311 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
14312 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
14313 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
14314 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
14315 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
14316 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
14317 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14318 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14319 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14320 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14321 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14322 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14323 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14324 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14325 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14326 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14327 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14328 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14329 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14330 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14331 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14332 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14333 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14334 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}


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14335 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14336 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14337 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
14338 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14339 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14340 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14341 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14342 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14343 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14344 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

14345 <*puarenc>
14346 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14347 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14348 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14349 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AB
14350 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14351 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14352 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14353 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14354 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14355 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14356 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14357 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14358 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14359 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14360 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14361 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14362 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14363 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14364 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14365 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14366 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14367 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14368 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14369 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14370 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14371 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14372 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14373 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14374 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14375 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14376 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14377 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14378 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14379 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14380 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14381 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14382 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
14383 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14384 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14385 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14386 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

```

```

14387 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14388 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14389 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14390 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

```

Farsi

```

14391 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14392 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14393 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14394 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
14395 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14396 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

14397 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14398 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14399 </puarenc>

```

51 End of file hyccheck.tex

```

14400 <*check>
14401 \typeout{}
14402 \begin{document}
14403 \end{document}
14404 </check>

```

52 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols			
\!	195, 220	13071, 13073, 13075, 13077,	\@@Radio ... 10196, 10217, 10417,
\"	202, 227, 2375, 11638, 11944,	13132, 13134, 13136, 13138,	10441, 10648, 10669, 10985,
	11956, 11968, 12089, 12175,	13196, 13199, 13201, 13226,	<u>11006</u>
	12189, 12197, 12212, 12224,	13245, 13391, 13410, 13759,	\@@TextField 10370, 10385
	12240, 12254, 12265, 12266,	13761, 13771, 13773, 13787,	\@@commahyperpage .. 6291, 6292
	12280, 12292, 12298, 12349,	13789, 13819, 13821, 14224,	\@@hyperref 3533, 3534
	12377, 12396, 12417, 12544,	14229, 14234, 14239, 14244,	\@@latextohtmlX 2211, 3709
	12558, 12566, 12580, 12592,	14249, 14254, 14259, 14264,	\@@wrindex 6238, 6239
	12608, 12622, 12633, 12634,	14269, 14274, 14279, 14284,	\@@writetorep 11551, 11557
	12648, 12660, 12666, 12913,	14289, 14294, 14299, 14304,	\@Alph 5075, 5076, 5079, 5080
	13128, 13130, 13140, 13192,	14309, 14314, 14319, 14324,	\@Alph@bul 5079
	13194, 13222, 13235, 13387,	14329, 14334, 14339	\@BIBLABEL 5741, 5747, 5753
	13400, 13633, 13635, 13649,	\(. 190, 215, 589, 592, 594, 11702,	\@BOOKMARK 11631, 11632
	13651, 13653, 13655, 13657,	12012	\@CITE 5818, 5826
	13659, 13669, 13671, 13673,	\) . 191, 216, 561, 567, 570, 11703,	\@CITE X 5820
	13675, 13681, 13683, 13685,	12014	\@CheckBox . . . 4364, 8255, 10308,
	13687, 13693, 13695, 13701,	\+ 200, 225	10338, 10472, 10781, <u>11136</u>
	13703, 13709, 13711, 13751,	\- 201, 226	\@ChoiceMenu .. 4361, 8258, 10148,
	13753, 13823, 13825, 13835,	\. . 198, 223, 11947, 11959, 11971,	10341, 10407, 10599, <u>10936</u>
	13837, 13853	12031, 12322, 12329, 12347,	\@Form . . 4167, 8247, 9935, 10330,
\#	405, 1528, 1529, 3426, 3436, 3438,	12380, 12399, 12423, 12463,	10351, 10524, <u>10861</u>
	3452, 3484, 3499, 3569, 6781,	12464, 12688, 12690, 12712,	\@Gauge . 4370, 8249, 10117, 10332,
	6783, 7497, 7506, 7533, 8195,	12714, 12732, 12734, 12768,	10356, 10493, <u>10858</u>
	9612, 9621, 9648, 9872, 9881,	12799, 12801, 12919, 12921,	\@Localurlfalse 8202
	9907	13012, 13014, 13020, 13022,	\@Localurltrue 8199
\\$	184, 209, 406, 3428, 3498	13719, 13721, 13727, 13729,	\@M 798, 1743, 5405
\%	407, 1503, 1504, 3425, 3433, 3435,	13739, 13741, 13747, 13749,	\@MM 5531
	3485, 6783	13775, 13777, 13779, 13781,	\@PushButton .. 4367, 8261, 10238,
\&	185, 210, 408, 3439, 9658	13791, 13793, 13795, 13797,	10344, 10453, 10703, <u>11047</u>
\'	203, 228, 2315, 2329, 2370,	13803, 13805, 13827, 13829,	\@Refstar 6591, 6598
	2372, 2373, 2374, 2375, 2380,	13831, 13833, 13839, 13841,	\@Reset . 4376, 8264, 10284, 10347,
	2381, 2383, 2388, 2394, 2398,	13859	10469, 10756, <u>11106</u>
	2399, 2402, 2445, 2446, 2451,	\/ 194, 219, 504, 505, 506, 572, 1246	\@Roman 466
	2452, 2453, 2454, 2455, 2456,	\: 189, 214	\@SCTR 6338, 6390
	2457, 2458, 2460, 2464, 2477,	\; 199, 224, 6479	\@SetMaxRnhefLabel 5815
	11636, 11941, 11953, 11965,	\< 196, 221	\@Submit 4373, 8267, 10266, 10348,
	12169, 12185, 12193, 12206,	\= 167, 173, 180, 183, 11949, 11961,	10466, 10733, <u>11082</u>
	12220, 12226, 12234, 12250,	11973, 12342, 12384, 12403,	\@TextField .. 4358, 8252, 10120,
	12259, 12260, 12274, 12288,	12422, 12668, 12670, 12704,	10335, 10359, 10570, <u>10899</u>
	12294, 12317, 12319, 12320,	12706, 12753, 12755, 12756,	\@addchap 11900
	12321, 12324, 12326, 12327,	12825, 12827, 12885, 12887,	\@addtoreset .. 6155, 6156, 6170,
	12328, 12336, 12374, 12393,	13024, 13026, 13665, 13667,	6335
	12414, 12538, 12554, 12562,	13689, 13691, 13743, 13745	\@afterheading 11918
	12574, 12588, 12594, 12602,	\> 197, 222	\@alph 5082, 5083
	12618, 12627, 12628, 12642,	\@ 2366	\@alph@bul 5082
	12656, 12662, 12680, 12682,	\@@ 1704	\@anchorcolor . 7468, 7552, 8311,
	12787, 12789, 12807, 12809,	\@@BOOKMARK 11631, 11632, <u>11680</u> ,	9583, 9844
	12841, 12843, 12853, 12855,	11729, 11734	\@arabic 768, 773, 777, 5076, 5080,
	12915, 12917, 12967, 12969,	\@@ListBox . 10211, 10231, 10663,	5083
	12975, 12977, 12979, 12981,	10694, 11000, <u>11033</u>	\@auxout . 1698, 3568, 4567, 4569,
	13063, 13065, 13067, 13069,	\@@Menu 10419, 10427	5138, 5166, 5761, 5776, 5792,
		\@@PasswordField . 10368, 10374	

5802, 5832, 5855, 5881, 5887,
5911
\@backslashchar 1423, 1427, 1430,
3447, 6796, 6806
\@baseurl 2649, 2651, 3661, 7212,
7215, 7454, 7456, 7695, 7697,
8123, 8133, 8169, 8171, 8657,
8659, 8997, 9011, 9569, 9571,
9751, 9765, 9831, 9833
\@begintheorem 5373, 5379
\@bibitem 5768, 5799
\@biblabel 5741, 5788
\@bookmarkopenstatus 3264, 3281,
11605
\@bookmarkopenlevel 2612, 2614,
3267
\@bsphack 1691, 3566, 5885
\@capstartfalse 5643
\@caption 5612, 5624, 5658, 5692,
5694
\@capytype 1700, 5607, 5611, 5615,
5622, 5629, 5662, 5685, 5689,
5692
\@car 1030, 1046, 1064, 1084, 2591,
3785, 7164, 7175
\@cdr 7165, 7176
\@chapter 11832, 11833
\@cite 5818, 5849, 5946, 5952
\@cite@opt 5947, 5953, 5957, 5967
\@citea 5821, 5828, 5829, 5848,
5851, 5852
\@citeb 5827, 5830, 5832, 5834,
5838, 5841, 5850, 5853, 5855,
5857, 5861, 5864
\@citebordercolor 2891
\@citedata@opt 5948, 5954, 5956
\@citedatax 5963, 5968
\@citedatax@opt 5960, 5966
\@citeseppen 5945, 5951
\@citex 5847
\@clubpenalty 5407
\@commahyperpage 6286, 6291
\@currDisplay 4221, 10160, 10222,
10436, 10450, 10611, 10674,
10948, 11012
\@currValue 4223, 4225, 10226,
10436, 10447, 10681, 11023,
11431
\@currentHlabel 5087, 5089, 5092,
5215, 5226, 5454, 5465, 5468,
5470, 5515, 5542
\@currentHref 1706,
4466, 5046, 5091, 5096, 5178,
5181, 5216, 5227, 5229, 5268,
5279, 5283, 5290, 5314, 5399,
5455, 5466, 5469, 5471, 5516,
5543, 5627, 5649, 5651, 5663,
5665, 5890, 6037, 6060, 6069,
6075, 6126, 6127, 6151, 6152,
11540, 11541, 11825, 11827,
11836, 11838, 11868, 11870,
11877, 11882, 11910, 11912
\@currentlabel 5534, 5883, 5890,
6132, 6139, 6344, 6396
\@currentlabelname . 1696, 5456,
5517, 5544, 5631
\@currentlabstr 1695, 1703
\@curropt 10157, 10158, 10219,
10220, 10425, 10432, 10433,
10435, 10442, 10443, 10445,
10608, 10609, 10671, 10672,
10945, 10946, 11009, 11010
\@dblarg 1796, 5622, 5692
\@definecounter 6111, 6112
\@ehc 2023, 3010, 3625,
3879, 4003, 4198, 4313, 4349,
10248, 10296, 10714, 10768,
11058, 11118
\@ehd 63, 5608, 5686
\@endForm 4168, 8248, 10116,
10331, 10355, 10569, 10885
\@endpary 5369
\@eqncr 5298
\@eqnstarfalse 5274, 5301
\@eqnstartrue 5298
\@eqnswtrue 5244, 5253
\@esphack 1712, 3571, 5895, 6261
\@extra@b@citeb 5726, 5729, 5746,
5751, 5771, 5819, 5841, 5857,
5864
\@extra@b@info 5725, 5728, 5732
\@fifthoffive 2970, 3379, 3560,
6545, 6660
\@filebordercolor 2889, 7081,
7083, 7995, 7997, 8382, 8384,
9307
\@filecolor 2641, 7101, 7647,
7659, 8007, 8388
\@firstoffive 3375, 3384, 6584,
6665
\@firstofone 423, 424, 425,
426, 427, 428, 429, 430, 431,
432, 433, 458, 878, 882, 886,
2811, 3266, 4134, 4140, 4962,
5073, 5086, 5125, 5620, 5690,
5830, 5853, 5979, 6036, 7372,
11216, 11233, 11250
\@firstoftwo 475, 642, 760, 1162,
4545
\@footnotemark 5415, 5461, 5550,
5552, 5564, 5565, 5595, 5597
\@footnotetext 5414, 5421, 5446,
5551, 5553, 5567, 5568, 5588
\@for 2668, 3775, 5827, 5850, 10157,
10219, 10425, 10432, 10442,
10608, 10671, 10945, 11009
\@fourthoffive 3378, 3561, 6655,
6662
\@gobble 49,
56, 117, 456, 478, 479, 480,
489, 649, 784, 788, 791, 968,
981, 985, 1047, 1110, 1111,
1118, 1123, 1137, 1142, 1146,
1733, 1969, 1981, 2799, 2958,
2960, 3012, 3416, 4119, 4511,
4515, 4531, 4533, 4549, 4550,
4551, 4553, 4554, 4556, 4941,
4956, 4960, 5362, 5609, 5687,
6035, 6719, 7374, 8537, 8540,
10525, 10862, 11597, 11598,
11599, 11728
\@gobblefour 513, 894, 895, 896,
6459
\@gobbleopt 4556, 4558
\@gobbletwo 482, 507, 514, 515, 893,
1065, 1142, 1146, 1150, 1847,
2962, 4065, 4535, 4544, 4552,
4556, 6643, 11823
\@harvarditem 5900, 5902
\@hyper@anchor 3670, 3671
\@hyper@itemfalse 4992, 5008,
5022
\@hyper@itemtrue 4993
\@hyper@launch 3631, 3640, 7105,
8440, 9319
\@hyper@linkfile 3612, 3615,
3619, 3651
\@hyper@readexternallink 3606,
3610
\@hyperdef 3541, 3542
\@hyperpage 6283, 6284
\@hyperref 3522, 3533
\@ifclasslater 11924, 11929
\@ifclassloaded 1683, 4887, 5110,
5147, 5810, 6319, 6323, 7377,
11923, 11928
\@ifnextchar 12,
88, 103, 123, 508, 509, 1141,
3492, 3522, 3541, 3579, 4167,
4358, 4361, 4364, 4367, 4370,
4373, 4376, 4556, 4612, 4621,
5554, 5572, 5900, 5958, 9022,
9245, 9259, 11631, 11632
\@ifpackagelater 1714, 3034,
5101, 6180
\@ifpackageloaded 359, 1686,
2075, 2949, 3033, 3122, 5030,
5100, 5113, 5175, 5194, 5198,
5206, 5240, 5354, 5411, 5478,
5523, 5659, 5870, 5943, 6025,

6029, 6123, 6179, 6215, 6216,
 6328, 6590, 6732, 6736, 9823
 \@ifpackagewith 2950, 6147
 \@ifstar 66, 3400, 3402, 6598,
 6624, 6643
 \@ifundefined 34, 240,
 459, 499, 573, 608, 627, 632,
 645, 648, 666, 672, 678, 683,
 688, 695, 701, 707, 712, 718,
 723, 733, 739, 745, 751, 1000,
 1094, 1095, 1687, 1720, 1824,
 1943, 2008, 2088, 2535, 2543,
 2550, 2563, 2589, 2911, 2925,
 3027, 3028, 3029, 3874, 4193,
 4649, 4972, 5034, 5039, 5060,
 5074, 5200, 5209, 5263, 5285,
 5303, 5309, 5346, 5613, 5724,
 5735, 5818, 5834, 5857, 6120,
 6160, 6168, 6169, 6182, 6183,
 6190, 6632, 6633, 6677, 6678,
 6680, 6681, 6836, 7020, 7029,
 7400, 8278, 8332, 8412, 8721,
 8722, 8764, 8794, 8881, 9043,
 10525, 10862, 11225, 11831,
 11842
 \@indexfile 6242, 6250, 6254
 \@inlabelfalse 5389
 \@inmathwarn 399, 400
 \@inpenc@undefined@ 1558
 \@labels 5402
 \@latex@ 4643, 4644
 \@latex@error 2158, 2176, 2186,
 2193, 5608, 5686
 \@latex@warning 3555, 5837, 5860,
 6520, 6540, 6557, 6671
 \@lbibitem 5742, 5787
 \@linkbordercolor 2886, 7037,
 8302
 \@linkcolor 9044
 \@linkdim 326, 7512, 7513, 7518,
 7519, 7520, 7580, 7581, 7590,
 7591, 7592, 7609, 7610, 7619,
 7620, 7621, 7639, 7640, 7649,
 7650, 7651, 9627, 9628, 9633,
 9634, 9635, 9887, 9888, 9894,
 9895, 9896
 \@listctr 5777, 5803
 \@m 781, 5829, 5852, 8584
 \@mainaux 4565, 4566, 4924, 4932
 \@makecaption 5644, 5646, 5704
 \@makefnmark 5473, 5600
 \@makefntext 5535
 \@makeother 166, 167, 179, 180,
 182, 183, 188, 189, 190, 191,
 192, 193, 194, 195, 196, 197,
 198, 199, 200, 201, 202, 203,
 3439, 6768, 11706
 \@makeschapterhead 11915, 11917
 \@menubordercolor 2888, 7432,
 7434, 8044, 8046, 8471, 8473
 \@menucolor 7445, 8050, 8477
 \@minipagefalse 5385
 \@mkboth 482, 6441, 11823, 11903,
 11905
 \@mpfn 5418, 5573, 5585
 \@mpfootnotetext 5421, 5434,
 5435
 \@mycount 11682, 11692
 \@namedef 2098, 2099, 2100, 2101,
 2102, 2103, 2104, 2105, 3885,
 3886, 3887, 3888, 4209, 4210,
 5111, 5297, 5300, 5875, 5876,
 5877, 5878
 \@nameuse 1700, 2095, 3891, 4201
 \@ne 767, 2042, 2137, 8636, 9426,
 10894
 \@newctr 6116, 6117
 \@newl@bel 4606, 5728
 \@newlistfalse 5386
 \@nil 345, 349, 354, 358,
 373, 1030, 1048, 1066, 1082,
 1084, 1087, 1090, 1093, 1567,
 1569, 1585, 1587, 2591, 3469,
 3473, 3478, 3785, 4631, 4634,
 4641, 4643, 4644, 4729, 4776,
 4777, 4779, 4802, 4819, 4867,
 4869, 5210, 5220, 5222, 5235,
 6270, 6272, 6279, 6302, 6305,
 6315, 6524, 6527, 6679, 6709,
 6792, 6798, 6802, 6808, 7164,
 7165, 7175, 7176, 8503, 8504,
 11223, 11236, 11241
 \@nobreakfalse 4603, 5405
 \@nocnterr 6169, 6183
 \@nocounterr 6168, 6182
 \@noparitemfalse 5387
 \@number 5073, 5125, 5979
 \@nx 6172, 6186, 6189, 6191
 \@onelevel@sanitize 1840, 1844,
 2057, 2590, 2987, 3017, 3038,
 3040, 3875, 4112, 4194, 4829,
 4831, 6065, 6570, 7812
 \@oparg 5373, 5379
 \@outlinefile 11603, 11715,
 11716, 11718, 11781, 11782,
 11784
 \@pagerefstar 3402, 6586, 6614
 \@pagesetref 6536
 \@parboxrestore 5533, 5636, 5699
 \@parcount 11684, 11692
 \@part 11851, 11858
 \@pdfauthor 2780, 2894, 7270,
 7679, 8077, 8696, 8933, 9684
 \@pdfborder 2215, 2694, 2697,
 2699, 3347, 6985, 7828, 8300,
 8808, 8895, 9237, 9249, 9264,
 9285, 9304, 9329, 9357, 9432,
 9520, 9663
 \@pdfborderstyle 2695, 2701,
 2703, 3348, 6986, 7829, 8301,
 8809, 8896, 9238, 9250, 9265,
 9286, 9305, 9330, 9358, 9433,
 9521, 9664
 \@pdfcreationdate 2786, 2897,
 7274, 7276, 7671, 7673, 8069,
 8071, 8908, 8910, 9676, 9678
 \@pdfcreator 2782, 2896, 7273,
 7670, 8068, 8699, 8932, 9675
 \@pdfdirection 7235, 7733, 8103,
 8669, 8977, 9731
 \@pdfduplex 7241, 7739, 8109,
 8675, 8983, 9737
 \@pdfhighlight 2687, 2892, 7001,
 7003, 7048, 7077, 7079, 7113,
 7115, 7428, 7430, 8807, 8894,
 9236, 9284, 9303, 9328
 \@pdfhightlight 7046
 \@pdfkeywords 2796, 2900, 7286,
 7668, 8082, 8704, 8934, 9673
 \@pdflang 2878, 2905, 7261, 7263,
 7761, 7763, 8143, 8145, 9007,
 9009, 9761, 9763
 \@pdfm@dest 7775, 7831, 7835
 \@pdfm@mark 4912, 7774, 7823, 7842, 7856,
 7858, 7872, 7874, 7879, 7880,
 7910, 7934, 7936, 7941, 7960,
 7980, 7989, 8008, 8013, 8030,
 8034, 8051, 8064, 8124, 8151,
 10864, 10865, 10866, 10883,
 10926, 10932, 11018, 11028,
 11039, 11045, 11071, 11078,
 11097, 11103, 11126, 11132,
 11153, 11159, 11163, 11195,
 11203, 11754
 \@pdfmoddate 2792, 2898, 7278,
 7280, 7675, 7677, 8073, 8075,
 8912, 8916, 9680, 9682
 \@pdfnonfullscreenpagemode 7234, 7732, 8102, 8668, 8976,
 9730
 \@pdfnumcopies 7250, 7252, 7748,
 7750, 8118, 8120, 8684, 8686,
 8992, 8994, 9746, 9748
 \@pdfpageduration 2657, 7322,
 7325, 7330, 8593, 8595, 8598,
 8844, 8846, 8854
 \@pdfpagelayout 7260, 7760, 8142,
 8689, 8691, 9006, 9760
 \@pdfpagemode 3110, 3111, 3277,

3278, 3287, 3288, 7214, 7716,
 8137, 8656, 8960, 9714
 \@pdfpagescrop 2832, 2901, 7199,
 7203, 7699, 7700, 7721, 7723,
 8149, 8151, 8645, 8647, 8965,
 8967, 9719, 9721
 \@pdfpagetransition 2655, 7298,
 7302, 7307, 8484, 8486, 8488,
 8827, 8829, 8837
 \@pdfpicktraybypdfsize .. 7242,
 7244, 7740, 7742, 8110, 8112,
 8676, 8678, 8984, 8986, 9738,
 9740
 \@pdfprintarea 7238, 7736, 8106,
 8672, 8980, 9734
 \@pdfprintclip 7239, 7737, 8107,
 8673, 8981, 9735
 \@pdfprintpagerange 2768, 2904,
 7246, 7248, 7744, 7746, 8114,
 8116, 8680, 8682, 8988, 8990,
 9742, 9744
 \@pdfprintscaling .. 7240, 7738,
 8108, 8674, 8982, 9736
 \@pdfproducer . 2781, 2895, 7140,
 7282, 7284, 7663, 7664, 7680,
 7682, 8054, 8055, 8059, 8078,
 8080, 8613, 8614, 8618, 8621,
 8622, 8700, 8702, 8919, 8923,
 9354, 9355, 9425, 9427, 9429,
 9517, 9518, 9668, 9669, 9685,
 9687
 \@pdfstartpage 2820, 2822, 2903,
 7220, 7224, 7703, 7708, 8126,
 8130, 8649, 8653, 8947, 8952,
 9701, 9706
 \@pdfstartview 2827, 2829, 2902,
 7094, 7222, 7224, 7705, 7709,
 8002, 8128, 8130, 8651, 8949,
 8953, 9313, 9703, 9707
 \@pdfsubject .. 2795, 2899, 7272,
 7684, 8067, 8698, 8931, 9689
 \@pdftempa 3617, 3618, 3621
 \@pdftempwordfile .. 3608, 3618
 \@pdftempwordrun ... 3609, 3621
 \@pdftitle 2779, 2893, 7271, 7669,
 8066, 8697, 8930, 9674
 \@pdfview 2801, 6971, 6978, 7780,
 7784, 7788, 7792, 7796, 7800,
 7801, 7804, 7805, 7808, 7812,
 7813, 7827, 8299, 8308, 8319,
 8758, 8776, 9359, 9434, 9522,
 9773
 \@pdfviewarea . 7236, 7734, 8104,
 8670, 8978, 9732
 \@pdfviewclip . 7237, 7735, 8105,
 8671, 8979, 9733
 \@pdfviewparams 2803, 2805, 8758,
 8776, 9360, 9435, 9523, 9774
 \@percentchar .. 3434, 3435, 3485
 \@processme .. 4217, 4218, 7304,
 7310, 7327, 7333, 7348, 7354,
 9025, 9026, 9095, 9096, 9099,
 9100
 \@protected@testopt 510
 \@protected@testopt@xargs 511
 \@refstar 3400, 6583
 \@runbordercolor ... 2890, 7117,
 7119, 8455, 8457, 9332
 \@runcolor 7136, 8461
 \@safe@activesfalse . 464, 3381
 \@safe@activetrue .. 463, 3380
 \@chapter 11819, 11820
 \@secondoffive 2971, 3376, 3389,
 6546, 6547, 6587
 \@secondoftwo . 457, 481, 640, 763,
 1160, 2970, 2971
 \@sect 11873, 11874
 \@seqnchr 5298
 \@serial@counter . 11634, 11681,
 11682, 11683
 \@seteqlabel 6148, 6149
 \@setminipage 5638, 5701
 \@setref . 3384, 3389, 6515, 6516,
 6553
 \@sharp 5210, 5217
 \@skiphyperreffalse 5009, 5757,
 5769
 \@skiphyperrefftrue . 5743, 5769
 \@spart 11864, 11865
 \@ssect 11814, 11815
 \@startlos 6453, 6460, 6509
 \@starttoc 4591
 \@tempa .. 5372, 5378, 5382, 5480,
 5484, 5487, 5503
 \@tempb 5326, 5330
 \@tempboxa 7511, 7512, 7518, 7577,
 7580, 7583, 7584, 7590, 7595,
 7596, 7607, 7609, 7612, 7613,
 7619, 7624, 7625, 7637, 7639,
 7642, 7643, 7649, 7654, 7655,
 9626, 9627, 9633, 9886, 9887,
 9894
 \@tempcnta . 11563, 11564, 11565,
 11566, 11567, 11569, 11572,
 11573, 11574, 11580, 11582,
 11584, 11616, 11617, 11618,
 11621, 11622, 11623, 11624,
 11625, 11803, 11804, 11805
 \@tempdima
 1746, 4398, 4399, 4400, 4401,
 4402, 4403, 4404, 4405, 6964,
 10156, 10161, 10163, 10200,
 10201, 10202, 10206, 10207,
 10208, 10209, 10607, 10612,
 10614, 10652, 10653, 10654,
 10658, 10659, 10660, 10661,
 10944, 10949, 10951, 10989,
 10990, 10991, 10995, 10996,
 10997, 10998
 \@tempdimb . 10160, 10161, 10611,
 10612, 10948, 10949
 \@tempswafalse 5962
 \@tempswatrue . 5932, 5935, 5938,
 5959
 \@temptokena .. 2482, 2487, 2490,
 2492
 \@tfor 5327
 \@the@H@page 5981, 5983
 \@thefnmark .. 5419, 5430, 5492,
 5493, 5534, 5574, 5586, 5593
 \@thirdoffive 3377
 \@thm 5355
 \@topnewpage 11915
 \@topsep 5368
 \@topsepadd 5369
 \@undefined 516, 4546, 4570, 4590,
 4791, 4809, 4848, 5607, 5661,
 5673, 5676, 5685, 6578, 6962,
 7144, 7153, 8272, 8624, 8638
 \@undottedtocline 6505
 \@unprocessedoptions 3232
 \@urlbordercolor ... 2887, 7050,
 7052, 8019, 8021, 8401, 8403,
 9287
 \@urlcolor 7065, 7517, 7526, 7617,
 7629, 8029, 8407, 9632, 9641,
 9893, 9901
 \@urltype 7487, 7491, 8174, 8198,
 8327, 8338, 9602, 9606, 9862,
 9866
 \@vpageref 6608
 \@whilenum 910
 \@wrintex 6221, 6222, 6238
 \@writefile 5888
 \@x@sf 5463, 5475, 5599, 5601
 \@xfootnote 5572
 \@xfootnotemark 5427, 5590
 \@xfootnotenext 5416, 5583
 \@xp . 6138, 6171, 6172, 6185, 6186,
 6188, 6189
 \[..... 192, 217
 \{ 402
 \} 403
 \] 193, 218
 \^ 186, 211, 2393, 3423, 3424, 3431,
 11942, 11954, 11966, 12171,
 12187, 12195, 12208, 12222,
 12236, 12252, 12262, 12263,
 12276, 12290, 12338, 12375,
 12394, 12415, 12540, 12556,

12564, 12576, 12590, 12604,
 12620, 12630, 12631, 12644,
 12658, 12684, 12686, 12724,
 12726, 12740, 12742, 12776,
 12778, 12779, 12857, 12859,
 12905, 12907, 12909, 12911,
 13843, 13845
 _ . 187, 212, 410, 3427, 3441, 3442
 \^ 166, 172, 179, 182,
 2329, 2463, 2466, 2468, 2476,
 11940, 11952, 11964, 12167,
 12183, 12191, 12204, 12218,
 12232, 12248, 12256, 12257,
 12272, 12286, 12334, 12373,
 12392, 12413, 12536, 12552,
 12560, 12572, 12586, 12600,
 12616, 12624, 12625, 12640,
 12654, 12971, 12973, 13219,
 13247, 13384, 13412, 13815,
 13817, 13865, 13867, 14226,
 14231, 14236, 14241, 14246,
 14251, 14256, 14261, 14266,
 14271, 14276, 14281, 14286,
 14291, 14296, 14301, 14306,
 14311, 14316, 14321, 14326,
 14331, 14336, 14341
 \l 188, 213, 1369, 1485, 2275, 2939,
 6218, 6767, 6777
 \~ 409, 912, 1546, 2387,
 2395, 2396, 2397, 3031, 3445,
 11943, 11955, 11967, 12173,
 12202, 12210, 12238, 12270,
 12278, 12340, 12376, 12395,
 12416, 12542, 12570, 12578,
 12606, 12638, 12646, 12748,
 12750, 12751, 12881, 12883,
 13811, 13813, 13861, 13863,
 13869, 13871, 14228, 14233,
 14238, 14243, 14248, 14253,
 14258, 14263, 14268, 14273,
 14278, 14283, 14288, 14293,
 14298, 14303, 14308, 14313,
 14318, 14323, 14328, 14333,
 14338, 14343
Numbers
 \3 387, 954, 955, 956,
 957, 958, 959, 960, 961, 1660,
 11701, 12167, 12169, 12171,
 12173, 12175, 12177, 12179,
 12181, 12183, 12185, 12187,
 12189, 12191, 12193, 12195,
 12197, 12199, 12200, 12202,
 12204, 12206, 12208, 12210,
 12212, 12214, 12216, 12218,
 12220, 12222, 12224, 12226,
 12228, 12230, 12232, 12234,
 12236, 12238, 12240, 12242,
 12244, 12246, 12248, 12250,
 12252, 12254, 12256, 12257,
 12259, 12260, 12262, 12263,
 12265, 12266, 12268, 12270,
 12272, 12274, 12276, 12278,
 12280, 12282, 12284, 12286,
 12288, 12290, 12292, 12294,
 12296, 12298, 12299, 12372,
 12536, 12538, 12540, 12542,
 12544, 12546, 12548, 12550,
 12552, 12554, 12556, 12558,
 12560, 12562, 12564, 12566,
 12568, 12570, 12572, 12574,
 12576, 12578, 12580, 12582,
 12584, 12586, 12588, 12590,
 12592, 12594, 12596, 12598,
 12600, 12602, 12604, 12606,
 12608, 12610, 12612, 12614,
 12616, 12618, 12620, 12622,
 12624, 12625, 12627, 12628,
 12630, 12631, 12633, 12634,
 12636, 12638, 12640, 12642,
 12644, 12646, 12648, 12650,
 12652, 12654, 12656, 12658,
 12660, 12662, 12664, 12666,
 12931, 12933, 12935, 12937,
 12938, 12940, 12942, 12944,
 12946, 12948, 12950, 12952,
 12954, 12956, 12958, 12960,
 12962, 12964, 12965, 12967,
 12969, 12971, 12973, 12975,
 12977, 12979, 12981, 13030,
 13032, 13034, 13036, 13038,
 13040, 13042, 13045, 13047,
 13172, 13174, 13176, 13178,
 13180, 13182, 13184, 13186,
 13188, 13190, 13192, 13194,
 13196, 13198, 13199, 13201,
 13203, 13205, 13207, 13209,
 13211, 13213, 13215, 13217,
 13603, 13605, 13607, 13609,
 13611, 13613, 13615, 13617,
 13619, 13621, 13623, 13625,
 13627, 13629, 13631, 13633,
 13635, 13637, 13639, 13641,
 13643, 13645, 13647, 13649,
 13651, 13653, 13655, 13657,
 13659, 13661, 13663, 13665,
 13667, 13669, 13671, 13673,
 13675, 13677, 13679, 13681,
 13683, 13685, 13687, 13689,
 13691, 13693, 13695, 13697,
 13699, 13701, 13703, 13705,
 13707, 13709, 13711, 13713,
 13715, 13865, 13867, 13869,
 13871, 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, 14187, 14189,
 14211, 14213, 14214, 14218,
 14220, 14221, 14224, 14226,
 14228, 14239, 14241, 14245,
 14246, 14247, 14248, 14249,
 14250, 14251, 14252, 14254,
 14255, 14256, 14257, 14258,
 14259, 14260, 14261, 14262,
 14263, 14264, 14265, 14266,
 14267, 14268, 14269, 14270,
 14271, 14272, 14274, 14275,
 14276, 14277, 14278, 14279,
 14280, 14281, 14282, 14283,
 14284, 14286, 14288, 14299,
 14301, 14305, 14306, 14307,
 14308, 14309, 14310, 14311,
 14312, 14314, 14315, 14316,
 14317, 14318, 14319, 14320,
 14321, 14322, 14323, 14324,
 14325, 14326, 14327, 14328,
 14329, 14330, 14331, 14332,
 14334, 14335, 14336, 14337,
 14338, 14339, 14340, 14341,
 14342, 14343, 14396, 14398
 \9 390, 1588, 1603, 1612, 1640, 1660,
 12372, 13717, 13719, 13721,
 13723, 13725, 13727, 13729,
 13731, 13733, 13735, 13737,
 13739, 13741, 13743, 13745,
 13747, 13749, 13751, 13753,
 13755, 13757, 13759, 13761,
 13763, 13765, 13767, 13769,
 13771, 13773, 13775, 13777,
 13779, 13781, 13783, 13785,
 13787, 13789, 13791, 13793,
 13795, 13797, 13799, 13801,
 13803, 13805, 13807, 13809,
 13811, 13813, 13815, 13817,
 13819, 13821, 13823, 13825,
 13827, 13829, 13831, 13833,
 13835, 13837, 13839, 13841,
 13843, 13845, 13847, 13849,
 13851, 13853, 13855, 13857,
 13859, 13861, 13863, 13865,
 13867, 13869, 13871, 13873,
 13875, 13877, 13879, 13881,
 13883, 13885, 13887, 13889,
 13891, 13893, 13895, 13897,

13899, 13901, 13903, 13905,
13907, 13909, 13911, 13913,
13915, 13917, 13919, 13921,
13923, 13925, 13927, 13929,
13931, 13933, 13935, 13937,
13939, 13941, 13943, 13945,
13947, 13949, 13951, 13953,
13955, 13957, 13959, 13961,
13963, 13965, 13967, 13969,
13971, 13973, 13975, 13977,
13979, 13981, 13983, 13985,
13987, 13989, 13991, 13993,
13995, 13997, 13999, 14001,
14003, 14005, 14007, 14009,
14011, 14013, 14015, 14017,
14019, 14021, 14023, 14025,
14027, 14029, 14031, 14033,
14035, 14037, 14039, 14041,
14043, 14045, 14047, 14049,
14051, 14053, 14055, 14057,
14059, 14061, 14063, 14065,
14067, 14069, 14071, 14073,
14075, 14077, 14079, 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,
14225, 14227, 14229, 14230,
14231, 14232, 14233, 14234,
14235, 14236, 14237, 14238,
14240, 14242, 14243, 14244,
14245, 14246, 14247, 14248,
14250, 14252, 14255, 14257,
14259, 14260, 14261, 14262,
14263, 14264, 14265, 14266,
14267, 14268, 14270, 14272,
14274, 14275, 14276, 14277,
14278, 14280, 14281, 14282,
14283, 14285, 14287, 14289,
14290, 14291, 14292, 14293,
14294, 14295, 14296, 14297,
14298, 14300, 14302, 14303,
14304, 14305, 14306, 14307,
14308, 14310, 14312, 14315,
14317, 14319, 14320, 14321,
14322, 14323, 14324, 14325,
14326, 14327, 14328, 14330,

14332, 14334, 14335, 14336,
14337, 14338, 14340, 14341,
14342, 14343, 14397

_ ... 496, 2410, 2413, 5829, 5852,
11964, 11965, 11966, 11967,
11968, 11969, 11970, 11971,
11972, 11973, 11974, 11975,
12392, 12393, 12394, 12395,
12396, 12397, 12398, 12399,
12400, 12401, 12402, 12403,
12404, 12405, 12406, 12407,
12408, 12409, 12410

A

\ABREVE ... 14217, 14289, 14290,
14291, 14292, 14293
\abreve ... 14210, 14229, 14230,
14231, 14232, 14233
\AccFancyVerbLineautorefname .
..... 2437
\Accfootnoteautorefname . 2417
\Acctheoremautorefname .. 2441
\ACIRCUMFLEX 14218, 14294, 14295,
14296, 14297, 14298
\acircumflex . 2468, 14211, 14234,
14235, 14236, 14237, 14238
\Acrobatmenu .. 1735, 2967, 4543,
7423, 8032, 8464, 9231
\active 890, 897, 3424, 3425, 3426,
3427, 3428, 3431, 3433, 3436,
3442, 11705
\add@accent 401
\addcontentsline ... 5632, 5696,
6033, 6039, 6105, 11920
\addtocontents 6074, 6106, 6336,
6388, 11907, 11908
\addtocounter . 5122, 5145, 5154,
5165, 5169, 5348
\addvspace 11907, 11908
\advance ... 324, 325, 911, 3735,
4064, 4110, 4399, 4400, 4403,
4404, 4746, 7189, 7519, 7591,
7620, 7650, 8620, 9634, 9895,
10163, 10207, 10208, 10614,
10659, 10660, 10894, 10951,
10996, 10997, 11564, 11566,
11567, 11573, 11582, 11624,
11804
\AE 12179, 12548, 12975
\ae 12244, 12612, 12977
\afterassignment ... 1258, 1264,
1270
\AfterBeginDocument 240, 2115,
2169, 3101, 3201, 3405, 4468,
4562, 4930, 9410, 9561
\aftergroup 5538

\alef 14352
\alefhamza 14348
\aleflowerhamza 14350
\alefmadda 14347
\alefmaqsura 14381
\Alph 4795, 5061, 5062
\alph 4796, 5319, 5350
\AMSautorefname 6741
\anchor@spot .. 3675, 3688, 3695,
3701, 7016, 7468, 7552, 8242,
8311, 8755, 9583, 9844
\appendix 5058, 5059
\appendixautorefname 2285, 2303,
2321, 2339, 2357, 2375, 2393,
2425, 2426, 2451, 2469, 6751
\arabic .. 4792, 4967, 4970, 4973,
4974, 4975, 4977, 4978, 4979,
4980, 4982, 4983, 4984, 4985,
4986, 4987, 4990, 5000, 5001,
5040, 5129, 6114, 6120, 6167,
6181, 6324, 6329, 6331
\AtBeginDocument 241, 2014, 2074,
2211, 2561, 2956, 3047, 3107,
3331, 5109, 5871, 6589, 6735,
6931, 7370, 7920, 8294
\AtBeginShipout 4675, 7907
\AtBeginShipoutBox . 4679, 4682,
7908, 7909
\AtBeginShipoutFirst 4686, 8154,
9513
\AtEndDocument 4582, 4890, 10532
\AtEndOfPackage 1684, 2534, 2542,
2549, 3089, 3115, 3121, 3260,
3283
\author 4611, 4621
\autopageref 3109, 6623
\autoref .. 486, 3108, 6642, 9915
\ayn 14370

B

\b ... 11950, 11962, 11974, 12364,
12387, 12406, 13723, 13725,
13731, 13733, 13763, 13765,
13767, 13769, 13783, 13785,
13799, 13801, 13807, 13809,
13847, 13849, 13851
\baa 14353
\back@none 2223, 2233, 2246
\back@page 2225, 2238
\back@section . 2224, 2230, 2236,
2242
\back@slide 2226, 2235
\backcite 5889
\backref 5920, 9919
\baselineskip . 1738, 4412, 4413,
4414, 4415, 4416, 4417, 7569,
8772, 8793, 9393

\bbl@cite@choice	5736	\capitalnewtie	12425	\copy 5222, 5231, 6946, 7909, 7935
\BeforeTeXIVht	2111	\capitalogonek	12412	\count@ . 909, 910, 911, 912, 1259,
\begin	9924, 14402	\capitalring	12419	2598, 2599, 2604, 2605, 3734,
\belowpdfbookmark	11620	\capitaltie	12424	3735, 3750, 4047, 4062, 4064,
\bfseries . 438, 5835, 5858, 6519,		\capitaltilde	12416	4088, 4110, 4126, 7184, 7185,
6539, 6556, 6670		\caption . . 5606, 5608, 5684, 5686		7186, 7187, 7188, 7189, 7192,
\bgroup 505, 3492, 5525, 5537, 8242,		\catcode 172, 173, 184, 185,		8616, 8617, 8618, 8619, 8620,
8785, 10363, 10455, 10476		186, 187, 206, 890, 897, 1369,		8623
\bibcite . 5727, 5733, 5737, 5762,		1370, 1485, 1486, 3297, 3299,		\CurrentBorderColor 7005, 7007,
5777, 5793, 5803		3423, 3424, 3425, 3426, 3427,		7021, 7023, 7030, 7032, 7037,
\bitsetGetDec . 3787, 3920, 3938,		3428, 3431, 3433, 3436, 3442,		8302, 8333, 8335, 8344, 8346,
3952, 3965, 3981, 4013, 4038		3452, 3498, 3499, 6767, 8820,		8361, 8363, 8413, 8415, 8428,
\bitsetGetHex	3788	8821, 11636, 11638, 11705		8430
\bitsetGetSetBitList	3776	\cf@encoding	966	\currentpdfbookmark . . .
\bitsetIsEmpty 3917, 3935, 3949,		\chapterautorefname 2286, 2304,		11612
3962, 3978, 4010, 4035		2322, 2340, 2358, 2376, 2394,		\curu
\bitsetReset . . 3890, 3924, 3943,		2423, 2452, 2470, 6752		13415
3957, 3970, 3986, 4018		\chapternumberline 11595, 11599		\cyr . . 465, 2405, 2407, 2410, 2413,
\bitsetSetValue	3756, 3766	\char 10559, 11640, 11677		2416, 2417, 2418, 2419, 2420,
\BOOKMARK	11604, 11631	\chardef . 1933, 1934, 1935, 1936,		2421, 2422, 2423, 2424, 2425,
\box . 4406, 4682, 6950, 7939, 9078		2137, 2139		2427, 2429, 2430, 2431, 2432,
\bullet . . . 6471, 6479, 6489, 6497		\check@bmc@number . 11739, 11747,		2433, 2434, 2435, 2436, 2437,
		11795, 11803		2438, 2439, 2440, 2441, 2442
C		\CheckBox	4363	\CYRA 13254, 13629, 13633
\C	12358, 13463, 13465	\CheckCommand	5479	\cyra 2407, 2414, 2416, 2421,
\c	2387,	\checkcommand . . . 42, 5164, 5583,		2424, 2429, 2430, 2436, 2440,
2395, 2396, 2397, 4634, 4641,		5590, 5597, 5684, 5694, 5787,		13319, 13631, 13635
11948, 11960, 11972, 12181,		5799, 6105, 6108, 6167, 6553		\CYRABHCH
12246, 12366, 12381, 12400,		\checklatex . 4, 5582, 5683, 5786,		13593, 13598
12411, 12550, 12614, 12736,		6104, 6552		\cyrabhch
12738, 12781, 12783, 12791,		\checkpackage . . . 9, 5163, 6166		13595, 13601
12793, 12811, 12813, 12845,		\ChoiceBox	4114	\CYRABHCHDSC
12847, 12861, 12863, 12869,		\ChoiceMenu	4360	13597
12871, 13016, 13018, 13518,		\citation	5832, 5855, 5881	\cyrabhchdsc
13521, 13735, 13737, 13755,		\citeauthoryear . . . 5947, 5953		13600
13757		\citeN	5944	\CYRABHDZE
\c@footnote 5429, 5482, 5490, 5592		\CJK@char	893	13661
\c@page . . 4728, 4746, 4747, 4751,		\CJK@charx	894	\cyrabhdze
4763, 4765, 4770, 4777, 4779,		\CJK@ignorespaces	892	13663
4781, 4810, 5976		\CJK@punctchar	895	\CYRABHHA
\c@secnumdepth . . 11841, 11859,		\CJK@punctcharx	896	13551
11875, 11880		\clear@document	4888	\cyrabhha
\c@slidesection 6337, 6465, 6466		\clearpage	4890	13553
\c@slidesubsection	6389	\close@pdflink 7015, 7027, 7035,		\CYRAE
\c@tocdepth	2582, 2587	7066, 7102, 7137, 7446		13637
\calc@bmc@number . . 11729, 11802		\closeout	4565	\cyrae
\calculate@pdfview . 2797, 2800		\clubpenalty	5405, 5407	13639
\capitalacute	12414	\codeof	5911	\CYRB
\capitalbreve	12421	\color@endbox . 6943, 7511, 7577,		\cyrb
\capitalcaron	12420	7607, 7637, 7932, 9626, 9886		2421, 13321
\capitalcedilla	12411	\color@hbox . . 6936, 7511, 7577,		\CYRBYUS
\capitalcircumflex	12415	7607, 7637, 7925, 9626, 9886		13439
\capitaldieresis	12417	\columnwidth	5532	\cyrbyus
\capitaldotaccent	12423	\comma@entry . . 4105, 4112, 4114		13441
\capitalgrave	12413	\comma@parse	4104	\CYRC
\capitalhungarumlaut . . .	12418	\contentsline . 4571, 4572, 4583,		13299
\capitalmacron	12422	6075, 6079, 6106, 6108		\cyr
				13364
				\CYRCH
				13301, 13701
				\cyrch . . 2413, 2414, 2422, 13366,
				13703
				\CYRCHLDSC
				13621
				\cyrchldsc
				13623
				\CYRCHRDSC
				13581
				\cyrchrdsc
				13583
				\CYRCHVCRS
				13585
				\cyrchvcrs
				13587
				\CYRD
				13262
				\cyrd 2410, 2413, 2424, 2429, 2430,
				13327
				\CYRDJE
				13224
				\cyrdje
				13389
				\CYRDZE
				13230
				\cyrdze
				13395

\CYRDZHE	13252	\CYRK	13245, 13275	\cyrp	2410, 2413, 2414, 2418, 2419, 2425, 2427, 2431, 2432, 2433, 2434, 13350
\cyrdzhe	13417	\cyrk	2416, 2417, 2419, 2433, 2434, 2436, 2437, 2438, 13340, 13410	\CYRpalochka	13603
\CYRE	13219, 13222, 13264, 13641	\CYRKBEAK	13535	\CYRPHK	13547
\cyre	2407, 2413, 2414, 2427, 2439, 2440, 2441, 13329, 13384, 13387, 13643	\cyrkbeak	13537	\cyrphk	13549
\cyreref	13687	\CYRKDSC	13523	\CYRPSI	13451
\CYREREV	13313, 13685	\cyrkdsc	13525	\cyrpsi	13453
\cyrerev	13378	\CYRKHCRS	13531	\CYRR	13287
\CYRERY	13309, 13709	\cyrkhcrs	13533	\cyr	2405, 2407, 2410, 2413, 2414, 2420, 2424, 2425, 2427, 2429, 2430, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 13352
\cyrery	2405, 2407, 13374, 13711	\CYRKHK	13609	\CYRRTICK	13497
\CYRF	13295	\cyrkhk	13611	\cyrrtick	13499
\cyrf	13360	\CYRKOPPA	13483	\CYRS	13289, 13556
\CYRFITA	13455	\cyrkoppa	13485	\cyr	2410, 2413, 2416, 2417, 2420, 2435, 2436, 2437, 2438, 2442, 13354, 13559
\cyrfita	13457	\CYRKSI	13447	\CYRSCHWA	13645, 13649
\CYRG	13226, 13260	\cyrksi	13449	\cyrschwa	13647, 13651
\cyr	2423, 13325, 13391	\CYRKVCRS	13527	\CYRSDSC	13555, 13556
\CYRGDSC	13705	\cyrkvcrs	13529	\cyrsdsc	13558
\cyr	13707	\CYRL	13277	\CYRSEMISFTSN	13493
\CYRGHCRS	13505	\cyr	2421, 2423, 2425, 2427, 13342	\cyrsemisftsn	13495
\cyrghcrs	13507	\CYRLDSC	13613	\CYRSFTSN	13311
\CYRGHK	13509	\cyrldsc	13615	\cyr	13376
\cyrghk	13511	\CYRLJE	13239	\CYRSH	13303
\CYRGUP	13501	\cyr	13404	\cyrsh	13368
\cyr	13503	\CYRLYUS	13431	\CYRSHCH	13305
\CYRH	13297	\cyrlyus	13433	\cyrshch	13370
\cyr	13362	\CYRM	13279	\CYRSHHA	13589
\CYRHDSC	13573	\cyr	2410, 2414, 2440, 2441, 13344	\cyrshha	13591
\cyrhdsc	13575	\CYRMDSC	13625	\CYRT	13291
\CYRHHK	13713	\cyrmdsc	13627	\cyr	2410, 2413, 2419, 2421, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 13356
\cyrhk	13715	\CYRN	13281	\CYRTDSC	13561
\CYRHRDSN	13307	\cyr	2407, 2413, 2414, 2416, 2417, 2419, 2427, 2433, 2434, 13346	\cyrtdsc	13563
\cyrhrdsn	13372	\CYRNDSC	13539	\CYRTETSE	13577
\CYRI	13247, 13270, 13273, 13665, 13669	\cyrndsc	13541	\cyr	13579
\cyri	2407, 2410, 2414, 2420, 2425, 2427, 13335, 13338, 13412, 13667, 13671	\CYRNG	13543	\cyrthousands	13487
\CYRIE	13228	\cyrng	13545	\CYRTSHE	13243
\cyrie	13393	\CYRNHK	13617	\cyrtshe	13408
\CYRII	13232, 13235	\cyrnhk	13619	\CYRU	13250, 13293, 13689, 13693, 13697
\cyrii	13397, 13400	\CYRNJE	13241	\cyr	2417, 2419, 2433, 2434, 2437, 2441, 13358, 13691, 13695, 13699
\CYRIOTBYUS	13443	\cyrnje	13406	\CYRUK	13467
\cyr	13445	\CYRO	13283, 13673	\cyr	13469
\CYRIOTE	13427	\cyr	2410, 2413, 2416, 2417, 2427, 2436, 2437, 2439, 2440, 2441, 13348, 13675	\CYRUSHRT	13249
\cyriote	13429	\CYROMEGA	13419	\cyrushrt	13414
\CYRIOTLYUS	13435	\cyromega	13421	\CYRV	13258
\cyr	13437	\CYROMEGARND	13471	\cyr	2405, 2407, 13323
\CYRISHRT	13272	\cyromegarnd	13473	\CYRY	13565
\cyrishrt	13337	\CYROMEGATITLO	13475	\cyr	13567
\CYRISHRTDSC	13489	\cyr	13477		
\cyrishrtdsc	13491	\CYROT	13479		
\CYRIZH	13459, 13463	\cyrot	13481		
\cyrizh	13461, 13465	\CYROTLTD	13677, 13681		
\CYRJE	13237	\cyrotld	13679, 13683		
\cyrje	13402	\CYRP	13285		

\CYRYA	13317	11946, 11947, 11948, 11949, 11950, 11951	2796, 2797, 2798, 2818, 2825, 2832, 2833, 2836, 2839, 2842, 2845, 2848, 2851, 2854, 2877, 2880, 2883, 3728, 3816, 3872, 4174, 4179, 4191, 4228, 4231, 4234, 4237, 4240, 4243, 4246, 4250, 4253, 4256, 4259, 4262, 4265, 4268, 4271, 4274, 4277, 4280, 4283, 4286, 4289, 4292, 4310, 4316, 4330, 4346, 4352, 9106, 9108, 9111, 9113, 9115, 9124, 9132, 9139, 9141, 9143, 9145, 9147, 9149, 9158, 9168, 9170, 9172, 9173, 9179, 9188, 9190, 9192, 9194, 9196, 9198, 9200, 9202, 9204, 9206, 9208, 9210, 9212, 9214, 9216, 9218, 9219, 9220, 9221, 9222, 9223, 9224, 9225, 9226, 9227, 9228
\cyrYA	13382		
\CYRYAT	13423	\DefaultHeightofCheckBox 4412, 10313, 10786, 11141	\df@tag 6130, 6136
\cyrYAT	13425		\DH 12199, 12568
\CYRYHCRS	13569	\DefaultHeightofChoiceMenu .. 4414, 10153, 10604, 10941	\dh 12268, 12636
\cyrYHCRS	13571		\dhal 14361
\CYRYI	13234	\DefaultHeightofReset ... 4410, 10287, 10759, 11109	\dimen@ . 365, 366, 370, 1265, 1333, 1334, 1337, 1339, 2926, 2927, 2929, 2936, 2937, 8583, 8584, 8586, 9069, 9081, 9084
\cyrYI	13399	\DefaultHeightofSubmit .. 4408, 10269, 10736, 11085	\dimexpr .. 377, 1564, 1566, 1574, 1579, 1582, 1584, 1598, 1600, 1603, 1604, 1611, 1614, 1617, 1618, 1619, 1620, 1630, 1635, 1643, 1647, 1652, 1662, 1665, 1670, 1673, 1678, 1679
\CYRYO	13221	\DefaultHeightofText 4416, 10129, 10579, 10908	\DingObject 10681
\cyrYO	13386	\DefaultHeightofTextMultiline . 4417, 10127, 10577, 10906	\discretionary 507
\CYRYU	13315	\DefaultOptionsofCheckBox 4422, 10316, 10789, 11144	\divide 7185, 8617
\cyrYU	13380	\DefaultOptionsofComboBox 4425	\DJ ... 2477, 12200, 12700, 14219
\CYRZ 13268, 13518, 13657		\DefaultOptionsofListBox 4424	\dj 2474, 2475, 12702, 14212
\cyrz ... 2424, 2429, 2430, 13333, 13521, 13659		\DefaultOptionsofPopdownBox . 4426	\do 910, 1842, 1847, 1852, 2668, 2689, 2690, 2691, 2692, 2707, 2708, 2709, 2710, 2711, 2712, 2715, 2716, 2717, 2718, 2719, 2720, 2723, 2724, 2727, 2728, 2729, 2730, 2731, 2734, 2735, 2736, 2737, 2738, 2741, 2742, 2743, 2744, 2745, 2748, 2749, 2750, 2751, 2752, 2755, 2756, 2759, 2760, 2761, 2764, 2765, 2771, 2772, 2773, 2774, 2870, 2871, 2872, 2873, 2874, 2875, 3776, 5330, 5827, 5850, 10157, 10219, 10425, 10432, 10442, 10608, 10671, 10945, 11009, 11704
\CYRZDSC	13517	\DefaultOptionsofPushButton . 4421, 10243, 10708, 11052	\documentclass 2
\cyrzDSC	13520	\DefaultOptionsofRadio .. 4427	\dospecials 11709
\CYRZH 13266, 13605, 13653		\DefaultOptionsofReset .. 4420, 10290, 10762, 11112	\dots 413
\cyrzh .. 2407, 2427, 13331, 13607, 13655		\DefaultOptionsofSubmit . 4419, 10272, 10739, 11088	
\CYRZHDSC	13513	\DefaultOptionsofText ... 4423, 10135, 10585, 10914	
\cyrzhdsc	13515	\DefaultWidthofCheckBox . 4413, 10312, 10785, 11140	
		\DefaultWidthofChoiceMenu 4415, 10152, 10603, 10940	
D		\DefaultWidthofReset 4411, 10286, 10758, 11108	
\d 2465, 2469, 2471, 2472, 2473, 2474, 2475, 2477, 11951, 11963, 11975, 12362, 12388, 12407, 14225, 14230, 14235, 14240, 14245, 14250, 14255, 14260, 14265, 14270, 14275, 14280, 14285, 14290, 14295, 14300, 14305, 14310, 14315, 14320, 14325, 14330, 14335, 14340		\DefaultWidthofSubmit ... 4409, 10268, 10735, 11084	
\dad	14367	\DefaultWidthofText 4418, 10124, 10574, 10903	
\dal	14360	\define@key .. 1825, 1827, 1870, 1885, 1888, 1891, 1895, 1899, 1903, 1907, 1911, 1915, 1919, 1922, 1925, 1942, 1954, 1956, 1959, 1962, 1979, 1983, 1986, 1989, 1992, 1995, 1998, 2030, 2087, 2107, 2108, 2122, 2125, 2128, 2131, 2134, 2142, 2145, 2148, 2151, 2155, 2183, 2199, 2204, 2207, 2210, 2213, 2217, 2220, 2227, 2256, 2272, 2275, 2501, 2532, 2540, 2548, 2555, 2558, 2573, 2576, 2579, 2583, 2611, 2616, 2620, 2623, 2630, 2642, 2650, 2653, 2656, 2658, 2661, 2670, 2680, 2687, 2694, 2695, 2767, 2776, 2779, 2780, 2781, 2782, 2783, 2789, 2795,	
\damma	14387		
\declare@shorthand 668, 669, 674, 675, 680, 690, 691, 692, 697, 698, 703, 704, 709, 714, 715, 720, 725, 726, 727, 728, 729, 730, 735, 736, 741, 742, 747, 748			
\DeclareFontEncoding ... 11939, 12332			
\DeclareFontFamily .. 628, 633, 2009			
\DeclareFontShape 629, 634, 2010			
\DeclareFontSubstitution . 630, 635, 2011			
\DeclareRobustCommand ... 3400, 3401, 3491, 3508, 3510, 3512, 3521, 4357, 4360, 4363, 4366, 4369, 4372, 4375, 6597, 6623, 6642			
\DeclareTextAccent 11940, 11941, 11942, 11943, 11944, 11945,			

\dp . 4402, 4405, 5530, 7512, 7580, 7609, 7639, 9070, 9073, 9627, 9887, 10889	\ext@figure 6321	\Fld@bordersep 4162, 4269
\dth@counter . . . 5370, 5371, 5396	\ext@table 6320	\Fld@borderstyle . . . 4164, 4266, 11273, 11303, 11380, 11413, 11445, 11480, 11532
\dth@everypar 5384	\extra@b@citeb 5834	\Fld@borderwidth . . . 4163, 4263, 4396, 4399, 4400, 4403, 4404, 10207, 10208, 10659, 10660, 10996, 10997, 11273, 11303, 11380, 11413, 11445, 11480, 11532
\dvipdfm@setdim . . 10886, 10928, 11020, 11041, 11073, 11099, 11128, 11155	\extrasvietnam 2541	\Fld@calculate@code 4297, 11335, 11337
E	\extrasvietnamese 2533	\Fld@cbsymbol . . 4165, 4281, 11287
\ECIRCUMFLEX 14220, 14304, 14305, 14306, 14307, 14308	F	\Fld@charsize . . 4155, 4156, 4260, 10206, 10658, 10995, 11289, 11401, 11429, 11466, 11514
\ecircumflex 14213, 14244, 14245, 14246, 14247, 14248	\fa 14373	\Fld@checkedfalse 4151
\EdefEscapeString 613	\FancyVerbLineautorefname 2292, 2310, 2328, 2346, 2364, 2382, 2400, 2435, 2438, 2458, 2476, 6758	\Fld@checkequals . . 4220, 10158, 10220, 10433, 10443, 10609, 10672, 10946, 11010
\EdefUnescapeString 610	\farsikaf 14394	\Fld@choices . . 4044, 4052, 4054, 4058, 4067, 4075, 4080, 4128, 4130, 4138, 4139, 11403
\egroup . . 506, 8242, 8816, 10372, 10464, 10489	\farsiya 14396	\Fld@color . . . 4159, 4293, 11290, 11402, 11430, 11467
\em 444	\fatha 14386	\Fld@default 4069, 4072, 4074, 4272, 10122, 10139, 10150, 10191, 10310, 10362, 10380, 10394, 10402, 10409, 10435, 10445, 10475, 10485, 10572, 10590, 10601, 10643, 10783, 10901, 10919, 10938, 10980, 11138, 11431, 11432, 11468
\emph 423	\fbox 10563, 10566	\Fld@disabledfalse 4152
\empty 892, 2586	\Field@addtoks 4216, 4238, 4241, 4331, 4354	\Fld@export 3881, 3884, 3891, 4183
\enc@html 4178, 4181	\Field@boolkey 3729, 3817, 4211, 4232, 4235	\Fld@findlength . . 10412, 10423
\enc@update 398	\Field@toks . . 4214, 4215, 4217, 10133, 10164, 10241, 10267, 10285, 10314, 10364, 10381, 10392, 10403, 10413, 10430, 10448, 10456, 10461, 10477, 10486, 10583, 10615, 10706, 10734, 10757, 10787, 10912, 10952, 11050, 11083, 11107, 11142	\Fld@flags 3950, 3952, 3963, 3965, 3979, 3981, 4011, 4013, 4036, 4038, 11271, 11301, 11378, 11411, 11443, 11478, 11512
\END . . . 991, 992, 1017, 1018, 1033, 1034, 1051, 1052, 1069, 1070, 1442, 1448, 1453, 1537, 1539, 7301, 7314, 7318, 7324, 7337, 7341, 7346, 7358, 7362	\Field@width 4154, 4248	\Fld@format@code . . 4295, 11327, 11329
\end 14403	\figureautorefname . 2282, 2300, 2318, 2336, 2354, 2372, 2390, 2420, 2448, 2466, 6748	\Fld@getmethodfalse 4202
\endeqnarray . . . 5276, 5294, 5301	\filename@area 3657	\Fld@getmethodtrue 4204
\endequation 5239, 5271	\filename@base 3657	\Fld@height . . 4257, 10125, 10142, 10153, 10209, 10224, 10234, 10269, 10287, 10313, 10322, 10575, 10594, 10604, 10661, 10686, 10699, 10736, 10759, 10786, 10797, 10904, 10921, 10941, 10998, 11008, 11035, 11085, 11109, 11141, 11149
\endForm 4168	\filename@ext . . 3654, 3655, 3657, 3658	\Fld@hiddenfalse 3839
\endinput . . 64, 2119, 2159, 2160, 2173, 2177, 2178, 2187, 2188, 2194, 2195, 3105, 3205, 6513, 8764, 9922, 11810	\filename@parse 3653	\Fld@hiddentrue 3840
\endlinechar 3422	\find@pdfink . . 6988, 7025, 7034	\Fld@invisiblefalse 3835
\endNoHyper 4526	\Fld@additionalactions 11322, 11365, 11369	
\EndPreamble 9925	\Fld@additionalactions . 11322, 11404, 11436, 11470	
\endsubeqnarray 5305, 5316	\Fld@align . . . 4158, 4275, 11272, 11379, 11444	
\eqnarray 5275, 5277, 5298	\Fld@annotflags 3936, 3938, 11268, 11298, 11375, 11408, 11440, 11475, 11509	
\equal 5908	\Fld@bcolor . . 4160, 4287, 11283, 11285, 11395, 11397, 11423, 11425, 11448, 11460, 11462	
\equation . . 5238, 5247, 5251, 5260	\fld@bcolor 11383	
\equationautorefname 2279, 2297, 2315, 2333, 2351, 2369, 2387, 2405, 2406, 2445, 2463, 6741, 6745	\Fld@bordercolor . . . 4161, 4290, 11279, 11281, 11305, 11313, 11315, 11382, 11391, 11393, 11419, 11421, 11447, 11456, 11458, 11482, 11490, 11492, 11516, 11524, 11526	
\errmessage 2498		
\es@roman 466		
\escapechar . . 383, 5323, 11727, 11728, 11777		
\eTeX 419, 9930		
\etex@unexpanded . . . 1197, 1204		
\eTeXversion . . . 7144, 7146, 7148		
\evensidemargin 5998		
\everypar 5407		
\ExecuteOptions 2941, 2942, 2946		

\Fld@invisibletrue	3836	10642, 10643, 10902, 10919,	\gaf	14395
\Fld@keystroke@code	4298, 11323, 11325	10939, 10979, 10980, 11469	\Gauge	4369
\Fld@listcount	10218, 10221, 10230, 10670, 10673, 10687, 10693, 11007, 11011, 11015, 11019, 11027, 11032	\Fld@width	\GenericError	513
\Fld@loc	4229	4247, 10124, 10138, 10142, 10152, 10189, 10200, 10202, 10224, 10234, 10255, 10268, 10276, 10286, 10300, 10312, 10319, 10322, 10574, 10589, 10594, 10603, 10641, 10652, 10654, 10686, 10699, 10721, 10735, 10743, 10758, 10772, 10785, 10793, 10797, 10903, 10918, 10921, 10940, 10978, 10989, 10991, 11008, 11035, 11066, 11084, 11092, 11108, 11122, 11140, 11148, 11149	\GenericInfo	515
\Fld@maxlen	4157, 4251, 11471	\float@caption	\GenericWarning	514
\Fld@menulength	4153, 4254, 10155, 10159, 10206, 10424, 10425, 10428, 10606, 10610, 10658, 10943, 10947, 10995	\float@makebox	\getpagerefnumber	5203
\Fld@name	4244, 10121, 10149, 10239, 10309, 10361, 10366, 10377, 10378, 10389, 10390, 10399, 10400, 10408, 10429, 10446, 10454, 10459, 10474, 10483, 10571, 10600, 10704, 10782, 10900, 10937, 11048, 11137, 11262, 11264, 11269, 11299, 11376, 11409, 11441, 11476, 11510	\floatingpenalty	\getrefbykeydefault	5173, 5174
\Fld@norotatefalse	3852	\flq	\gexmode	8638, 8639, 8723
\Fld@norotatetrue	3851	\fmtname	\ghayn	14371
\Fld@noviewfalse	3855	\fmtversion	\Gin@setfile	6205, 6206
\Fld@noviewtrue	3856	\fontencoding	\glossary	480
\Fld@nozoomfalse	3848	\fontfamily	\glq	469
\Fld@nozoomtrue	3847	\fontseries	\glqq	467
\Fld@onblur@code	4300, 11343, 11345	\fontshape	\greek@Alph	5075
\Fld@onclick	4353, 11319	\fontsize	\Greeknumeral	756
\Fld@onenter@code	4303, 11355, 11357	\fontstretch	\greeknumeral	755
\Fld@onexit@code	4304, 11359, 11361	\fontweight	\grq	470
\Fld@onfocus@code	4299, 11339, 11341	\fontwidth	\grqq	468
\Fld@onmousedown@code	4301, 11347, 11349	\footins	\guill@spacing	685
\Fld@onmouseup@code	4302, 11351, 11353	\footnote	\guillemotleft	725, 12126, 12306, 12494, 14199
\Fld@printfalse	3844	\footnoteautorefname	\guillemotright	726, 12157, 12307, 12526, 14200
\Fld@printrtrue	3843	2280, 2298, 2316, 2334, 2352, 2370, 2388, 2409, 2412, 2446, 2464, 6742, 6746	\guilsinglleft	12057, 12308, 13905, 14201
\Fld@rotation	4166, 4284, 11275, 11277, 11304, 11309, 11311, 11381, 11387, 11389, 11415, 11417, 11446, 11452, 11454, 11481, 11486, 11488, 11515, 11520, 11522	\footnotesep	\guilsinglright	12059, 12309, 13907, 14202
\Fld@submitflags	3918, 3920, 11502	\footnotesize		
\Fld@validate@code	4296, 11331, 11333	\footnotetext	H	
\Fld@value	4070, 4077, 4079, 4278, 10123, 10139, 10151, 10190, 10191, 10573, 10590, 10602	\Form	\H	12353, 12385, 12404, 12418, 12833, 12835, 12897, 12899, 13697, 13699
		\Form@action	\h	2467, 14227, 14232, 14237, 14242, 14247, 14252, 14257, 14262, 14267, 14272, 14277, 14282, 14287, 14292, 14297, 14302, 14307, 14312, 14317, 14322, 14327, 14332, 14337, 14342
		\Form@boolkey	\H@@footnotemark	5415, 5432, 5552, 5564, 5575
		\Form@htmlfalse	\H@@footnotetext	5414, 5424, 5447, 5508, 5553, 5567, 5575
		\Form@htmltrue	\H@@mpfootnotetext	5422, 5434, 5436
		\Form@method	\H@definecounter	6111, 6113
		\frq	\H@endeqnarray	5276, 5295
		\frqq	\H@endequation	5239, 5271
		\futurelet	\H@endsubeqnarray	5305, 5317
		\FV@SetLineNo	\H@eqnarray	5275, 5280
		\FV@StepLineNo	\H@equation	5238, 5262
			\H@item	4988, 4994, 5744, 5769
		G	\H@newctr	6116, 6118
		\G	\H@old@part	11851, 11862
		12357, 12383, 12402, 12		

<code>\H@refstepcounter</code> .. 5003, 5013, 5104, 5213, 5261, 5376, 5611, 6334, 6387	<code>\hvtex@buffer</code> . 8503, 8506, 8514, 8517, 8526, 8530, 8546	<code>\Hy@ActiveCarriageReturn</code> 3453, 3456
<code>\H@seteqlabel</code> 6148, 6150	<code>\hvtex@gettoken</code> 8503, 8515, 8519, 8528, 8532	<code>\Hy@appendixstring</code> . 5056, 5063
<code>\H@subeqnarray</code> 5304, 5308	<code>\hvtex@gettoken@</code> ... 8503, 8504	<code>\Hy@author</code> 4623, 4627
<code>\ha</code> 14379	<code>\hvtex@par@dimension</code> 8499, 8538	<code>\Hy@babelnormalise</code> . 3522, 3524
<code>\Haa</code> 14358	<code>\hvtex@par@direction</code> 8500, 8541	<code>\Hy@backout</code> 3416, 4511, 4515, 5710
<code>\halign</code> 489	<code>\hvtex@par@duration</code> 8501, 8533	<code>\Hy@backreffalse</code> 288, 2247, 2266, 3113
<code>\hamza</code> 14346	<code>\hvtex@par@motion</code> .. 8502, 8535	<code>\Hy@backreftrue</code> 2240, 2244, 2263
<code>\HAR@checkcitations</code> 5924	<code>\hvtex@param@dimension</code> .. 8510, 8539, 8557, 8560	<code>\Hy@bibcite</code> 5733, 5737
<code>\HAR@citetoaux</code> 5880	<code>\hvtex@param@direction</code> .. 8511, 8542, 8568, 8576	<code>\Hy@bookmarksdepth</code> . 2582, 2587, 2599, 2605, 11549
<code>\HAR@tempa</code> 5925, 5926, 5927, 5928, 5929, 5930	<code>\hvtex@param@duration</code> ... 8512, 8534, 8581, 8583	<code>\Hy@bookmarksnumberedfalse</code> 289
<code>\harvardcite</code> 5874, 5911	<code>\hvtex@param@motion</code> 8513, 8536, 8557, 8564	<code>\Hy@bookmarksopenfalse</code> ... 290
<code>\harvarditem</code> 5899	<code>\hvtex@parse@trans</code> . 8488, 8508	<code>\Hy@bookmarkstrue</code> 291
<code>\hbox</code> 1257, 1263, 1269, 1750, 2597, 2603, 4248, 4390, 4391, 4392, 4393, 5864, 5993, 7513, 7520, 7581, 7592, 7610, 7621, 7640, 7651, 7908, 8785, 9073, 9084, 9628, 9635, 9888, 9896, 10501, 10920, 11008, 11035, 11064, 11093, 11123, 11149	<code>\hvtex@produce@trans</code> 8547, 8553	<code>\Hy@bookmarkstype</code> .. 2617, 2619, 6047, 11560
<code>\hc@currentHref</code> 5627	<code>\hvtex@token</code> .. 8505, 8516, 8522, 8529, 8534, 8537, 8540, 8542	<code>\Hy@boolkey</code> .. 1796, 1886, 1889, 1892, 1920, 1923, 1926, 1957, 1960, 1963, 1980, 1984, 1987, 1990, 1993, 1996, 1999, 2218, 2221, 2273, 2556, 2559, 2574, 2577, 2580, 2621, 2624, 2662, 2777, 2834, 2837, 2840, 2843, 2846, 2849, 2852, 2860, 2881, 2884
<code>\HCode</code> 10353, 10355, 10366, 10375, 10387, 10395, 10397, 10428, 10434, 10439, 10444, 10458, 10463, 10467, 10470, 10479	<code>\hvtex@trans@code</code> .. 8492, 8493, 8494, 8495, 8496, 8497, 8498, 8509, 8555, 8556, 8558, 8560, 8562, 8564, 8566, 8568, 8570, 8571, 8572, 8573, 8574, 8576	<code>\Hy@BorderArrayPatch</code> 9119, 9122, 9361, 9778
<code>\headerps@out</code> . 4898, 9352, 9363, 9423, 9437, 9490, 9499, 9512, 9525, 9563, 9666, 9780, 9937	<code>\hvtex@trans@effect@Blinds</code> .. 8492	<code>\Hy@breaklinks@unsupported</code> .. 1968, 8751
<code>\hfill</code> ... 4390, 4391, 4392, 4393, 5755, 5788	<code>\hvtex@trans@effect@Box</code> . 8493	<code>\Hy@breaklinksfalse</code> 292
<code>\Hfootnoteautorefname</code> ... 6742	<code>\hvtex@trans@effect@Dissolve</code> . 8494	<code>\Hy@breaklinksunhbox</code> 9060, 9076
<code>\hhyperref</code> 3710	<code>\hvtex@trans@effect@Glitter</code> . 8495	<code>\Hy@CatcodeWrapper</code> . 3292, 3351, 3395, 3408
<code>\hoffset</code> 5994	<code>\hvtex@trans@effect@R</code> ... 8498	<code>\Hy@centerwindowfalse</code> 293
<code>\href</code> . 481, 3491, 3704, 3705, 4551	<code>\hvtex@trans@effect@Split</code> 8496	<code>\Hy@chapapp</code> .. 5057, 5063, 5070, 11825, 11836, 11910
<code>\href@</code> 3492, 3495, 3500	<code>\hvtex@trans@effect@Wipe</code> 8497	<code>\Hy@chapterstring</code> .. 5052, 5054, 5057, 5069
<code>\href@split</code> 3500, 3501	<code>\hvtex@trans@par</code> ... 8529, 8533, 8535, 8538, 8541	<code>\Hy@CheckOptionValue</code> 1837, 1874
<code>\hsize</code> 5532	<code>\hvtex@trans@params</code> 8523, 8525, 8549	<code>\Hy@CJKbookmarksfalse</code> 294
<code>\hskip</code> ... 1268, 1346, 1786, 1787, 4396, 10501	<code>\Hy@@boolkey</code> 1796, 1797	<code>\Hy@cjkpu</code> 903, 905, 924
<code>\hspace</code> 477, 5914, 5915	<code>\Hy@@DefNameKey</code> 1867, 1869	<code>\Hy@colorlink</code> . 3355, 3363, 3367, 6932, 7010, 7065, 7101, 7136, 7445, 7468, 7489, 7517, 7526, 7552, 7566, 7587, 7599, 7617, 7629, 7647, 7659, 7921, 7976, 8007, 8029, 8050, 8311, 8331, 8388, 8407, 8434, 8461, 8477, 8787, 9044, 9046, 9583, 9604, 9632, 9641, 9844, 9864, 9893, 9901
<code>\hss</code> 6002	<code>\Hy@@escapeform</code> .. 11223, 11236, 11241	<code>\Hy@ColorList</code> 2667, 2668
<code>\ht</code> . 4398, 4401, 7518, 7584, 7590, 7596, 7613, 7619, 7625, 7643, 7649, 7655, 9069, 9633, 9894, 10887	<code>\Hy@@temp</code> . 2627, 2629, 4306, 4308	<code>\Hy@CounterExists</code> .. 4953, 4966, 4969
<code>\htmladdimg</code> 3703	<code>\Hy@abspace</code> 4709, 4774, 4884, 4923	
<code>\htmladdnormallink</code> 3704	<code>\Hy@Acrobatmenu</code> 2983, 3024, 7424, 8033, 8465, 9232	
<code>\htmladdnormallinkfoot</code> .. 3705	<code>\Hy@activeanchorfalse</code> ... 3420, 7018, 7470, 7484, 7553, 7562, 7838, 8228, 8244, 8312, 8324, 8779, 9585, 9599, 9846, 9859	
<code>\htmlref</code> 3706	<code>\Hy@activeanchortrue</code> 7017, 7467, 7480, 7551, 7559, 7834, 8224, 8241, 8310, 8321, 8769, 9582, 9595, 9843, 9855	
<code>\Huge</code> 446		
<code>\huge</code> 450		
<code>\Hurl</code> 3507, 3509, 3511		
<code>\hv@pdf@char</code> 11635, 11698, 11699, 11700, 11701		

\Hy@currentbookmarklevel	11555, 11565, 11566, 11572, 11579, 11613, 11616, 11621, 11625	7930, 7979, 8007, 8029, 8050, 8311, 8371, 8388, 8407, 8434, 8461, 8477, 8813, 9053, 9583, 9618, 9636, 9643, 9844, 9878, 9893, 9901	\Hy@hyperfootnotesttrue ... 298
\Hy@defaultdriver	.. 3190, 3214, 3220		\Hy@hyperindextrue 299
\Hy@DefFormAction	.. 4175, 4177	\Hy@EndWrap 3293, 3295, 3296, 3329	\Hy@hypertexnamesfalse .. 1688
\Hy@DefNameKey	1866, 2688, 2706, 2714, 2722, 2726, 2733, 2740, 2747, 2754, 2758, 2763, 2770, 2869	\Hy@escapeform ... 10141, 10223, 10233, 10258, 10277, 10301, 10321, 10592, 10676, 10697, 10724, 10745, 10773, 10795, 10925, 11014, 11037, 11070, 11095, 11124, 11152, 11217, 11246, 11253	\Hy@implicittrue 301
\Hy@DEST	..... 9061, 9086		\Hy@Info .. 239, 1812, 3064, 3066, 3069, 3071, 3074, 3076, 3079, 3081, 3084, 3086, 3276, 3282, 3360, 3365, 3369, 3783, 4429, 4431, 4434, 4436, 4439, 4441, 4444, 4446, 4449, 4451, 4454, 4456, 4459, 4461, 5811, 5872, 6052
\Hy@DestName	..... 6978, 6982		\Hy@LastPage 2997
\Hy@DisableOption	.. 1823, 2976, 2977, 2978, 2980, 3094, 3120, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3261, 3291, 3344, 3372, 3373, 3418, 3419, 4472, 4473, 4474, 4475, 4476, 4477, 4478, 4479, 4480, 4481, 4482, 4483, 4484, 4485, 4486, 4487, 4488, 4489, 4490, 4491, 4492, 4493, 4494, 4495, 4647, 4842, 5579, 6210, 6266, 6267, 6858, 6959, 7288, 7289, 7290, 7291, 7292, 7293, 7294, 7295, 7421, 7685, 7686, 7687, 7688, 7689, 7690, 7691, 7692, 7948, 8085, 8086, 8087, 8088, 8089, 8090, 8091, 8092, 8160, 8296, 8705, 8706, 8707, 8708, 8709, 8710, 8711, 8712, 8936, 8937, 8938, 8939, 8940, 8941, 8942, 8943, 9416, 9690, 9691, 9692, 9693, 9694, 9695, 9696, 9697	\Hy@escapeformfalse 295	\Hy@level .. 11561, 11563, 11574, 11579, 11580, 11581, 11605
\Hy@displaydoctitlefalse	. 322	\Hy@escapestring . 11214, 11287, 11319, 11325, 11329, 11333, 11337, 11341, 11345, 11349, 11353, 11357, 11361, 11468, 11469, 11500	\Hy@levelcheck ... 11562, 11577
\Hy@DistillerDestFix	5972, 8716, 8718	\Hy@EveryPageAnchor 5971, 6009	\Hy@linkcounter 329, 331, 5095, 5096, 5177, 5178, 6125, 6126, 6151, 6376, 6377, 6381, 6427, 6428, 6432, 11539, 11540, 11824, 11825, 11835, 11836, 11867, 11868, 11876, 11877, 11909, 11910
\Hy@draftfalse	..... 254	\Hy@EveryPageBoxHook 4673, 4677, 4681, 6008, 8607, 8871	\Hy@linkfileprefix . 2652, 3642, 3663, 7506, 8195, 9621, 9881
\Hy@drafttrue	..... 255	\Hy@EveryPageHook .. 4672, 4676, 4840, 7365	\Hy@linktoc .. 1928, 1930, 1938, 1940, 1950, 6083
\Hy@driver	327, 1973, 2112, 2123, 2126, 2129, 2132, 2143, 2146, 2149, 2152, 2163, 2166, 2191, 2200, 2205, 2208, 2214, 3123, 3126, 3130, 3133, 3137, 3140, 3142, 3146, 3150, 3154, 3157, 3161, 3165, 3169, 3172, 3176, 3179, 3181, 3185, 3189, 3192, 3195, 3198, 3209, 3212, 3214, 3220, 3222, 3227, 3229, 3231	\Hy@ExchangeLeftParenthesis . 6792, 6798	\Hy@linktoc@all 1936
\Hy@dviopdfmxOutlineOpenture	..... 3240	\Hy@ExchangeRightParenthesis . 6802, 6808	\Hy@linktoc@none 1933
\Hy@endcolorlink	... 3359, 3364, 3368, 6941, 7015, 7468, 7503, 7521, 7528, 7552, 7574, 7588, 7600, 7617, 7629, 7647, 7659,	\Hy@false . 1732, 1804, 2232, 2265	\Hy@linktoc@page ... 1928, 1935, 1938
		\Hy@figuresfalse 296	\Hy@linktoc@section 1930, 1934, 1940
		\Hy@finalfalse 255	\Hy@linktocpagefalse 302
		\Hy@finaltrue 254	\Hy@LT@currentHlabel 5215, 5226
		\Hy@FirstPage 2994	\Hy@LT@currentHref . 5216, 5227
		\Hy@FirstPageHook .. 4674, 4687, 4689, 4896, 4897, 9362, 9436, 9498, 9779, 9936	\Hy@LT@footnotetext 5497, 5507
		\Hy@fitwindowfalse 297	\Hy@make@anchor 6124, 6131, 6137
		\Hy@float@caption .. 5617, 5658, 5660	\Hy@make@df@tag@@ .. 6129, 6144
		\Hy@float@currentHref ... 5661, 5663, 5665, 5673, 5675, 5676	\Hy@make@df@tag@@@ . 6135, 6145
		\Hy@footnote@currentHlabel .. 5454, 5468, 5500, 5542	\Hy@maketitle@end .. 5556, 5561, 5563
		\Hy@footnote@currentHlabel 4467, 5438, 5441, 5449, 5452, 5455, 5469, 5472, 5499, 5540, 5543	\Hy@maketitle@optarg 5554, 5559
		\Hy@Gin@setfile 6205, 6207	\Hy@MaybeStopNow ... 2154, 2159, 2177, 2187, 2194, 2947
		\Hy@GlobalStepCount 325, 4774, 5095, 5177, 5986, 6125, 6376, 6427, 11539, 11824, 11835, 11867, 11876, 11909	\Hy@menubartrue 303
		\Hy@gtemp .. 624, 625, 4074, 4075, 4079, 4080, 4091, 4105, 6816, 6818, 11262, 11264	\Hy@naturalnamesfalse 304
		\Hy@href 3492, 3494	\Hy@nestingfalse 305
		\Hy@hyperfootnotesfalse . 5411	\Hy@newline@author 4666
			\Hy@newline@title 4665
			\Hy@newwindowfalse 307
			\Hy@newwindowsetfalse 306, 2857
			\Hy@newwindowsettrue 2859
			\Hy@next 4790, 4800, 4805, 11834, 11844, 11847
			\Hy@nextfalse 3026, 6214

\Hy@NextPage	2988		
\Hy@nexttrue	3027, 3028, 3029, 6215, 6216	8448, 8450, 9296, 9312, 9321, 9337, 9340	\Hy@saved@footnotetext
\Hy@number	2810, 2814, 2822		5568
\Hy@numberline	11556, 11593, 11594, 11595	\Hy@pstringName	4651, 4661
\Hy@ocgcolor	6935, 6949, 7924, 7938	11737, 11738, 11753, 11767	\Hy@SaveLastskip
\Hy@ocgcolorlinksfalse	3339	\Hy@pstringP	1754, 6976, 7460, 7474, 7546, 7557, 7776, 8217, 8232, 8304, 8316, 8753, 8766, 9576, 9589, 9837, 9850
\Hy@org@chapter	11832, 11848	7108, 7131, 8442, 8450, 9322, 9340	\Hy@scanauthor
\Hy@OutlineName	11738, 11791	\Hy@pstringURI	4621, 4626
\Hy@pageanchortrue	308	7040, 7061, 8011, 8025, 8330, 8340, 8393, 8397, 9278, 9288	\Hy@scanoptauthor
\Hy@pagecounter	330, 332, 5135, 5986, 5987	\Hy@PutCatalog	4621, 4622
\Hy@pageheight	1897, 1901, 1905, 1909, 1913, 1917, 2937, 9438, 9526	4836, 4844, 4912	\Hy@scanopttitle
\Hy@pagelabelsfalse	4696	\Hy@raisedlink	4612, 4613
\Hy@pagelabelstrue	309	1739, 5045, 5180, 5186, 5187, 5188, 5191, 5228, 5268, 5271, 5398, 5440, 5451, 5512, 5539, 5651, 5721, 5745, 5750, 5770, 6127, 6152, 9350, 9421, 9662, 9822, 11541, 11826, 11837, 11869, 11881, 11911	\Hy@scantitle
\Hy@param	5068, 5069, 5070, 5092, 5096	\Hy@raiselinksfalse	4612, 4617
\Hy@PatchLanguageShorthands	3035, 3054	313, 5873	\Hy@secnum@part
\Hy@pdfafalse	323	\Hy@RemoveDurPageAttr	11854, 11856, 11859
\Hy@pdfencoding@pdfdoc	2069	7324, 7337	\Hy@seminarslidesfalse
\Hy@pdfmarkererrorfalse	9024	\Hy@RemoveHidPageAttr	6326
\Hy@pdfmarkererrortrue	9152, 9161	7346, 7358	\Hy@seminarslidestrue
\Hy@pdfminorversion	6825, 6831, 6834, 6842, 6847, 6849, 6852, 6856	\Hy@RemovePercentCr	6324
\Hy@pdfpagehiddenfalse	310	3469, 3473, 3478	\Hy@setbreaklinks
\Hy@pdfstringdef	623, 4049, 4057	\Hy@RemoveTransPageAttr	1965, 1969, 1981, 6824, 7772
\Hy@pdfstringfalse	311, 4497	7300, 7314	\Hy@SetCatcodes
\Hy@pdfstringtrue	493, 4469	\Hy@reserved@a	181, 231, 2945
\Hy@pdfversion	2095, 2106, 4051, 6847, 6849, 6853, 6856, 11257	3578, 5278, 5307, 10360, 10410, 10473	\Hy@SetNewWindow
\Hy@plainpagesfalse	312	\Hy@RestoreCatcodes	2863, 7092, 7128, 8003, 8449, 9311, 9336
\Hy@PrevPage	2991	205, 2943, 3233	\Hy@setouterhbox
\Hy@ps@OCR	9480, 9487, 9492, 9493, 9510, 9530, 9531, 9532, 9538, 9545, 9552, 9559	\Hy@RestoreLastskip	9059, 9065
\Hy@pstringB	7212, 7217, 8123, 8135, 8997, 9013, 9751, 9767	1754, 6979, 7471, 7485, 7554, 7563, 7825, 8229, 8245, 8313, 8325, 8762, 8780, 9586, 9600, 9847, 9860	\Hy@setpagesizetrue
\Hy@pstringD	7072, 7096, 7987, 8002, 9297, 9313	\Hy@ReturnAfterElseFi	314
\Hy@pstringdef	6762, 6977, 6994, 7040, 7071, 7072, 7107, 7108, 7212, 7778, 7956, 7986, 7987, 8011, 8123, 8330, 8393, 8441, 8442, 8997, 9150, 9159, 9278, 9296, 9297, 9321, 9322, 9751, 11239, 11737, 11753	333, 3457	\Hy@setpdfborder
\Hy@pstringDest	6977, 6978, 7778, 7823, 9150, 9151, 9155, 9159, 9160, 9164	\Hy@ReturnAfterElseFiFiEnd	2696, 7000, 7045, 7076, 7112, 7427, 7965, 7994, 8018, 8043, 8343, 8360, 8381, 8400, 8427, 8454, 8470
\Hy@pstringF	7071, 7090, 7107, 7126, 7131, 7986, 8001, 8441,	1231	\Hy@setpdfversiontrue
		\Hy@ReturnAfterFi	2094
		333, 353, 1409, 3461, 3477, 6278, 6314, 6797, 6807, 11240	\Hy@setref@link
		\Hy@ReturnAfterFiFiEnd	6524, 6527
		1223, 1237, 1315, 1322	\Hy@slidetitle
		\Hy@ReturnEnd	6353, 6355, 6362, 6370, 6380, 6404, 6406, 6413, 6421, 6431
		335, 336, 337, 1243, 1327	\Hy@StartlinkName
		\Hy@safe@activesfalse	6998, 7012
		338, 3385, 3390, 3592, 6658	\Hy@StepCount
		\Hy@safe@activestrue	324, 4751, 10159, 10221, 10425, 10610, 10673, 10947, 11011, 11617, 11622, 11683
		338, 3383, 3388, 3449, 3486, 3526, 3584, 6568, 6647	\Hy@temp
		\Hy@saved@currentHlabel	520, 527, 2626, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2668, 2669, 2670, 2673, 2675, 2678, 2855, 2856, 3015, 3019, 3020, 3021, 3022, 3128, 3130, 3135, 3137, 3140, 3152, 3154, 3159, 3161, 3167, 3169, 3174, 3176, 3179, 3221, 3222, 3773, 3777, 3778, 3789, 3873, 3874, 3875, 3877, 3881, 4192, 4193, 4194, 4196, 4200, 4201, 4305, 4321, 4322, 4323, 4324, 4325, 4326, 4327, 4328, 4329, 4334, 4335, 4336, 4337, 4338, 4339, 4340, 4341, 4342, 4343, 4344, 4731, 4734, 4743, 4745, 4749, 4753, 4797, 4799, 5129, 5132, 5135, 5141, 5241, 5247, 6275, 6276, 7227, 7256, 7258, 7702, 7707, 7713, 7717, 7720, 7725, 7756, 7758,
		5465, 5470	
		\Hy@saved@currentHref	
		5466, 5471	
		\Hy@saved@footnotemark	
		5550, 5565	

8095, 8138, 8140, 8907, 8910,
 8914, 8915, 8921, 8922, 8928,
 8946, 8951, 8957, 8961, 8964,
 8969, 9002, 9004, 9116, 9117,
 9125, 9126, 9700, 9705, 9711,
 9715, 9718, 9723, 9756, 9758,
 11222, 11223, 11735, 11741,
 11749, 11764
 \Hy@temp@A . 551, 552, 1215, 1217,
 1228, 1230, 1235, 1236, 1239,
 6227, 6228, 6229, 6246, 6247,
 6248
 \Hy@temp@B 1216, 1217
 \Hy@tempa 1798, 1799, 1800, 1802,
 1804, 1806, 1809, 1812, 1813,
 2228, 2229, 2230, 2232, 2233,
 2235, 2236, 2238, 2242, 2246,
 2257, 2258, 2259, 2261, 2265,
 3455, 3456, 3467, 3471, 3527,
 3531, 3583, 3586, 3595, 3597,
 4180, 4181, 4780, 4782, 4820,
 4822, 4923, 4925, 5325, 5327,
 5328, 5331, 5332, 5333, 5612,
 5617, 5622, 6046, 6047, 6064,
 6065, 6068, 6340, 6341, 6392,
 6393, 7490, 7491, 8198, 8337,
 8338, 9605, 9606, 9865, 9866,
 11559, 11560, 11583, 11585,
 11601, 11606, 11899, 11925,
 11930, 11933, 11936
 \Hy@tempb 4781, 4782, 4821, 4822,
 11584, 11585, 11606
 \Hy@tempcolor . 8795, 8797, 8810,
 8882, 8884, 8892
 \Hy@TempPageAnchor . 5976, 5983,
 5987, 6001
 \Hy@testname . . 6990, 6991, 6992,
 6994, 6995, 7009, 7952, 7953,
 7954, 7956, 7957, 7972, 8351,
 8352, 8353, 8357, 8418, 8419,
 8420, 8424, 8887, 8888, 8889,
 8900
 \Hy@texhtfalse 315
 \Hy@texhttrue 2109, 3124
 \Hy@title 4614, 4618
 \Hy@toclevel . . 6057, 6061, 6070
 \Hy@toolbartrue 316
 \Hy@true . 1731, 1800, 1802, 2259,
 2261
 \Hy@typexmlfalse 317
 \Hy@undefinedname . . 6987, 6992,
 7950, 7954, 8328, 8353, 8420,
 8879, 8889
 \Hy@unicodfalse 318, 615, 2025,
 2026, 2034, 2785, 2791, 5131,
 5980, 11259
 \Hy@unicodetrue 2026
 \Hy@useHidKeyfalse 2660
 \Hy@useHidKeytrue 2664
 \Hy@useMaketitleInfos . . 4667,
 7268, 7667, 8063, 8695, 8906,
 9672
 \Hy@useMaketitleString . . 4648,
 4668, 4669
 \Hy@useNameKey 1879, 7234, 7235,
 7236, 7237, 7238, 7239, 7240,
 7241, 7260, 7732, 7733, 7734,
 7735, 7736, 7737, 7738, 7739,
 7760, 8102, 8103, 8104, 8105,
 8106, 8107, 8108, 8109, 8142,
 8668, 8669, 8670, 8671, 8672,
 8673, 8674, 8675, 8976, 8977,
 8978, 8979, 8980, 8981, 8982,
 8983, 9006, 9730, 9731, 9732,
 9733, 9734, 9735, 9736, 9737,
 9760
 \Hy@usetitlefalse 319
 \Hy@varioref@undefined . . 5197,
 5201, 6653
 \Hy@verbosefalse 320
 \Hy@vt@PutCatalog . . 4867, 4869
 \Hy@VTeXversion 4847, 4859, 8377,
 8481, 8615, 11637
 \Hy@Warning 237, 360, 1155, 1817,
 1832, 1857, 1944, 2053, 2058,
 2565, 2595, 3335, 3598, 3830,
 6038, 6634, 6683, 7809, 7813,
 9153, 9162, 11568, 11586
 \Hy@WarningNoLine . . 238, 1971,
 2079, 2646, 2684, 2930, 2974,
 3132, 3141, 3156, 3171, 3180,
 3673, 4595, 4697, 4861, 4937,
 5116, 6048, 6197, 9032
 \Hy@WarningPageBorderColor . .
 2681, 2683, 2685
 \Hy@WarningPageColor 2643, 2645,
 2647
 \Hy@WarnOptionDisabled . . 1829,
 1831
 \Hy@WarnOptionValue 1810, 1816,
 2249, 2268
 \Hy@windowuitrue 321
 \Hy@writebookmark . . 1736, 6058,
 6360, 6368, 6378, 6411, 6419,
 6429, 11545, 11628
 \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 4287, 4290
 \HyColor@FieldColor 4293
 \HyColor@HyperrefBorderColor .
 2671
 \HyColor@HyperrefColor . . 2631
 \HyColor@UseColor . . 3357, 6938,
 6949, 7927, 7938
 \HyField@PDFChoices 4069, 4070,
 4085
 \HyField@SetFlag . . 3763, 3765
 \HyField@UseFlag . . 3753, 3755
 \HyField@AddToFields . . 10506,
 10513, 10595, 10688, 10701,
 10728, 10753, 10777, 10799
 \HyField@AdvanceAnnotCount . .
 10893, 10923, 11016, 11038,
 11067, 11096, 11125, 11150
 \HyField@afields . 10503, 10514,
 10515, 10517, 10535
 \HyField@AnnotCount . . . 10891,
 10894, 10897
 \HyField@FlagsAnnot 3923, 3942,
 3956, 3969, 3985, 4017
 \HyField@FlagsCheckBox . . 3955,
 10318, 10792, 11147
 \HyField@FlagsChoice . . . 4016,
 10199, 10651, 10988

\HyField@FlagsPushButton [3941](#),
[10254](#), [10274](#), [10299](#), [10720](#),
[10741](#), [10771](#), [11065](#), [11090](#),
[11121](#)
\HyField@FlagsRadioButton [3968](#),
[10195](#), [10647](#), [10984](#)
\HyField@FlagsSubmit [3889](#),
[10275](#), [10742](#), [11091](#)
\HyField@FlagsText [3984](#), [10137](#),
[10588](#), [10917](#)
\HyField@NewBitsetFlag .. [3721](#),
[3724](#), [3732](#)
\HyField@NewFlag ... [3719](#), [3795](#),
[3796](#), [3797](#), [3798](#), [3799](#), [3800](#),
[3801](#), [3802](#), [3803](#), [3804](#), [3805](#),
[3806](#), [3807](#), [3808](#), [3809](#), [3810](#),
[3811](#), [3812](#), [3813](#), [3814](#), [3819](#),
[3820](#), [3821](#), [3822](#), [3823](#), [3824](#),
[3825](#), [3826](#), [3827](#), [3860](#), [3862](#),
[3863](#), [3865](#), [3866](#), [3868](#), [3869](#),
[3870](#), [3871](#)
\HyField@NewFlagOnly [3723](#), [3861](#),
[3864](#), [3867](#)
\HyField@NewOption . [3720](#), [3726](#)
\HyField@PDFAFlagWarning [3829](#),
[3837](#), [3841](#), [3845](#), [3849](#), [3853](#),
[3857](#)
\HyField@PDFChoices [4042](#), [10232](#),
[10695](#), [11034](#)
\HyField@PrintFlags [3770](#), [3916](#),
[3934](#), [3948](#), [3961](#), [3977](#), [4009](#),
[4034](#)
\HyField@SetFlag ... [3762](#), [3902](#),
[3908](#), [3913](#), [3947](#), [3975](#)
\HyField@SetKeys .. [4146](#), [10134](#),
[10166](#), [10169](#), [10188](#), [10242](#),
[10271](#), [10289](#), [10315](#), [10584](#),
[10617](#), [10620](#), [10639](#), [10707](#),
[10738](#), [10761](#), [10788](#), [10913](#),
[10954](#), [10957](#), [10976](#), [11051](#),
[11087](#), [11111](#), [11143](#)
\HyField@TheAnnotCount . [10896](#),
[10927](#), [10932](#), [11019](#), [11028](#),
[11040](#), [11045](#), [11072](#), [11078](#),
[11098](#), [11103](#), [11127](#), [11132](#),
[11154](#), [11159](#)
\HyField@UseFlag ... [3752](#), [3893](#),
[3894](#), [3895](#), [3896](#), [3897](#), [3898](#),
[3899](#), [3900](#), [3903](#), [3904](#), [3905](#),
[3906](#), [3909](#), [3910](#), [3911](#), [3914](#),
[3925](#), [3926](#), [3927](#), [3928](#), [3929](#),
[3930](#), [3931](#), [3932](#), [3933](#), [3944](#),
[3945](#), [3946](#), [3958](#), [3959](#), [3960](#),
[3971](#), [3972](#), [3973](#), [3974](#), [3976](#),
[3987](#), [3988](#), [3989](#), [3990](#), [3991](#),
[3992](#), [3993](#), [3994](#), [4005](#), [4008](#),
[4019](#), [4020](#), [4021](#), [4022](#), [4024](#),
[4026](#), [4027](#), [4030](#), [4033](#)
\HyInd@hyperpage .. [6273](#), [6283](#)
\HyInd@wrindex [6222](#), [6223](#)
\HyInd@EncapChar ... [2276](#), [2939](#),
[6218](#)
\HyInd@hyperpage ... [6270](#), [6272](#),
[6279](#)
\HyInd@org@wrindex . [6221](#), [6225](#),
[6231](#), [6233](#)
\HyInd@pagelink [6288](#), [6294](#), [6296](#),
[6299](#)
\HyInd@ParenLeft ... [6212](#), [6228](#),
[6247](#)
\HyInd@ParenRight .. [6213](#), [6229](#),
[6248](#)
\HyInd@removespaces [6302](#), [6305](#),
[6315](#)
\HyLang@addto . [2480](#), [2502](#), [2533](#),
[2541](#)
\HyLang@afrikaans [2278](#)
\HyLang@DeclareLang [2494](#), [2509](#),
[2510](#), [2511](#), [2512](#), [2513](#), [2514](#),
[2515](#), [2516](#), [2517](#), [2518](#), [2519](#),
[2520](#), [2521](#), [2522](#), [2523](#), [2524](#),
[2525](#), [2526](#), [2527](#), [2528](#), [2529](#),
[2530](#), [2531](#)
\HyLang@english [2296](#)
\HyLang@french [2314](#)
\HyLang@german [2332](#)
\HyLang@italian [2350](#)
\HyLang@magyar [2368](#)
\HyLang@portuges [2386](#)
\HyLang@russian [2404](#)
\HyLang@spanish [2444](#)
\HyLang@vietnamese . [2462](#), [2533](#),
[2541](#)
\HyOrg@addtoreset .. [6155](#), [6157](#),
[6184](#)
\HyOrg@appendix [5058](#), [5064](#)
\HyOrg@author .. [4611](#), [4624](#), [4628](#)
\HyOrg@float@makebox [5669](#), [5671](#)
\HyOrg@languageshorthands [3044](#),
[3051](#), [3057](#)
\HyOrg@make@df@tag@@ [6142](#)
\HyOrg@make@df@tag@@@ ... [6143](#)
\HyOrg@maketitle ... [5548](#), [5555](#),
[5560](#)
\HyOrg@subequations [5342](#), [5349](#)
\HyOrg@title ... [4610](#), [4615](#), [4619](#)
\HyOrg@url [3506](#)
\hyper@@anchor [2958](#), [3516](#), [3518](#),
[3544](#), [3546](#), [3573](#), [3575](#), [3670](#),
[4501](#), [4516](#), [4531](#), [5438](#), [5441](#),
[5449](#), [5452](#), [5510](#), [5513](#), [5540](#),
[5649](#), [5651](#), [5675](#), [5976](#), [5983](#),
[5987](#), [6359](#), [6367](#), [6377](#), [6410](#),
[6418](#), [6428](#)
\hyper@@link .. [3489](#), [3502](#), [3539](#),
[3558](#), [3560](#), [3578](#), [5729](#), [5875](#),
[5876](#), [5877](#), [5925](#), [5927](#), [5929](#),
[6529](#), [6544](#), [6643](#)
\hyper@@normalise .. [3458](#), [3462](#),
[3466](#)
\hyper@anchor . [3697](#), [4570](#), [7016](#),
[7459](#), [7545](#), [7830](#), [8231](#), [8303](#),
[8752](#), [9575](#), [9836](#)
\hyper@anchorend
..... [2961](#), [4496](#), [4505](#),
[4519](#), [4534](#), [5046](#), [5181](#), [5229](#),
[5271](#), [5290](#), [5314](#), [5399](#), [5723](#),
[5748](#), [5751](#), [5771](#), [5904](#), [6127](#),
[6152](#), [7018](#), [7482](#), [7561](#), [7837](#),
[8226](#), [8323](#), [8771](#), [9597](#), [9857](#),
[11541](#), [11629](#), [11827](#), [11838](#),
[11870](#), [11882](#), [11912](#)
\hyper@anchorstart
..... [2960](#), [4496](#), [4504](#),
[4518](#), [4533](#), [5046](#), [5181](#), [5229](#),
[5268](#), [5290](#), [5314](#), [5399](#), [5721](#),
[5746](#), [5751](#), [5771](#), [5904](#), [6127](#),
[6152](#), [7017](#), [7473](#), [7556](#), [7833](#),
[8216](#), [8315](#), [8765](#), [9588](#), [9849](#),
[11541](#), [11629](#), [11827](#), [11838](#),
[11870](#), [11882](#), [11912](#)
\hyper@chars .. [3483](#), [7041](#), [7463](#),
[7476](#), [7495](#), [7514](#), [7524](#), [7537](#),
[7605](#), [7635](#), [8184](#), [8204](#), [8219](#),
[8235](#), [8307](#), [8318](#), [8394](#), [9279](#),
[9591](#), [9610](#), [9629](#), [9639](#), [9652](#),
[9852](#), [9870](#), [9890](#), [9899](#), [9911](#)
\hyper@currentanchor [8768](#), [8777](#),
[8789](#), [8806](#)
\hyper@currentlinktype .. [8790](#),
[8794](#), [8798](#)
\hyper@hash .. [3437](#), [3438](#), [3484](#),
[3634](#), [3646](#), [3663](#), [3666](#), [4463](#),
[8178](#)
\hyper@image .. [3512](#), [3513](#), [7535](#),
[8437](#), [8876](#), [9650](#), [9909](#)
\hyper@last [4586](#), [4590](#)
\hyper@link .. [2959](#), [3587](#), [4502](#),
[4503](#), [4517](#), [4527](#), [4532](#), [7028](#),
[7532](#), [7576](#), [7982](#), [8175](#), [8411](#),
[8880](#), [9647](#), [9906](#)
\hyper@link@ .. [2966](#), [3579](#), [3581](#),
[4500](#), [4510](#), [4514](#), [4524](#), [4539](#)
\hyper@linkend [2963](#), [4507](#), [4521](#),
[4536](#), [5474](#), [5715](#), [5718](#), [6087](#),
[6091](#), [6095](#), [6097](#), [7027](#), [7501](#),
[7573](#), [7978](#), [7983](#), [8209](#), [8369](#),
[8792](#), [9616](#), [9876](#)
\hyper@linkfile [2965](#), [3659](#), [4509](#),
[4523](#), [4538](#), [7069](#), [7505](#), [7633](#),
[7985](#), [8194](#), [8373](#), [9294](#), [9620](#),

9880

\hyper@linkstart ... 2962, 4506, 4520, 4535, 5472, 5711, 5718, 6087, 6091, 6095, 6097, 7019, 7488, 7565, 7951, 7983, 8197, 8329, 8782, 9603, 9863

\hyper@linkurl 2964, 3511, 3634, 3641, 3662, 3666, 4508, 4522, 4537, 7038, 7506, 7508, 7533, 7603, 8010, 8182, 8195, 8391, 8438, 8877, 9276, 9621, 9623, 9648, 9881, 9883, 9907

\hyper@livelink 4502, 4527

\hyper@makecurrent . 5042, 5066, 5214, 5267, 5289, 5313, 5377, 5467, 5629, 5662

\hyper@n@rmalise ... 3450, 3454

\hyper@nat@current 5712

\hyper@nat@anchorend 5723

\hyper@nat@anchorstart ... 5720

\hyper@nat@linkbreak 5717

\hyper@nat@linkend 5714

\hyper@nat@linkstart 5709

\hyper@normalise ... 2941, 2946, 3429, 3492, 3495, 3508, 3510, 3512, 3533, 4175

\hyper@pageduration 7321, 7367, 8592, 8609, 8843, 8873

\hyper@pagehidden .. 7344, 7368, 8602, 8610, 8860, 8874

\hyper@pagetransition ... 7297, 7366, 8483, 8608, 8826, 8872

\hyper@quote .. 4465, 7465, 7478, 7492, 7497, 7515, 7525, 7538, 8178, 8188, 8200, 8222, 8239, 9580, 9593, 9607, 9612, 9630, 9640, 9653, 9841, 9853, 9867, 9872, 9890, 9900, 9912

\hyper@readexternallink . 3589, 3605

\hyper@refstepcounter ... 5021, 5024, 5031

\hyper@tilde .. 3444, 3445, 3446, 4464

\hyperbaseurl .. 2649, 2650, 4550

\hypercalcbp 340, 340

\hypercalcbpdef . 342, 379, 2829

\hyperdef 3541, 4552

\HyperDestNameFilter 2910, 6977, 6995, 7465, 7478, 7497, 7533, 7778, 7957, 8178, 8188, 8205, 8222, 8239, 8308, 8319, 8356, 8423, 9150, 9159, 9580, 9593, 9612, 9648, 9841, 9853, 9872, 9907, 11692, 11737, 11753

\hypergetpageref 5174

\hypergetref 5173

\hyperimage ... 3512, 3703, 6207

\hyperlink 3488, 4553, 6311, 6449, 6457, 6472, 6480, 6490, 6498, 6505

\hyperlinkfileprefix 2652, 2653, 2654, 9828

\hyperpage 4559, 6269

\HyperRaiseLinkDefault .. 1738, 1747

\HyperRaiseLinkHook 1737, 1748

\HyperRaiseLinkLength ... 1746, 1747, 1750

\hyperref 3521, 3710, 3711, 4555, 6601, 6605, 6615, 6629

\hypersetup .. 2046, 2518, 2940, 2942, 4549

\hypertarget 3514, 4554

\HyPL@@@CheckThePage 4801, 4819

\HyPL@@CheckThePage 4777, 4779

\HyPL@Alph 4717

\HyPL@alph 4718

\HyPL@arabic 4714

\HyPL@CheckThePage . 4729, 4776

\HyPL@Entry 4925, 4933, 4941, 4943

\HyPL@EveryPage 4719, 4840

\HyPL@Format .. 4792, 4793, 4794, 4795, 4796, 4808

\HyPL@found .. 4791, 4798, 4802, 4809, 4819, 4821

\HyPL@Labels .. 4708, 4831, 4832, 4834, 4836, 4881, 4882, 4936, 4944, 4945

\HyPL@LastNumber ... 4712, 4747, 4770

\HyPL@LastPrefix ... 4713, 4741, 4772

\HyPL@LastType . 4711, 4732, 4771

\HyPL@page 4722, 4724, 4729, 4737

\HyPL@Prefix .. 4737, 4739, 4741, 4755, 4758, 4760, 4772, 4786, 4824

\HyPL@Roman 4715

\HyPL@roman 4716

\HyPL@SetPageLabels 4830, 4888, 4890, 4939

\HyPL@StorePageLabel 4755, 4757, 4827, 4879, 4920

\HyPL@thisLabel 4705, 4707, 4721, 4724, 4725

\HyPL@Type 4727, 4732, 4736, 4754, 4762, 4771, 4785, 4823

\HyPL@Useless 4828, 4834

\HyPsd@@@autoref ... 1072, 1074, 1077

\HyPsd@@@nameref ... 1054, 1056, 1059

\HyPsd@@@pageref ... 1036, 1038, 1041

\HyPsd@@@ref ... 1020, 1022, 1025

\HyPsd@@@UTFviii@four ... 1613, 1616

\HyPsd@@AppendItalcorr .. 1245

\HyPsd@@autoref 1069, 1070

\HyPsd@@autorefname 1090, 1093

\HyPsd@@ConvertToUnicode 1539

\HyPsd@@GetNextTwoTokens 1537

\HyPsd@@GlyphProcessWarning . 1415, 1418

\HyPsd@@GreekNum . 771, 780, 879, 883, 887

\HyPsd@@hspace 991, 992

\HyPsd@@LetCommand . 1114, 1135

\HyPsd@@nameref 1051, 1052

\HyPsd@@pageref 1033, 1034

\HyPsd@@ProtectSpacesFi . 1167, 1171, 1189, 1195, 1200

\HyPsd@@ref 1017, 1018

\HyPsd@@RemoveBraces 1213

\HyPsd@@RemoveBracesFi .. 1210, 1213

\HyPsd@@RemoveCmdPrefix . 1372, 1375

\HyPsd@@ReplaceFi .. 1442, 1448, 1453

\HyPsd@@UTFviii@four 1597, 1602

\HyPsd@add@accent 401, 980

\HyPsd@AfterCountRemove . 1258, 1329

\HyPsd@AfterDimenRemove . 1264, 1332

\HyPsd@AfterSkipRemove .. 1270, 1344

\HyPsd@AMSclassfix . 476, 1001, 1003

\HyPsd@AppendItalcorr ... 1229, 1236, 1245

\HyPsd@autoref 486, 1069

\HyPsd@autorefname . 1081, 1087

\HyPsd@babel@danish 667

\HyPsd@babel@dutch 673

\HyPsd@babel@finnish 679

\HyPsd@babel@frenchb 684

\HyPsd@babel@german 689

\HyPsd@babel@macedonian .. 696

\HyPsd@babel@ngerman 702

\HyPsd@babel@portuges 708

\HyPsd@babel@russian 713

\HyPsd@babel@slovene 719

\HyPsd@babel@spanish 724

\HyPsd@babel@swedish 734

\HyPsd@babel@ukrainian ... 740

\HyPsd@babel@usorbian 746

\HyPsd@CatcodeWarning ... 1274,
1291, 1294, 1297, 1300, 1356
\HyPsd@CheckCatcodes . 538, 1251
\HyPsd@CJKActiveChars . 907, 920
\HyPsd@CJKhook 491, 889
\HyPsd@ConvertToUnicode . . 606,
1487
\HyPsd@DecimalToOctal . 899, 928
\HyPsd@DefCommand 521, 522, 523,
524, 1103
\HyPsd@DisableCommands 654, 656
\HyPsd@DoConvert . . . 1489, 1499
\HyPsd@DoEscape 1513
\HyPsd@doxspace 578, 1460
\HyPsd@empty . . 563, 565, 569, 570,
572, 580, 587
\HyPsd@End . 538, 542, 1168, 1171,
1174, 1177, 1180, 1193, 1203,
1210, 1213, 1251, 1259, 1265,
1271, 1316, 1323, 1329, 1332,
1344
\HyPsd@endWithElse . . . 970, 979
\HyPsd@fi . 1185, 1191, 1195, 1201
\HyPsd@GetNextTwoTokens . 1537
\HyPsd@GetOneBye 1532
\HyPsd@GetTwoBytes 1528
\HyPsd@GLYPHERR 543, 967, 981, 988
\HyPsd@GlyphProcess 545, 1403,
1416
\HyPsd@GlyphProcessWarning . .
. 1410, 1414
\HyPsd@GobbleFiFi 972, 978
\HyPsd@GreekNum . . 760, 763, 765
\HyPsd@Greeknumeral . . 756, 762
\HyPsd@greeknumeral . . 755, 759
\HyPsd@GreekNumI . 783, 809, 852,
878
\HyPsd@GreekNumII 787, 831, 875,
882
\HyPsd@GreekNumIII 790, 854, 886
\HyPsd@GreekNumIV 799, 877
\HyPsd@GreekNumV 802, 881
\HyPsd@GreekNumVI 804, 885
\HyPsd@GreekPatch 462, 752, 754
\HyPsd@hspace 477, 991
\HyPsd@hspacetest 994, 996, 999
\HyPsd@ifnextchar . . . 508, 1140
\HyPsd@InitUnicode 631
\HyPsd@inmathwarn 400, 964
\HyPsd@ITALCORR . . 500, 504, 988
\HyPsd@LetCommand 525, 526, 1103
\HyPsd@LetUnexpandableSpace .
. 495, 496, 497, 498, 984, 987
\HyPsd@LoadStringEnc 2050, 2070,
2072, 2076, 2078
\HyPsd@LoadUnicode . 2005, 2007,
2012, 2015, 2017, 2024
\HyPsd@nameref 485, 1051
\HyPsd@new@ifnextchar 509, 1144
\HyPsd@pageref 484, 1033
\HyPsd@pdfencoding . 607, 2001,
2003, 2033, 2045, 2048, 2049,
2054, 2069
\HyPsd@pdfencoding@auto . . 607,
2039, 2049, 2066
\HyPsd@pdfencoding@pdfdoc 2032,
2054, 2067
\HyPsd@pdfencoding@unicode . .
. 2036, 2068
\HyPsd@protected@testopt . 510,
511, 1148
\HyPsd@ProtectSpaces 531, 1165,
1186, 1235
\HyPsd@ref 483, 1017
\HyPsd@RemoveBraces 533, 1207,
1224, 1232, 1238
\HyPsd@RemoveCmdPrefix . . 1365,
1371
\HyPsd@RemoveMask . . 541, 1174,
1180, 1193, 1203
\HyPsd@RemoveSpaceWarning 1339,
1351, 1377
\HyPsd@ReplaceSpaceWarning . .
. 1334, 1346, 1390
\HyPsd@Rest . . 1252, 1312, 1320,
1323, 1330, 1335, 1341, 1347,
1353
\HyPsd@SPACEOPTI . 535, 550, 551,
553, 555, 557, 558, 597, 599,
1287, 1471
\HyPsd@spaceopti 599, 1434
\HyPsd@String 532,
534, 537, 539, 544, 546, 1218,
1219, 1229, 1281, 1282, 1286,
1287, 1302, 1303, 1333, 1345,
1404, 1405
\HyPsd@StringSubst 547, 549, 555,
561, 564, 567, 570, 589, 592,
594, 1457
\HyPsd@Subst . . 543, 552, 556, 562,
568, 572, 576, 581, 582, 583,
584, 585, 586, 590, 593, 1441,
1458
\HyPsd@temp . . 610, 611, 613, 614,
2031, 2032, 2033, 2036, 2039,
2045, 2057, 2061
\HyPsd@tocsection . . 1004, 1005,
1006, 1007, 1008, 1009, 1010,
1012
\HyPsd@UnexpandableSpace . 987,
1176, 1200, 1335, 1347
\HyPsd@unichar 1555, 1622, 1628,
1633
\HyPsd@unichar@first@byte 1641,
1661
\HyPsd@unichar@octtwo . . . 1663,
1671, 1677
\HyPsd@unichar@second@byte . .
. 1649, 1669
\HyPsd@UnicodeReplacementCharacter
. 1625, 1660
\HyPsd@UTFviii . . 392, 1543, 1548
\HyPsd@UTFviii@three . . . 1578,
1587
\HyPsd@UTFviii@two 1563, 1569
\HyPsd@UTFviii@ccxliv@def 1553,
1559
\HyPsd@UTFviii@ccxliv@undef .
. 1552, 1558
\HyPsd@UTFviii@four 1551, 1596
\HyPsd@UTFviii@three 1550, 1577
\HyPsd@UTFviii@two . 1549, 1562
\HyPsd@Warning 1152, 1357, 1378,
1391, 1420, 1426
\HyPsd@XSPACE 502, 577, 988
\HyPsd@xspace 575, 577, 578
\HyRef@@StarSetRef . 6572, 6577
\HyRef@autopageref . 6626, 6628
\HyRef@autopagerefname . . 6625,
6629, 6631
\HyRef@autoref 6643, 6645
\HyRef@autosetref . . 6648, 6651
\HyRef@CaseStar 6711, 6717
\HyRef@currentHtag . 6664, 6682,
6685, 6691, 6697, 6703, 6718
\HyRef@MakeUppercaseFirstOfFive
. 6592, 6594
\HyRef@name . . 6680, 6681, 6686,
6692, 6710, 6711, 6712, 6714
\HyRef@Ref 6598, 6600
\HyRef@ShowKeysInit 6720, 6733,
6737
\HyRef@ShowKeysRef . 6652, 6719
\HyRef@StarSetRef . . 6566, 6584,
6587, 6592
\HyRef@StripStar . . . 6679, 6709
\HyRef@testreftype . 6657, 6676
\HyRef@thisref 6654, 6657
\HyTmp@found . . . 4096, 4106, 4109
\HyTmp@key 4090, 4091
\HyTmp@optitem 4046, 4062, 4089,
4094, 4100, 4121, 4132
\HyTmp@optlist 4045, 4060, 4061,
4092, 4093, 4098, 4099, 4107,
4108, 4128, 4130, 4137, 4140

I
\i . . . 12094, 12257, 12260, 12263,
12266, 12463, 12625, 12628,
12631, 12634, 12751, 12756,

12761, 12766, 12770, 12937,
 12993
 \if . 1013, 1725, 4745, 4753, 5331,
 5332, 8555, 8558, 8562, 8566,
 8570, 8572, 8574, 11365
 \if@eqnstar 5273, 5281
 \if@files 1693, 3567,
 4563, 4599, 4921, 4931, 5123,
 5758, 5773, 5789, 5801, 5831,
 5854, 5881, 5886, 5905, 6240,
 11602, 11714, 11780
 \if@hyper@item 5006, 5019
 \if@inlabel 5388
 \if@Localurl 8166, 8210
 \if@mid@expandable 475
 \if@minipage 5637, 5700
 \if@nmbrlist 4993
 \if@nobreak 5404
 \if@skiphyperref . . . 5007, 5017
 \if@twocolumn 11914
 \if@twoside 11902
 \ifcase 816, 838,
 861, 929, 1591, 2036, 2592,
 3891, 3996, 4126, 4201, 6083,
 6228, 6247, 6464, 6653, 8628,
 11304, 11381, 11446, 11481,
 11515, 11641
 \ifcat . . . 1253, 1280, 1285, 1290,
 1293, 1296, 1299, 3681, 3683
 \ifdim 999,
 1333, 1337, 1345, 1349, 1757,
 1776, 2912, 2913, 2918, 2919,
 2927, 7381, 7385, 7390, 7394,
 7401, 7405, 7410, 7414, 8279,
 8282, 8286, 8289, 9070, 9081,
 10161, 10200, 10201, 10612,
 10652, 10653, 10949, 10989,
 10990
 \ifetex@unexpanded 1159
 \IfFileExists 4594, 9922
 \ifFld@checked 4149, 10480, 11292
 \ifFld@comb 3995
 \ifFld@combo . . 4023, 4028, 10175,
 10204, 10626, 10656, 10963,
 10993
 \ifFld@disabled . . . 4150, 10481
 \ifFld@edit 4029
 \ifFld@fileselect 3998
 \ifFld@hidden . . . 10138, 10189,
 10255, 10276, 10300, 10319,
 10379, 10391, 10401, 10484,
 10589, 10641, 10721, 10743,
 10772, 10793, 10918, 10978,
 11066, 11092, 11122, 11148
 \ifFld@multiline . . 3996, 10126,
 10386, 10576, 10905
 \ifFld@multiselect 4068
 \ifFld@password . . . 3997, 10367
 \ifFld@popdown . . . 3815, 10176,
 10627, 10964
 \ifFld@radio 10172, 10194, 10416,
 10623, 10646, 10960, 10983
 \ifFld@readonly . . 10388, 10398,
 10482
 \ifForm@html 4169
 \ifhmode . 1775, 1784, 5356, 5463,
 5475, 5599, 5601
 \ifHy@activeanchor . . 244, 3694
 \ifHy@backref . . 245, 3083, 3413,
 4443, 5882, 5918
 \ifHy@bookmarks 246, 3275
 \ifHy@bookmarksnumbered . . 247,
 6352, 6403, 11592
 \ifHy@bookmarksopen . . 248, 3265
 \ifHy@breaklinks 249, 1970, 8783,
 8814, 9064, 9075
 \ifHy@centerwindow . . 250, 7232,
 7730, 8100, 8666, 8974, 9728
 \ifHy@CJKbookmarks . . . 251, 490
 \ifHy@colorlinks 252, 3346, 4448,
 9562
 \ifHy@displaydoctitle 286, 7233,
 7731, 8101, 8667, 8975, 9729
 \ifHy@draft 253, 2957
 \ifHy@DvipdfmxOutlineOpen 3235,
 11755
 \ifHy@escapeform . . . 256, 11218,
 11247
 \ifHy@figures . . 257, 3063, 4428,
 6204
 \ifHy@fitwindow 258, 7231, 7729,
 8099, 8665, 8973, 9727
 \ifHy@frenchlinks . . . 259, 3362
 \ifHy@hyperfootnotes . 260, 5412
 \ifHy@hyperindex 261, 3073, 4438,
 6211
 \ifHy@hypertextnames 262, 5072,
 5127, 5974, 6357, 6408
 \ifHy@implicit . 263, 3095, 11808
 \ifHy@linktocpage . . 264, 1927,
 1937
 \ifHy@menubar . . 265, 7229, 7727,
 8097, 8663, 8971, 9725
 \ifHy@naturalnames . 266, 5085,
 6358, 6409
 \ifHy@nesting . . 267, 3068, 3515,
 3543, 3572, 3679, 4433, 5437,
 5448, 5509, 5648
 \ifHy@newwindow . 269, 2866, 8377
 \ifHy@newwindowset . . 268, 2864
 \ifHy@next 665, 3030, 6220
 \ifHy@ocgcolorlinks 270, 2564,
 3332, 3342, 4453, 6841, 6859,
 6934, 6942, 7840, 7923, 7931
 \ifHy@pageanchor 271, 5114, 5126,
 5141, 5973
 \ifHy@pagelabels 272, 4693, 4879,
 4919
 \ifHy@pdfa 287, 2981, 3334, 3622, 3828,
 4309, 4345, 4458, 6999, 7057,
 7088, 7124, 7439, 7964, 7993,
 8017, 8038, 8342, 8359, 8380,
 8399, 8426, 8453, 8469, 9174,
 10097, 10245, 10293, 10543,
 10711, 10765, 10877, 11055,
 11115, 11294, 11367, 11505
 \ifHy@pdfmarkerror . 9021, 9029
 \ifHy@pdfpagehidden 273, 2663,
 7347, 8604, 8866
 \ifHy@pdfstring . 274, 639, 5011
 \ifHy@plainpages 275, 3078, 5128,
 5975
 \ifHy@psize 276
 \ifHy@raiselinks 277, 7510, 7579,
 7608, 7638, 9625, 9885
 \ifHy@seminarslides 278
 \ifHy@setpagesize . . 279, 7371,
 8156, 8276, 9412
 \ifHy@setpdfversion 2086, 6846
 \ifHy@texht 280, 3374, 3406, 4496,
 6512
 \ifHy@toolbar . . 281, 7228, 7726,
 8096, 8662, 8970, 9724
 \ifHy@typexml . . 243, 3088, 3349,
 3393, 4564, 11717, 11783
 \ifHy@unicode . 282, 388, 548, 560,
 588, 596, 605, 766, 902, 1359,
 1380, 1393, 1422, 1428, 1623,
 2000, 2047, 11258
 \ifHy@useHidKey 2659, 7345, 8603,
 8861
 \ifHy@usetitle 283, 4609
 \ifHy@verbose . . 284, 3771, 6063,
 6973
 \ifHy>windowui . 285, 7230, 7728,
 8098, 8664, 8972, 9726
 \ifmeasuring@ 5030, 5043
 \ifnum 767, 770, 781,
 782, 786, 794, 798, 801, 811,
 833, 856, 1581, 1624, 1627,
 1639, 2162, 2165, 2190, 2593,
 2594, 3239, 3266, 4051, 4122,
 4133, 4728, 4747, 4763, 4859,
 6466, 6504, 6842, 6847, 7148,
 7155, 7161, 7169, 8377, 8481,
 8615, 8623, 8625, 8626, 8636,
 8639, 8721, 8723, 8823, 9426,
 10527, 10687, 11015, 11019,
 11027, 11257, 11275, 11304,
 11309, 11381, 11387, 11415,

11446, 11452, 11471, 11481,
 11486, 11515, 11520, 11549,
 11565, 11637, 11705, 11757,
 11841, 11859, 11875, 11880
 \ifodd 1605, 1610, 5995
 \ifpdf 3129, 3191
 \ifpdfstringunicode .. 393, 396
 \ifportrait 7380
 \ifthenelse 5908
 \iftrue .. 1166, 1188, 1452, 11843
 \ifvmode 1740, 1756, 1765
 \ifvoid 5222, 5231, 5392
 \ifvtexhtml 3168, 3197
 \ifvtexpdf 3208
 \ifvtexps 3211
 \ifxetex 3153, 3194
 \ignorespaces . 5195, 5351, 5545,
 5633, 5644, 5647, 5697, 5704,
 5766, 5781, 5797, 5806, 5916,
 6337, 6389
 \IJ 12090, 12772
 \ij 12299, 12774
 \immediate ... 4565, 4566, 4567,
 4569, 4601, 4872, 4924, 4932,
 5138, 5166, 5761, 5776, 5792,
 5802, 5832, 5855, 5881, 5911,
 6860, 6875, 6890, 8726, 9423,
 10497, 10533, 11691, 11716,
 11718, 11782, 11784
 \incr@eqnum 5242, 5255
 \index 479
 \indexentry ... 6243, 6251, 6255
 \input . 627, 632, 2008, 2536, 2544,
 2551, 3231, 9353, 9424, 9515,
 9667
 \InputIfFileExists 2944, 11710,
 11730, 11775, 11777
 \inputlineno ... 3686, 6066, 6974
 \insert 5525
 \interfootnotelinepenalty 5528
 \interlinepenalty 5528
 \item 4988, 4991, 5788, 5800, 5903
 \Itemautorefname 6743
 \itemautorefname ... 2281, 2299,
 2317, 2335, 2353, 2371, 2389,
 2418, 2419, 2447, 2465, 6743,
 6744, 6747
 \itemindent 5393
 \itshape 440

J

\j 12779, 12964, 13028
 \jarr 14385
 \jeem 14357
 \jeh 14393
 \jobname . 4566, 4594, 4601, 9922,
 11710, 11716, 11730, 11775,
 11777, 11782

K

\k ... 11976, 12316, 12318, 12323,
 12325, 12368, 12386, 12405,
 12412, 12676, 12678, 12716,
 12718, 12763, 12765, 12766,
 12901, 12903, 12960, 12962,
 13559, 13598, 13601
 \kaf 14375
 \kasra 14388
 \keepPDF@SetupDoc .. 9566, 9573
 \kern 1262, 1334, 1339, 1351, 5393,
 5990, 5991, 5992, 5994, 5995,
 6000
 \kha 14359
 \KV@Hyp@draft 1894
 \KV@Hyp@nolinks 1894
 \kv@key .. 4049, 4052, 4054, 4058,
 4062
 \kv@parse 4048
 \kv@value 4050, 4057, 4058

L

\L 12083, 12803
 \l 12096, 12805
 \l@slide . 6337, 6447, 6452, 6456,
 6463
 \l@subslide 6389, 6452, 6459, 6503
 \label 478, 6035
 \label@hyperref ... 3550, 3552
 \label@hyperdef ... 3541, 3564
 \label@hyperref 3522, 3549, 3707
 \labelsep 5915
 \labelwidth 5914
 \lam 14376
 \language@group 460
 \languageshorthands 3052, 3053,
 3056
 \LARGE 447
 \Large 448
 \large 451, 6469, 6477, 6487, 6495
 \lastbox 5391
 \lastpage@putlabel 5109
 \lastskip 1757, 1761, 1768, 1776,
 1780, 1787
 \LaTeX 417, 418, 9928, 9929
 \LaTeXe 418, 9929
 \LayoutCheckField . 4384, 10320,
 10794, 11151
 \LayoutChoiceField 4381, 10193,
 10645, 10982
 \LayoutPushButtonField .. 4387,
 10249, 10256, 10715, 10722,
 11059, 11068
 \LayoutTextField .. 4378, 10140,
 10591, 10924
 \lccode 912, 1546, 6218
 \ldots 412

\leavevmode 487,
 1735, 2967, 2984, 3024, 3627,
 4543, 5462, 5598, 5822, 6604,
 6612, 6989, 7042, 7073, 7109,
 7509, 7578, 7606, 7636, 7988,
 8012, 8176, 8185, 8236, 8374,
 8395, 8417, 8443, 8785, 9063,
 9280, 9298, 9323, 9624, 9884,
 10250, 10257, 10292, 10675,
 10696, 10716, 10723, 10744,
 10764, 11013, 11036, 11060,
 11069, 11094, 11114
 \limits 3475
 \listofslides 6438
 \listslidenam 6437, 6440, 6442,
 6444
 \literalps@out 1733, 8715, 8720,
 8767, 8772, 8788, 8793, 9039,
 9050, 9071, 9073, 9082, 9084,
 9351, 9422, 9485, 9665
 \lower ... 7513, 7581, 7610, 7640,
 9073, 9628, 9888
 \lowercase 913, 1547, 1798, 2228,
 2257, 3720, 3721, 3724, 3729,
 3753, 3763, 3817, 3873, 4192,
 4232, 4235, 6219, 8822
 \lslide@flag .. 6464, 6467, 6485,
 6504, 6508
 \LT@array 5208
 \LT@firsthead 5222, 5231
 \LT@p@ftn . 5481, 5484, 5488, 5502
 \LT@p@ftntext 5479, 5486
 \LT@start 5224, 5235
 \luatexrevision 7192
 \luatexversion 7184, 7189

M

\m@ne ... 3735, 5154, 5323, 11777,
 11841, 11856
 \make@df@tag@@ 6142, 6144
 \make@df@tag@@@ 6143, 6145
 \make@stripped@name 5035, 5264,
 5286, 5310, 5321
 \makeatletter 3, 653, 4593
 \MakeButtonField .. 4394, 10251,
 10259, 10278, 10297, 10302,
 10717, 10726, 10751, 10769,
 10775, 11061, 11064, 11093,
 11119, 11123
 \MakeCheckField ... 4391, 10322,
 10797, 11149
 \MakeChoiceField .. 4393, 10234,
 10699, 11035
 \MakeFieldObject . 10496, 10552,
 10562, 10565
 \MakeRadioField ... 4390, 10224,
 10686, 11008
 \makeslideheading 6347

`\makeslidesubheading` 6399
`\maketag@@@` 6131
`\MakeTextField` 4392, 10142, 10594, 10921
`\maketitle` 5548, 5549
`\MakeUppercase` . 6442, 6444, 6595
`\MathBSuppress` 8186, 8190
`\mathdisplay` 5245, 5254
`\mathdisplay@push` . . 5243, 5252
`\mathversion` 456
`\maxdimen` 2614, 10501
`\MaybeStopEarly` 328, 2113, 2167, 3099, 3199, 4952
`\mbox` . 488, 5835, 5858, 6944, 7933
`\mddefault` 5363
`\mdseries` 439
`\meaning` 62, 153, 159, 1696, 4633, 5092, 5328, 11741, 11749, 11764
`\measuring@false` 5030
`\mediaheight` . . 8272, 8274, 8280, 8287
`\mediawidth` 8283, 8290
`\meem` 14377
`\message` 6465
`\MessageBreak` 361, 1365, 1386, 1399, 1422, 1427, 1429, 1818, 1819, 1833, 1855, 1858, 1860, 1945, 1946, 1972, 1973, 2019, 2020, 2021, 2059, 2060, 2080, 2090, 2250, 2566, 2932, 3133, 3134, 3142, 3143, 3157, 3158, 3172, 3173, 3181, 3182, 3336, 3774, 3779, 3788, 3831, 3877, 4001, 4115, 4196, 4698, 5117, 6040, 6199, 10508, 10509, 11570, 11588
`\MF` 421, 9931
`\MP` 422, 9932
`\multiply` 7188, 8584, 8619

N
`\name@of@eq` 5004, 5033
`\name@of@slide` 5005, 5015
`\nameref` 485
`\nasb` 14383
`\netscape` 7544
`\new@ifnextchar` 1145
`\new@pdflink` . . . 6972, 7016, 7017
`\new@refstepcounter` 5237, 5269
`\newblock` 5919
`\newcommand` . 4, 9, 42, 1734, 4547, 4967, 4970, 4973, 4974, 4975, 4977, 4978, 4979, 4980, 4982, 4983, 4984, 4985, 4986, 4987, 4996, 4997, 4998, 4999, 5000, 5001, 5319, 6167, 6324, 6329, 6330, 11612, 11615, 11620
`\newcount` . . 329, 330, 4153, 4709, 10230, 10693, 10891, 11032, 11634
`\newcounter` 4989, 5413
`\newdimen` 326, 4154, 4155
`\newif` 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, 665, 2086, 2659, 3235, 3727, 3815, 4149, 4150, 4169, 5006, 5007, 5030, 5273, 8166, 9021
`\newlabel` 1699, 3569, 4576, 4577, 4584, 4606, 5139, 5167
`\newlabelxx` 4578, 4579
`\newline` 415, 4654
`\newname` . 5036, 5265, 5287, 5311, 5324, 5333
`\newsavebox` 7773, 9058
`\newtie` 11978, 12360, 12390, 12409, 12425
`\newtoks` 90, 4214, 8904, 9091, 9092
`\newwrite` . . . 4600, 11715, 11781
`\next` 5909, 5910, 5911, 8547, 8549, 8551
`\nfss@text` 6519, 6539, 6556, 6670
`\NG` 12821
`\ng` 12823
`\noboundary` 14398
`\nobreak` . 1758, 1766, 1777, 1785, 5463, 5599
`\nobreakspace` . . 498, 6607, 6636, 6639
`\noexpand` 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 663, 924, 1109, 1126, 1253, 1560, 1764, 1765, 1766, 1769, 1783, 1784, 1785, 1788, 2497, 2499, 2501, 2502, 2518, 2670, 2671, 2673, 3051, 3052, 3053, 3054, 3056, 3057, 3469, 3529, 3598, 3681, 3683, 3783, 4801, 4802, 4811, 4813, 4816, 4898, 5151, 5152, 5154, 5327, 5482, 5490, 5491, 5492, 5493, 5494, 5496, 5608, 5686, 5760, 5775, 5791, 6159, 6161, 6572, 6573, 6686, 6687, 6692, 6693, 6698, 6699, 6704, 6705, 7191, 7714, 8958, 9025, 9482, 9712, 10168, 10169, 10170, 10171, 10619, 10620, 10621, 10622, 10956, 10957, 10958, 10959, 11220
`\nofrenchguillemets` . . 516, 518
`\NoHyper` 4499
`\nohyperpage` . . 4542, 6268, 6270, 6272
`\nolinkurl` 3508
`\nolinkurl@` 3508, 3509
`\NomFancyVerbLineautorefname` 2436
`\Nomfootnoteautorefname` . 2416
`\Nomtheoremautorefname` . . 2440
`\nonumber` 5298, 5301
`\normalfont` 434, 5359
`\normalsize` 452, 5640, 5703
`\null` 5900, 5908, 6561, 6666
`\number` 784, 788, 791, 799, 802, 804, 1564, 1565, 1566, 1567, 1571, 1572, 1573, 1574, 1575, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1589, 1590, 1591, 1592, 1593, 1594, 1597, 1599, 1603, 1604, 1606, 1608, 1610, 1613, 1617, 1618, 1619, 1620, 1629, 1630, 1634, 1635, 1642, 1643, 1647, 1650, 1651, 1652, 1662, 1664, 1665, 1670, 1672, 1673, 1678, 1679, 2811, 3267, 3741, 6853, 6856, 7569, 7583, 7584, 7595, 7596, 7612, 7613, 7624, 7625, 7642, 7643, 7654, 7655
`\numberline` . . 5633, 5697, 11593, 11597
`\numberwithin` 6164
`\numexpr` . 1571, 1572, 1573, 1575, 1581, 1589, 1590, 1591, 1592, 1593, 1594, 1598, 1600, 1604, 1606, 1608, 1610, 1614, 1617, 1618, 1620, 1629, 1634, 1651, 1665, 1673, 1679, 2815
`\nun` 14378

O
`\O` 12216, 12584, 12979
`\o` 12284, 12652, 12981
`\obeylines` 9481
`\OBJ@acroform` 10549, 10550
`\OBJ@Helv` . . 10530, 10539, 10855
`\OBJ@OCG@print` 6889, 6892, 6900, 6926, 7857, 7859, 7872, 7876, 7885, 7914
`\OBJ@OCG@view` . 6874, 6892, 6925, 7841, 7843, 7856, 7876, 7913
`\OBJ@OCGs` 6895, 6898, 6904, 6909, 6914, 7873, 7875, 7879, 7883, 7889, 7894, 7899
`\OBJ@pdfdocencoding` . . . 10528, 10836, 10852

\OBJ@ZaDb .. 10529, 10538, 10845	\pageautorefname ... 2294, 2312, 2330, 2348, 2366, 2384, 2402, 2442, 2460, 2478, 6639, 6760	\pdf@type 9027, 9031, 9040, 9051, 9086, 9106
\OCIRUMFLEX 14221, 14319, 14320, 14321, 14322, 14323	\pagename 6636	\pdfannotlink 6963
\ocircumflex 14214, 14259, 14260, 14261, 14262, 14263	\pageref .. 484, 3109, 3401, 5117, 6625, 6629	\pdfbookmark .. 1734, 4546, 4547, 11613, 11618, 11623, 11627
\oddsidemargin 5996	\paperheight .. 2913, 2914, 2925, 7385, 7387, 7390, 7392, 7405, 7407, 8279, 8280, 8282	\pdfcatalog .. 4844, 6896, 7213, 7255, 10550
\OE 12085, 12837	\paperwidth .. 2912, 2914, 7381, 7383, 7394, 7396, 7401, 7403, 8283	\PDFdefaults 9102
\oe 12098, 12839	\par . 5357, 5632, 5655, 5695, 5704, 5902, 5922	\pdftest 6983
\offinterlineskip 4680	\paragraphautorefname ... 2290, 2308, 2326, 2344, 2362, 2380, 2398, 2431, 2433, 2456, 2474, 6756	\pdfendlink . 7015, 10594, 10686, 10700, 10727, 10752, 10776, 10798
\OHORN 14222, 14324, 14325, 14326, 14327, 14328	\partautorefname ... 2284, 2302, 2320, 2338, 2356, 2374, 2392, 2422, 2450, 2468, 6750	\pdfescapestring 11248
\ohorn .. 2463, 2470, 14215, 14264, 14265, 14266, 14267, 14268	\partnumberline .. 11594, 11598	\pdfform 6965
\oldcontentsline ... 4571, 4574, 4583	\PassOptionsToPackage ... 2202, 2239, 2243, 2262, 2951, 3224	\PDFForm@Check ... 10321, 10323, 10795, 10796, 11152, 11156, 11266
\oldnewlabel ... 4576, 4581, 4584	\pdf@addtoks .. 9094, 9113, 9119, 9128, 9135, 9139, 9141, 9143, 9145, 9147, 9155, 9164, 9168, 9170, 9172, 9175, 9184, 9188, 9190, 9192, 9194, 9196, 9198, 9200, 9202, 9204, 9206, 9208, 9210, 9212, 9214, 9216, 9218, 9219, 9220, 9221, 9222, 9223, 9224, 9225, 9226, 9227, 9228	\PDFForm@List 10233, 10235, 10697, 10698, 11037, 11042, 11373
\OMEGA 9927	\pdf@addtoksx .. 9088, 9098, 9111	\PDFForm@Name 10587, 10640, 10710, 10791, 10916, 10977, 11054, 11146, 11255
\openout 4566, 4601, 11716, 11782	\pdf@box . 9058, 9065, 9067, 9069, 9070, 9073, 9080	\PDFForm@Push 10258, 10260, 10724, 10725, 11070, 11074, 11294
\OpMode .. 2162, 2165, 2176, 2190, 2193, 8636, 8723, 9426	\pdf@defaulttoks ... 9025, 9092, 9093, 9103	\PDFForm@Radio ... 10223, 10226, 10676, 10678, 11014, 11022, 11406
\or 818, 819, 820, 821, 822, 823, 824, 825, 826, 840, 841, 842, 843, 844, 845, 846, 847, 848, 863, 864, 865, 866, 867, 868, 869, 870, 871, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 3901, 3907, 3912, 4127, 6085, 6089, 6484, 6493, 8629, 11642, 11643, 11644, 11645, 11646, 11647, 11648, 11649, 11650, 11651, 11652, 11653, 11654, 11655, 11656, 11657, 11658, 11659, 11660, 11661, 11662, 11663, 11664, 11665, 11666, 11667, 11668, 11669, 11670, 11671, 11672, 11673	\pdf@docset 8904	\PDFForm@Reset ... 10301, 10303, 10773, 10774, 11124, 11129, 11505
	\pdf@endanchor . 6981, 7016, 7018	\PDFForm@Submit .. 10277, 10280, 10745, 10747, 11095, 11100, 11473
	\pdf@escapestring 6816	\PDFForm@Text 10141, 10143, 10592, 10593, 10925, 10928, 11438
	\PDF@FinishDoc 2116, 2117, 2170, 2171, 2907, 2969, 3102, 3103, 3202, 3203, 4541, 4690, 4691, 7267, 7452, 7666, 8062, 8167, 8694, 8905, 9671, 9829	\pdfhorigin 7378
	\pdf@linktype . 9043, 9047, 9108, 9109	\pdfinfo 7269
	\pdf@rect 9035, 9049, 9062	\pdflastform 6966
	\PDF@SetupDoc . 2906, 2968, 4470, 4471, 4540, 7198, 7453, 7694, 8094, 8168, 8644, 8945, 9568, 9699, 9830	\pdflastlink 10520
	\PDF@SetupDox 7198	\pdflastobj .. 6874, 6889, 6895, 10549, 10836, 10845, 10855
	\pdf@toks 9025, 9040, 9051, 9091, 9095, 9099	\pdflastxform 6966, 10499, 10501
		\pdflinkmargin . 6961, 6964, 6969
		\pdfliteral ... 6945, 6947, 6952
		\pdfm@box ... 7773, 10887, 10888, 10889, 10920, 10931, 11008, 11026, 11035, 11044, 11064, 11077, 11093, 11102, 11123, 11131, 11149, 11158
		\pdfmark 4915, 7714, 7723, 7753, 8755, 8773, 8801, 8833, 8850, 8862, 8891, 8927, 8958, 8967, 8998, 9022, 9233, 9247, 9262, 9274, 9281,

P

\P 411	
\p@ 1630, 1635, 4156, 4162, 5365, 7519, 7591, 7620, 7650, 8583, 9634, 9895, 10163, 10614, 10951, 11907, 11908	
\p@equation 6138	
\PackageError 61, 2018, 3008, 3623, 3876, 4000, 4195, 4311, 4347, 10246, 10294, 10712, 10766, 11056, 11116	
\PackageInfo ... 239, 6837, 6851, 10507	
\PackageWarning . 237, 2089, 4113	
\PackageWarningNoLine 238	

<code>\shortciteN</code>	5950	<code>\subparagraphautorefname</code> 2291, 2309, 2327, 2345, 2363, 2381, 2399, 2432, 2434, 2457, 2475, 6757	<code>\textasciimacron</code> . 11949, 11961, 11973, 12133, 12384, 12403, 12501		
<code>\SK@</code>	6727	<code>\subpdfbookmark</code>	11615	<code>\textasciitilde</code> 409, 3446, 12039, 12472	
<code>\SK@ref</code>	6727	<code>\subsection</code>	9657	<code>\textasteriskcentered</code> . . 12449	
<code>\SK@ref</code>	6724	<code>\subsectionautorefname</code> . . 2288, 2306, 2324, 2342, 2360, 2378, 2396, 2429, 2454, 2472, 6754	<code>\textbackslash</code> . 404, 547, 12022, 12455		
<code>\skip@</code> . . . 1271, 1345, 1346, 1349, 1351, 1761, 1767, 1780, 1786		<code>\subsubsectionautorefname</code> 2289, 2307, 2325, 2343, 2361, 2379, 2397, 2430, 2455, 2473, 6755	<code>\textbaht</code>	13717	
<code>\slide@cline</code> . . 6457, 6470, 6478, 6488, 6496		<code>\sukun</code>	14390	<code>\textbar</code>	12035, 12468
<code>\Slide@contents</code>	6462	<code>\surd</code>	6479	<code>\textbardbl</code>	13879
<code>\slide@contents</code>	6455			<code>\textBeta</code>	819, 13081
<code>\slide@heading</code>	6333			<code>\textbeta</code> 819, 12315, 13144	
<code>\slide@subheading</code>	6386			<code>\textbf</code>	428
<code>\slide@undottedcline</code> 6448				<code>\textbigcircle</code> . . . 12391, 12410, 14179	
<code>\slidenumberline</code> . . 6449, 6457, 6471, 6479, 6489, 6497				<code>\textblank</code>	14027
<code>\SliTeX</code>	420			<code>\textbraceleft</code> 402, 12033, 12466	
<code>\slshape</code>	442			<code>\textbraceright</code> 403, 12037, 12470	
<code>\small</code>	454			<code>\textbrokenbar</code> . . . 12116, 12484	
<code>\smash</code>	1744			<code>\textbullet</code>	12041, 13897
<code>\spacefactor</code> . . 5463, 5475, 5599, 5601				<code>\textcdot</code>	12314, 14207
<code>\special@paper</code> 1896, 1900, 1904, 1908, 1912, 1916, 2909, 2914, 2920, 8155, 8157, 9411, 9413				<code>\textcedilla</code> 11948, 11960, 11972, 12151, 12381, 12400, 12520	
<code>\SpecialDvipdfmxOutlineOpen</code> 2137, 2139, 3239				<code>\textcelsius</code> 12301, 13989	
<code>\splitmaxdepth</code>	5530			<code>\textcent</code>	12108, 12476
<code>\splittopskip</code>	5529			<code>\textChi</code>	868, 13121
<code>\SS</code>	12300, 14194			<code>\textchi</code>	868, 13186
<code>\ss</code> . . . 2334, 12230, 12315, 12598				<code>\textcircled</code> 12372, 12391, 12410, 14031, 14033, 14035, 14037, 14039, 14041, 14043, 14045, 14047, 14049, 14051, 14053, 14055, 14057, 14059, 14061, 14063, 14065, 14067, 14069, 14071, 14073, 14075, 14077, 14079, 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	
<code>\st@rredfalse</code>	5244, 5253			<code>\textcircledP</code>	13993
<code>\stepcounter</code> . . 5020, 5152, 5344, 5464, 5573				<code>\textcircumflex</code>	11990
<code>\stockheight</code> . . 2919, 2920, 2925, 7414, 7416, 8286, 8287				<code>\textcolonmonetary</code> 13971	
<code>\stockwidth</code> . . 2918, 2920, 7410, 7412, 8289, 8290				<code>\textcolor</code> . . . 457, 10525, 10563, 10566, 10862	
<code>\stop@hyper</code>	4513			<code>\textcompwordmark</code>	13873
<code>\StringEncodingConvertTest</code> 611				<code>\textcopyright</code> . . . 12122, 12490	
<code>\strip@period</code>	1703			<code>\textCR</code>	11984, 12431
<code>\strip@prefix</code> 62, 1696, 4633, 5092, 5328, 11741, 11749, 11764				<code>\textcurrency</code> 12112, 12480	
<code>\strip@pt</code> 370, 377, 2937, 7383, 7387, 7392, 7396, 8586, 11289, 11401, 11429, 11466, 11514					
<code>\strip@pt@and@otherjunk</code> . 8772, 8793, 8825					
<code>\strutbox</code>	5530				
<code>\sub@label</code>	1690				
<code>\subeqnarray</code>	5304, 5306				
<code>\subequations</code>	5342, 5343				
<code>\subfig@oldlabel</code>	1692				
<code>\Submit</code>	4372				
<code>\SubmitObject</code>	10748				
<code>\SubmitPObject</code>	10748				

<code>\textdagger</code>	12043, 13893	<code>\textgreater</code>	12020, 12453	<code>\textNu</code>	844, 13103
<code>\textdaggerdbl</code> . . .	12045, 13895	<code>\textgrq</code>	470, 12305, 14198	<code>\textnu</code>	844, 13166
<code>\textdegree</code>	12135, 12301, 12503	<code>\textgrqq</code>	468, 12303, 14196	<code>\textnumbersign</code> . . .	405, 12004, 12435
<code>\textDelta</code>	821, 13085	<code>\textGslash</code>	12948	<code>\textnumeralsigngreek</code>	795, 13059
<code>\textdelta</code>	821, 13148	<code>\textgslash</code>	12950	<code>\textnumeralsignlowergreek</code> . . .	812, 834, 857, 13061
<code>\textDigammagreek</code>	13207	<code>\textguarani</code>	13987	<code>\textnumero</code>	13991
<code>\textdigammagreek</code>	13209	<code>\textHslash</code>	12744	<code>\textogonek</code>	11996, 12386, 12405, 13038
<code>\textdiscount</code>	13919	<code>\textHslash</code>	12746	<code>\textohm</code>	14001
<code>\textdiv</code>	12312, 14205	<code>\textHT</code>	11980, 12427	<code>\textOmega</code>	870, 13075, 13125
<code>\textdivide</code>	12282, 12312, 12650, 14205	<code>\texthungarumlaut</code>	11994, 12385, 12404, 13042, 13043	<code>\textomega</code>	870, 13190, 13201
<code>\textdivorced</code>	14185	<code>\textinterrobang</code>	13911	<code>\textOmicron</code>	846, 13071, 13107
<code>\textdollar</code>	406, 12006, 12437	<code>\textIota</code>	840, 13069, 13095, 13128	<code>\textomicron</code>	846, 13170, 13196
<code>\textdong</code>	13981	<code>\textiota</code>	840, 13138, 13158, 13192	<code>\textonehalf</code>	12161, 12530
<code>\textdotaccent</code> . . .	11947, 11959, 11971, 11992, 12380, 12399, 13034	<code>\textIotadieresis</code>	13077, 13127	<code>\textoneinferior</code>	13949
<code>\textdotbelow</code>	11951, 11963, 11975, 12016, 12388, 12407, 13053	<code>\textit</code>	430	<code>\textonequarter</code>	12159, 12528
<code>\textdoublegrave</code> . .	12383, 12402, 13049	<code>\textKappa</code>	841, 13097	<code>\textonesuperior</code>	12153, 12522
<code>\textdownarrow</code>	14017	<code>\textkappa</code>	841, 13160	<code>\textopenbullet</code>	14177
<code>\texteightinferior</code>	13963	<code>\textKoppagreek</code>	848, 13211	<code>\textordfeminine</code>	12124, 12492
<code>\texteightsuperior</code>	13931	<code>\textkoppagreek</code>	848, 13213	<code>\textordmasculine</code>	12155, 12524
<code>\textellipsis</code>	412, 413, 12047, 13899	<code>\textkra</code>	12785	<code>\textparagraph</code>	411, 12147, 12516
<code>\textemdash</code>	581, 12049, 13877	<code>\textLambda</code>	842, 13099	<code>\textparenleft</code>	589, 590, 12012, 12445
<code>\textendash</code>	582, 12051, 13875	<code>\textlambda</code>	842, 13162	<code>\textparenleftinferior</code>	13967
<code>\textEpsilon</code>	822, 13065, 13087	<code>\textlangle</code>	14023	<code>\textparenleftsuperior</code>	13941
<code>\textepsilon</code>	822, 13134, 13150	<code>\textlatin</code>	458, 5086, 6036	<code>\textparenright</code>	12014, 12447
<code>\textequalsuperior</code>	13939	<code>\textlbracketdbl</code>	14187	<code>\textparenrightinferior</code>	13969
<code>\textestimated</code>	14007	<code>\textleftarrow</code>	14011	<code>\textparenrightsuperior</code>	13943
<code>\textEta</code>	825, 13067, 13091	<code>\textless</code>	12018, 12451	<code>\textpercent</code>	407, 12008, 12439
<code>\texteta</code>	825, 13136, 13154	<code>\textLF</code>	11982, 12429	<code>\textperiodcentered</code>	12149, 12314, 12518, 14207
<code>\texteuro</code>	12104, 13983	<code>\textlira</code>	13973	<code>\textpertenthousand</code>	13903
<code>\textexclamdown</code>	585, 729, 12106, 12474	<code>\textlnot</code>	12129, 12497	<code>\textperthousand</code>	12063, 13901
<code>\textfi</code>	583, 12079, 14191	<code>\textlogicalnot</code>	12128, 12310, 12496, 14203	<code>\textpeseta</code>	13977
<code>\TextField</code>	4357	<code>\textlongS</code>	12927, 13859	<code>\textpeso</code>	13985
<code>\textfiveinferior</code>	13957	<code>\textlquill</code>	13915	<code>\textPhi</code>	867, 13119
<code>\textfivesuperior</code>	13925	<code>\textmacronbelow</code>	11950, 11962, 11974, 12027, 12387, 12406, 13055	<code>\textphi</code>	867, 13184
<code>\textfl</code>	584, 12081, 14193	<code>\textmarried</code>	14183	<code>\textPi</code>	847, 13109
<code>\textflorin</code>	12053, 12929	<code>\textmd</code>	429	<code>\textpi</code>	847, 13172
<code>\textflq</code>	473, 12308, 14201	<code>\textmho</code>	14003	<code>\textplusminus</code>	12137, 12313, 12505, 14206
<code>\textflqq</code>	471, 12306, 14199	<code>\textminus</code>	12061, 14019	<code>\textplussuperior</code>	13935
<code>\textfourinferior</code>	13955	<code>\textminussuperior</code>	13937	<code>\textpm</code>	12313, 14206
<code>\textfoursuperior</code>	13923	<code>\textMu</code>	843, 13101	<code>\textPsi</code>	869, 13123
<code>\textfractionsolidus</code> . . .	12055, 13913	<code>\textmu</code>	843, 12145, 12514	<code>\textpsi</code>	869, 13188
<code>\textfrq</code>	474, 12309, 14202	<code>\textmugreek</code>	13164	<code>\textquestiondown</code>	586, 730, 12165, 12534
<code>\textfrqq</code>	472, 12307, 14200	<code>\textmultiply</code>	12214, 12311, 12582, 14204	<code>\textquotedbl</code>	12002, 12433
<code>\textGamma</code>	820, 13083	<code>\textmusicalnote</code>	14181	<code>\textquotedblleft</code>	12067, 12303, 13887, 14196
<code>\textgamma</code>	820, 13146	<code>\textnaira</code>	13975	<code>\textquotedblright</code>	12069, 13889
<code>\textglq</code>	469, 12304, 14197	<code>\textnapostrophe</code>	12819	<code>\textquoteleft</code>	12071, 12305, 13881, 14198
<code>\textglqq</code>	467, 12302, 14195	<code>\textneg</code>	12310, 14203	<code>\textquoteright</code>	12073, 13883
<code>\textgravedbl</code>	13045	<code>\textnewtie</code>	12390, 12409, 13051	<code>\textquotesingle</code>	12443
		<code>\textnineinferior</code>	13965		
		<code>\textninesuperior</code>	13933		
		<code>\textnormal</code>	424		
		<code>\textnsuperior</code>	13945		

<code>\textrangle</code>	14025	<code>\textupsilon</code> ..	866, 13182, 13194, 13199	<code>\theoremautorefname</code>	2293, 2311, 2329, 2347, 2365, 2383, 2401, 2439, 2459, 2477, 6759
<code>\textrbrackdbl</code>	14189	<code>\textupsilonacute</code>	13140, 13198	<code>\thepage</code> .	1701, 3556, 4699, 4722, 5132, 5140, 5167, 5838, 5861, 5890, 5981, 6075, 6106, 6243, 6251, 6255, 6521, 6541, 6558, 6672
<code>\textrecipe</code>	13995	<code>\textvarsigma</code>	13176	<code>\theslideheading</code>	6350
<code>\textreferencemark</code>	13909	<code>\textvisiblespace</code>	14029	<code>\theslidesection</code> ...	6338, 6345, 6353, 6359, 6361, 6363, 6369, 6379
<code>\textregistered</code> ..	12131, 12499	<code>\textwon</code>	13979	<code>\theslidesubheading</code>	6351, 6402
<code>\textRho</code>	863, 13111	<code>\textXi</code>	845, 13105	<code>\theslidesubsection</code>	6390, 6397, 6404, 6410, 6412, 6414, 6420, 6430
<code>\textrho</code>	863, 13174	<code>\textxi</code>	845, 13168	<code>\This@name</code>	5014, 5015, 5032, 5033
<code>\textrightarrow</code>	14015	<code>\textyen</code>	12114, 12482	<code>\thispdfpagelabel</code>	4704
<code>\textstring</code> ..	11945, 11957, 11969, 11998, 12378, 12397, 13036	<code>\textzeroinferior</code>	13947	<code>\ThisShouldNotHappen</code> ...	11227
<code>\textrm</code>	425	<code>\textzerosuperior</code>	13921	<code>\thm@headpunct</code>	5364
<code>\textrquill</code>	13917	<code>\textZeta</code>	824, 13089	<code>\thm@headsep</code>	5365
<code>\textSampiGreek</code>	871, 13215	<code>\textzeta</code>	824, 13152	<code>\thm@notefont</code>	5363
<code>\textsampiGreek</code>	871, 13217	<code>\TH</code>	12228, 12596	<code>\thm@postskip</code>	5369
<code>\textsc</code>	431	<code>\th</code>	12296, 12664	<code>\thm@preskip</code>	5368
<code>\textsection</code>	12118, 12486	<code>\thaa</code>	14356	<code>\thm@space@setup</code>	5366
<code>\textservicemark</code>	13997	<code>\theequation</code> ..	5035, 5264, 5286, 5310, 5346	<code>\thm@swap</code>	5362
<code>\textseveninferior</code>	13961	<code>\thefootnote</code>	5430, 5593	<code>\thmheadnl</code>	5361
<code>\textsevensuperior</code>	13929	<code>\theHchapter</code> ..	4977, 4978, 4979, 4980, 5062	<code>\tiny</code>	455
<code>\textsf</code>	426, 10563, 10566	<code>\theHenumi</code>	4996	<code>\title</code>	4610, 4612
<code>\textSigma</code>	864, 13113	<code>\theHenumii</code>	4997	<code>\TMP@EnsureCode</code>	3294, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327
<code>\textsigma</code>	864, 13178	<code>\theHenumiii</code>	4998	<code>\tocappendix</code>	1006
<code>\textsixinferior</code>	13959	<code>\theHenumiv</code>	4999	<code>\tocchapter</code>	1005
<code>\textsixsuperior</code>	13927	<code>\theHequation</code> .	4967, 5036, 5265, 5287, 5311, 5319, 5346, 5350	<code>\toclevel@chapter</code>	6017
<code>\textsl</code>	432	<code>\theHfigure</code>	4974, 4978	<code>\toclevel@figure</code>	6023
<code>\textsterling</code>	12110, 12478	<code>\theHHfootnote</code>	5000, 5002	<code>\toclevel@listing</code>	6031
<code>\textStigmaGreek</code> ...	823, 13203	<code>\theHHmpfootnote</code>	5002	<code>\toclevel@lstlisting</code>	6027
<code>\textstigmaGreek</code> ...	823, 13205	<code>\theHItem</code>	4990, 4996, 4997, 4998, 4999	<code>\toclevel@paragraph</code>	6021
<code>\textsurd</code>	14021	<code>\theHlisting</code>	6030	<code>\toclevel@part</code>	6013, 6015
<code>\TextSymbolUnavailable</code> .	11976, 11977, 11978	<code>\theHlstlisting</code>	6026	<code>\toclevel@section</code>	6018
<code>\textTau</code>	865, 13115	<code>\theHmpfootnote</code>	5001	<code>\toclevel@subfigure</code>	1715
<code>\texttau</code>	865, 13180	<code>\theHparagraph</code>	4984, 4985	<code>\toclevel@subparagraph</code> ..	6022
<code>\textTheta</code>	826, 13093	<code>\theHparentequation</code>	5345, 5350	<code>\toclevel@subsection</code>	6019
<code>\texttheta</code>	826, 13156	<code>\theHpart</code>	4970	<code>\toclevel@subsubsection</code> .	6020
<code>\textthreeinferior</code>	13953	<code>\theHsection</code> ..	4967, 4973, 4980, 4982, 4986, 4987, 5061	<code>\toclevel@subtable</code>	1716
<code>\textthreequarters</code>	12163, 12532	<code>\theHslide</code>	6324	<code>\toclevel@table</code>	6024
<code>\textthreesuperior</code>	12141, 12509	<code>\theHslidesection</code> ..	6329, 6331, 6367, 6371	<code>\tocparagraph</code>	1010
<code>\texttie</code> ...	12389, 12408, 13057	<code>\theHslidesubsection</code>	6330, 6418, 6422	<code>\tocpart</code>	1004
<code>\texttilde</code> ..	3031, 11943, 11955, 11967, 12000, 12376, 12395, 13040	<code>\theHsubequation</code>	5319	<code>\tocsection</code>	1007
<code>\texttildelow</code>	13047	<code>\theHsubparagraph</code>	4985	<code>\tocsubsection</code>	1008
<code>\texttimes</code>	12311, 14204	<code>\theHsubsection</code>	4982, 4983	<code>\tocsubsubsection</code>	1009
<code>\texttrademark</code> ...	12077, 13999	<code>\theHsubsubsection</code> .	4983, 4984		
<code>\textTslash</code>	12877	<code>\theHtable</code>	4975, 4979		
<code>\texttslash</code>	12879	<code>\theHtheorem</code>	4986		
<code>\texttt</code>	427	<code>\theHthm</code>	4987		
<code>\texttwoinferior</code>	13951	<code>\thelisting</code>	6030		
<code>\texttwosuperior</code> .	12139, 12507	<code>\thelstlisting</code>	6026		
<code>\textunderscore</code>	410, 3440, 3441, 3443, 12026, 12459	<code>\thempfn</code> .	5419, 5492, 5494, 5574, 5586		
<code>\textup</code>	433				
<code>\textuparrow</code>	14013				
<code>\textUpsilon</code> ..	866, 13073, 13117, 13130				

`\toks` ... 657, 658, 659, 3049, 3055,
 3587, 3589, 3591, 3595, 3600,
 6529, 6530, 6532
`\toks@` 171, 208, 344, 347, 350, 368,
 369, 891, 914, 917, 918, 1181,
 1182, 2489, 2490, 2492, 4799,
 4801, 4881, 4883, 4896, 4908,
 5149, 5153, 6138, 6139, 6301,
 6306, 6308, 6311
`\topmargin` 5991
`\trivlist` 5360
`\tryhyper@link` 3536, 3538
`\ttfamily` 437
`\ttl@b` 5186, 5191
`\ttl@gobblecontents` 5195
`\ttl@Hy@refstepcounter` .. 5185
`\ttl@Hy@saveanchor` . 5179, 5188
`\ttl@Hy@steplink` 5176
`\typeout` ... 5, 6, 7, 19, 26, 27, 36,
 131, 155, 158, 159, 160, 2114,
 2168, 3096, 3098, 3100, 3200,
 3227, 3229, 3685, 4185, 6066,
 6974, 8247, 8250, 8253, 8256,
 8259, 8262, 8265, 8268, 9824,
 10118, 10330, 10333, 10336,
 10339, 10342, 10345, 10347,
 10348, 10357, 10494, 10859,
 11901, 14401
U
`\U` ... 12345, 13250, 13273, 13338,
 13415, 13605, 13607, 13629,
 13631, 13641, 13643
`\u` ... 12344, 12382, 12401, 12421,
 12672, 12674, 12708, 12710,
 12728, 12730, 12758, 12760,
 12761, 12829, 12831, 12889,
 12891
`\UHORN` 14223, 14334, 14335, 14336,
 14337, 14338
`\uhorn` .. 2463, 2470, 14216, 14274,
 14275, 14276, 14277, 14278
`\UnDef` 9916
`\undefined` 2486
`\unhbox` . 5402, 9060, 10931, 11044,
 11077, 11102, 11131, 11158
`\unhcopy` 11026
`\unichar` 1555
`\unrestored@protected@xdef` ..
 .. 5419, 5430, 5586, 5593
`\unskip` .. 5357, 5823, 6604, 6608,
 6612, 6617
`\upshape` 443, 5363
`\Url` 3507
`\url` 3506, 3510
`\url@` 3510, 3511
`\use@file` . 3657, 3659, 3663, 3666
`\usepackage` 2111

`\UTFviii@four@octets` 1551, 1560
`\UTFviii@three@octets` ... 1550
`\UTFviii@two@octets` 1549

V

`\v` ... 11946, 11958, 11970, 12087,
 12092, 12100, 12102, 12355,
 12379, 12398, 12420, 12692,
 12694, 12696, 12698, 12720,
 12722, 12795, 12797, 12815,
 12817, 12849, 12851, 12865,
 12867, 12873, 12875, 12923,
 12925, 12931, 12933, 12935,
 12937, 12938, 12940, 12942,
 12944, 12946, 12952, 12954,
 12956, 12958, 12964, 12965,
 13008, 13010
`\V@@@footnotetext` 5538
`\V@footnotetext` 5524
`\value` 5777, 5803, 5995, 6161
`\vbox` 4390, 4391, 4392, 4393, 4679,
 5989
`\vfill` 4390, 4391, 4392, 4393
`\voffset` 5990
`\vpageref` 6617
`\Vr@f` 6603
`\vr@f` 6611
`\vref@pagenum` 5199
`\vref@space` ... 6604, 6607, 6612
`\vskip` 1767, 1768
`\vss` 6004
`\vtx@trans@special` 8554, 8556,
 8559, 8563, 8567, 8571, 8573,
 8575, 8579, 8585, 8586, 8589
`\VTeXInitMediaSize` . 8277, 8294
`\VTeXOS` ... 8624, 8625, 8626, 8628
`\VTeXversion` .. 4848, 4851, 4854,
 8616, 8620

W

`\waw` 14380
`\wawhamza` 14349
`\wd` . 7583, 7595, 7612, 7624, 7642,
 7654, 10888
`\write` ... 4567, 4569, 4924, 4932,
 5138, 5166, 5761, 5776, 5792,
 5802, 5832, 5855, 5881, 5911,
 11718, 11784
`\WriteBookmarks`
 2973, 3117, 3263, 3285,
 11547, 11712, 11731, 11732,
 11774, 11778
`\wwwbrowser` ... 7544, 7614, 7626

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, 1104, 1132, 1762, 1772,
 1781, 1791, 1839, 1840, 1845,
 1861, 2496, 2506, 2585, 2586,
 2589, 2590, 2591, 2595, 2598,
 2604, 2925, 2926, 2931, 2932,
 2986, 2987, 2988, 2991, 2994,
 2997, 3037, 3038, 3042, 3585,
 3596, 3600, 3603, 3736, 3750,
 3775, 3779, 3782, 3792, 4632,
 4633, 4638, 5150, 5157, 5210,
 5220, 5222, 5235, 6308, 6309,
 6531, 6534, 6569, 6570, 6571,
 6573, 6575, 6922, 6930, 7186,
 7187, 7190, 7192, 7195, 7779,
 7780, 7781, 7783, 7784, 7785,
 7787, 7788, 7789, 7791, 7792,
 7793, 7795, 7796, 7797, 7799,
 7800, 7801, 7803, 7804, 7805,
 7807, 7808, 7810, 7814, 7823,
 8720, 8725, 8729, 9181, 9182,
 10167, 10187, 10618, 10638,
 10955, 10975

`\XeTeXrevision` 8059
`\XeTeXversion` 8059
`\XR@dURL` 1722, 1723
`\XR@addURL` 1722
`\XR@ext` .. 1954, 1955, 3655, 3658,
 4846, 6823, 7451, 7543, 7771,
 8164, 9349, 9420, 9479, 9661,
 9821
`\XR@URL` 1727
`\xspace` 500, 502

Y

`\y` .. 1841, 1846, 1851, 2591, 2592,
 2593, 2594, 2989, 2992, 2995,
 2998, 3000, 3006, 3039, 3040,
 3042, 4633, 4641, 5208, 5209,
 5212, 5220
`\ya` 14382
`\yahamza` 14351

Z

`\z` 1843, 1844, 1845
`\z@` 794, 811, 833,
 856, 999, 1257, 1263, 1269,
 1333, 1337, 1345, 1349, 1757,
 1776, 2037, 2040, 2139, 2597,
 2603, 2912, 2913, 2918, 2919,
 2927, 3239, 4849, 4852, 5391,
 5392, 5536, 7381, 7385, 7390,
 7394, 7401, 7405, 7410, 7414,
 8615, 8639, 8823, 9070, 9081,
 10156, 10607, 10892, 10944,
 11275, 11304, 11309, 11381,
 11387, 11415, 11446, 11452,

11471, 11481, 11486, 11515,	\za	14369	\ZWNJ
11520, 11757, 11854	\zay	14363	