

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	Checks with regular expressions	12
4.3	Compatibility with format dumps	13
4.4	Switches	14
5	Common help macros	15
5.1	Macros for recursions	16
5.2	Babel's protection of shorthand characters	16
5.3	Coordinate transformations	16
6	Dealing with PDF strings	17
6.1	Description of PDF strings	18
6.2	Definition of <code>\pdfstringdef</code>	18
6.2.1	Preprocessing	18
6.2.2	Expansion	24
6.2.3	Postprocessing	25
6.3	Encodings	29
6.3.1	XeTeX	29
6.3.2	Workaround for package linguex	30
6.3.3	PD1 encoding	31
6.3.4	PU encoding	31
6.4	Additional user commands	31
6.4.1	<code>\texorpdfstring</code>	31
6.4.2	Hooks for <code>\pdfstringdef</code>	32
6.5	Help macros for expansion	33
6.5.1	<code>\ignorespaces</code>	33
6.5.2	Babel languages	33
6.5.3	CJK patch	38
6.5.4	CJK bookmarks	38
6.5.5	CJK unicode	40
6.5.6	<code>\@inmathwarn-Patch</code>	45
6.5.7	Unexpandable spaces	46
6.5.8	Marker for commands	46
6.5.9	<code>\hspace fix</code>	46
6.5.10	Fix for AMS classes	47
6.5.11	Reference commands	47
6.5.12	Redefining the defining commands	49
6.5.13	<code>\ifnextchar</code>	50
6.5.14	<code>\@protected@testoptifnextchar</code>	51
6.6	Help macros for postprocessing	51
6.6.1	Generic warning.	51
6.6.2	Protecting spaces	51
6.6.3	Remove grouping braces	52
6.6.4	Catcode check	53
6.6.5	Check for wrong glyphs	57

6.6.6	Replacing tokens	58
6.6.7	Support for package <code>xspace</code>	58
6.6.8	Converting to Unicode	59
6.6.9	Support for UTF-8 input encoding	61
7	Support of other packages	65
7.1	Class memoir	65
7.2	Package subfigure	65
7.3	Package xr and xr-hyper	66
8	Help macros for links	66
9	Options	68
9.1	Help macros	68
9.2	Defining the options	70
10	Options for different drivers	74
11	Options to add extra features	78
12	Language options	79
13	Options to change appearance of links	85
14	Bookmarking	86
15	PDF-specific options	88
15.1	PDF/A	99
15.2	Patch for babel's <code>\texttilde</code>	99
15.2.1	Driver loading	101
15.2.2	Bookmarks	104
16	User hypertext macros	107
17	Underlying basic hypertext macros	112
18	Compatibility with the <i>BT_EX2html</i> package	116
19	Forms creation	117
19.1	Field flags	117
19.1.1	Declarations of field flags	119
19.1.2	Set submit flags	121
19.1.3	Set annot flags in fields	122
19.1.4	Pushbutton field	122
19.1.5	Check box field	122
19.1.6	Radio button field	123
19.1.7	Text fields	123
19.1.8	Choice fields	124
19.2	Choice field	124
19.3	Forms	126
20	Setup	132
21	Low-level utility macros	133

22 Localized nullifying of package	134
23 Package nohyperref	135
24 The Mangling Of Aux and Toc Files	136
25 Title strings	137
26 Page numbers	138
27 Every page	138
27.1 PDF /PageLabels	139
27.1.1 pdfTeX and VTeX	142
27.1.2 xetex	144
27.1.3 pdfmarkbase, dvipdfm, xetex	144
28 Automated L^AT_EX hypertext cross-references	146
29 Package lastpage support	150
30 Package ifthen support	152
31 Package titlesec and titletoc support	152
32 Package varioref support	152
33 Package longtable support	153
34 Equations	154
35 Footnotes	157
36 Float captions	162
37 Bibliographic references	164
37.1 Package harvard	167
37.2 Package chicago	169
38 Page numbers	169
39 Table of contents	170
40 New counters	172
41 AMSL^AT_EX compatibility	172
41.1 \@addtoreset and \numberwithin patches	173
42 Included figures	174
43 hyperindex entries	174
44 Compatibility with foiltex	177
45 Compatibility with seminar slide package	178

46	Configuration files	186
46.1	PS/PDF strings	186
46.2	pdftex	187
46.2.1	Fix for problem with different nesting levels	200
46.3	hypertex	200
46.4	dviwindo	203
46.5	dvipdfm/xetex dvi to PDF converter	208
46.6	VT _E X typesetting system	216
46.7	Fix for Adobe bug number 466320	228
46.8	Direct pdfmark support	229
46.9	Rokicki's dvips	242
46.10	VT _E X's vtexpdfmark driver	244
46.11	Textures	245
46.12	dvipsone	250
46.13	TeX4ht	253
47	Driver-specific form support	255
47.1	pdfmarks	255
47.2	HyperTeX	262
47.3	TeX4ht	263
47.4	pdfTeX	265
47.5	dvipdfm, xetex	272
47.6	Common forms part	279
48	Bookmarks in the PDF file	286
48.1	Bookmarks	286
48.1.1	Rerun warning	289
48.1.2	Driver stuff	289
49	Compatibility with koma-script classes	295
50	Encoding definition files for encodings of PDF strings	296
50.1	PD1 encoding	296
50.2	PU encoding	304
50.2.1	NFSS2 accents	304
50.2.2	Basic Latin: U+0000 to U+007F	306
50.2.3	Latin-1 Supplement: U+0080 to U+00FF	307
50.2.4	Latin Extended-A: U+0080 to U+017F	311
50.2.5	Latin Extended-B: U+0180 to U+024F	316
50.2.6	Spacing Modifier Letters: U+02B0 to U+02FF	318
50.2.7	Combining Diacritical Marks: U+0300 to U+036F	318
50.2.8	Greek and Coptic: U+0370 to U+03FF	318
50.2.9	Cyrillic: U+0400 to U+04FF	321
50.2.10	Thai: U+0E00 to U+0E7F	331
50.2.11	Latin Extended Additional: U+1E00 to U+1EFF	332
50.2.12	General Punctuation: U+2000 to U+206F	334
50.2.13	Superscripts and Subscripts: U+2070 to U+209F	335
50.2.14	Currency Symbols: U+20A0 to U+20CF	336
50.2.15	Letterlike Symbols: U+2100 to U+214F	336
50.2.16	Arrows: U+2190 to U+21FF	337
50.2.17	Mathematical Operators: U+2200 to U+22FF	337
50.2.18	Miscellaneous Technical: U+2300 to U+23FF	337
50.2.19	Control Pictures: U+2400 to U+243F	337

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF	337
50.2.21 Box Drawing: U+2500 to U+257F	340
50.2.22 Miscellaneous Symbols: U+2600 to U+26FF	340
50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	340
50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F	340
50.2.25 Miscellaneous	340
50.2.26 Aliases	340
50.3 PU encoding, additions for VnT _E X	341
50.4 PU encoding, additions for Arabi	343
51 End of file hycheck.tex	345
52 Index	346

3 File hyccheck.tex

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

```

1 \check
2 \documentclass{article}
3 \makeatletter

\checklatex Optional argument: release date of  $\LaTeX$ .
4 \newcommand*{\checklatex}[1]{}{
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }%
```

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 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{ltxcmds}[2010/03/09]
233 \RequirePackage{infwarerr}[2010/04/08]
234 \RequirePackage{keyval}[1997/11/10]
235 \RequirePackage{kvsetkeys}[2007/09/29]
236 \RequirePackage{pdfescape}[2007/11/11]
237 \RequirePackage{ifpdf}[2006/02/20]
238 \RequirePackage{ifvtex}
239 \RequirePackage{ifxetex}[2006/08/21]
240 \RequirePackage{hycolor}
241 \RequirePackage{letltxmacro}[2008/06/13]
242 \def\Hy@Error#1{\@PackageError{hyperref}}
243 \def\Hy@Warning#1{\@PackageWarning{hyperref}{#1}}
244 \def\Hy@WarningNoLine#1{\@PackageWarningNoLine{hyperref}{#1}}
245 \def\Hy@Info#1{\@PackageInfo{hyperref}{#1}}
246 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
247 \def\Hy@Message#1{%
248   \GenericWarning{%
249     (hyperref)\@spaces\@spaces\@spaces\@spaces
250   }{%
251     Package hyperref Message: #1\ltx@gobble
252   }%
253 }

```

4.2 Checks with regular expressions

```

254 \ltx@ifundefined{pdfmatch}{%
255   \def\Hy@Match#1#2#3#4{%
256   }{%
257   \def\Hy@Match#1#2{%
258     \begingroup
259     \edef\~{\ltx@backslashchar\string~}%
260     \edef\.{\ltx@backslashchar.}%
261     \edef\[\{\ltx@backslashchar[]}%
262     \edef\${\ltx@backslashchar$}%
263     \edef\({\ltx@backslashchar(}%
264     \edef\){\ltx@backslashchar)}%
265     \edef\|{\ltx@backslashchar|}%

```

```

266 \edef\*{\ltx@backslashchar*}%
267 \edef\+{\ltx@backslashchar+}%
268 \edef\?{\ltx@backslashchar?}%
269 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
270 \edef\}\{\ltx@rightbracechar}%
271 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
272 \ifcase\pdfmatch{#2}{#1} %
273 \endgroup
274 \expandafter\ltx@secondoftwo
275 \or
276 \endgroup
277 \expandafter\ltx@firstoftwo
278 \else
279 \Hy@Warning{%
280   Internal error: Wrong pattern!\MessageBreak
281   --> #2 <--\MessageBreak
282   Pattern check ignored%
283 }%
284 \endgroup
285 \expandafter\ltx@firstoftwo
286 \fi
287 }%
288 }
289 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{-}%
290 \begingroup
291 \lccode'0='\relax
292 \lowercase{\endgroup
293 \def\ltx@leftbracechar{0}%
294 }%
295 \begingroup
296 \lccode'0='\relax
297 \lowercase{\endgroup
298 \def\ltx@rightbracechar{0}%
299 }%
300 }

```

4.3 Compatibility with format dumps

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

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

```

301 \ifundefined{AfterBeginDocument}{-}%
302 \def\AfterBeginDocument{\AtBeginDocument}%
303 }{-}%

```

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

```

304 \def\Hy@AtBeginDocument{%
305   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
306 }

```

`\Hy@AtEndOfPackage`

```

307 \def\Hy@AtEndOfPackage{%
308   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
309 }

```

\Hy@AtBeginDocumentHook

```

310 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

311 \def\Hy@AtEndOfPackageHook{}

```

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

```

312 \AtEndOfPackage{%
313   \Hy@AtEndOfPackageHook
314   \let\Hy@AtEndOfPackageHook\@undefined
315   \AfterBeginDocument{%
316     \Hy@AtBeginDocumentHook}%
317   \let\Hy@AtBeginDocumentHook\@undefined
318   }%
319 }

```

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

```

320 \RequirePackage{kvoptions}[2009/07/21]

```

4.4 Switches

```

321 \newif\ifHy@typexml
322 \newif\ifHy@activeanchor
323 \newif\ifHy@backref
324 \newif\ifHy@bookmarks
325 \newif\ifHy@bookmarksnumbered
326 \newif\ifHy@bookmarksopen
327 \newif\ifHy@breaklinks
328 \newif\ifHy@centerwindow
329 \newif\ifHy@CJKbookmarks
330 \newif\ifHy@colorlinks
331 \newif\ifHy@draft
332 \let\Hy@finaltrue\Hy@draftfalse
333 \let\Hy@finalfalse\Hy@drafttrue
334 \newif\ifHy@escapeform
335 \newif\ifHy@figures
336 \newif\ifHy@fitwindow
337 \newif\ifHy@frenchlinks
338 \newif\ifHy@hyperfootnotes
339 \newif\ifHy@hyperindex
340 \newif\ifHy@hypertextnames
341 \newif\ifHy@implicit
342 \newif\ifHy@linktocpage
343 \newif\ifHy@localanchorname
344 \newif\ifHy@menubar
345 \newif\ifHy@naturalnames
346 \newif\ifHy@nesting
347 \newif\ifHy@newwindowset
348 \newif\ifHy@newwindow
349 \newif\ifHy@ocgcolorlinks
350 \newif\ifHy@pageanchor
351 \newif\ifHy@pagelabels

```

```

352 \newif\ifHy@pdfpagehidden
353 \newif\ifHy@pdfstring
354 \newif\ifHy@plainpages
355 \newif\ifHy@psize
356 \newif\ifHy@raiselinks
357 \newif\ifHy@seminarslides
358 \newif\ifHy@setpagesize
359 \newif\ifHy@texht
360 \newif\ifHy@toolbar
361 \newif\ifHy@unicode
362 \newif\ifHy@usetitle
363 \newif\ifHy@verbose
364 \newif\ifHy>windowui
365 \newif\ifHy@displaydoctitle
366 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

367 \Hy@backreffalse
368 \Hy@bookmarksnumberedfalse
369 \Hy@bookmarksopenfalse
370 \Hy@bookmarkstrue
371 \Hy@breaklinksfalse
372 \Hy@centerwindowfalse
373 \Hy@CJKbookmarksfalse
374 \Hy@escapeformfalse
375 \Hy@figuresfalse
376 \Hy@fitwindowfalse
377 \Hy@hyperfootnotetrue
378 \Hy@hyperindextrue
379 \Hy@hypertextnamestrue
380 \Hy@implicittrue
381 \Hy@linktocpagefalse
382 \Hy@localanchornamefalse
383 \Hy@menubartrue
384 \Hy@naturalnamesfalse
385 \Hy@nestingfalse
386 \Hy@newwindowsetfalse
387 \Hy@newwindowfalse
388 \Hy@pageanchortrue
389 \Hy@pagelabeltrue
390 \Hy@pdfpagehiddenfalse
391 \Hy@pdfstringfalse
392 \Hy@plainpagesfalse
393 \Hy@raiselinksfalse
394 \Hy@setpagesizetrue
395 \Hy@texhtfalse
396 \Hy@toolbartrue
397 \Hy@typexmlfalse
398 \Hy@unicodefalse
399 \Hy@usetitlefalse
400 \Hy@verbosefalse
401 \Hy>windowuitrue
402 \Hy@displaydoctitlefalse
403 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

404 \def\Hy@StepCount#1{\advance#1 by 1 }%
\Hy@GlobalStepCount
405 \def\Hy@GlobalStepCount#1{\global\advance#1 by 1 }%

406 \newdimen\@linkdim
407 \let\Hy@driver\@empty
408 \let\MaybeStopEarly\relax
409 \newcount\Hy@linkcounter
410 \newcount\Hy@pagecounter
411 \Hy@linkcounter0
412 \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.

```

413 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
414 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

415 \let\Hy@ReturnEnd\@empty
416 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
417 \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.

```

418 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
419 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

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

Example (T_EX):

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

\hypercalcbp
420 \begingroup\expandafter\expandafter\expandafter\endgroup
421 \expandafter\ifx\csname dimexpr\endcsname\relax
422   \def\hypercalcbpdef#1#2{%
423     \begingroup
424       \toks@{%
425         \HyCal@scan#2\hypercalcbp\@nil
426       \expandafter\endgroup
427       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
428     }%
429     \def\HyCal@scan#1\hypercalcbp#2\@nil{%
430       \toks@\expandafter{\the\toks@ #1}%
431       \ifx\\#2\\%
432         \else
433           \Hy@ReturnAfterFi{%
434             \HyCal@do#2\@nil
435           }%
436         \fi
437       }%
438       \def\HyCal@do#1#2\@nil{%
439         \@ifpackageloaded{calc}{}%
440         \Hy@Warning{%
441           For calculations \string\hypercalcbp\space needs\MessageBreak
442             package calc or e-TeX%
443         }%
444       }%
445       \setlength{\dimen@}{#1}%
446       \setlength{\dimen@}{0.99626401\dimen@}%
447       \edef\x{%
448         \toks@{%
449           \the\toks@
450           \strip@pt\dimen@
451         }%
452       }\x
453       \HyCal@scan#2\@nil
454     }%
455   \else
456     \def\hypercalcbp#1{%
457       \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
458     }%
459     \def\hypercalcbpdef{\def}%
460   \fi
```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in PDFDocEncoding, which is a superset of 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 be processed by \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
462 \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 PDI 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.

```
463 \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.

```
464 \edef\0{\string\0}%
465 \edef\1{\string\1}%
466 \edef\2{\string\2}%
467 \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.

```
468 \ifHy@unicode
469 \edef\8{\string\8}%
470 \edef\9{\string\9}%
471 \fontencoding{PU}%
472 \HyPsd@UTFviii
473 \def\ifpdfstringunicode###1##2{##1}%
474 \else
475 \fontencoding{PD1}%
476 \def\ifpdfstringunicode###1##2{##2}%
477 \fi
478 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
479 \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).

```
480 \@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).

```
481 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
482 \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.

```

483 \let\{\textbraceleft
484 \let\}\textbraceright
485 \let\\\textbackslash
486 \let\#\textnumbersign
487 \let\$\textdollar
488 \let\%\textpercent
489 \let\&\textampersand
490 % \let\~\textasciitilde
491 \let\_ \textunderscore
492 \let\P\textparagraph
493 \let\ldots\textellipsis
494 \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.

```

495 \def\\{\pdfstringdefWarn\\}%
496 \def\newline{\pdfstringdefWarn\newline}%

```

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

```

497 \def\TeX{\TeX}%
498 \def\LaTeX{\LaTeX}%
499 \def\LaTeXe{%
500   \LaTeX2%
501   \ifHy@unicode\textepsilon\else e\fi
502 }%
503 \def\eTeX{%
504   \ifHy@unicode\textepsilon\else e\fi
505   -\TeX%
506 }%
507 \def\SliTeX{\SliTeX}%
508 \def\MF{Metafont}%
509 \def\MP{Metapost}%

```

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

```

510 \let\fontencoding\@gobble
511 \let\fontfamily\@gobble
512 \let\fontseries\@gobble
513 \let\fontshape\@gobble
514 \let\fontsize\@gobbletwo
515 \let\selectfont\@empty
516 \let\usefont\@gobblefour
517 \let\emph\@firstofone
518 \let\textnormal\@firstofone
519 \let\textrm\@firstofone

```

```

520 \let\textsf\@firstofone
521 \let\texttt\@firstofone
522 \let\textbf\@firstofone
523 \let\textmd\@firstofone
524 \let\textit\@firstofone
525 \let\textsc\@firstofone
526 \let\textsl\@firstofone
527 \let\textup\@firstofone
528 \let\normalfont\@empty
529 \let\rmfamily\@empty
530 \let\sfamily\@empty
531 \let\ttfamily\@empty
532 \let\bfseries\@empty
533 \let\mdseries\@empty
534 \let\itshape\@empty
535 \let\scshape\@empty
536 \let\slshape\@empty
537 \let\upshape\@empty
538 \let\em\@empty
539 \let\rm\@empty
540 \let\Huge\@empty
541 \let\LARGE\@empty
542 \let\Large\@empty
543 \let\footnotesize\@empty
544 \let\huge\@empty
545 \let\large\@empty
546 \let\normalsize\@empty
547 \let\scriptsize\@empty
548 \let\small\@empty
549 \let\tiny\@empty
550 \let\mathversion\@gobble
551 \let\phantom\@gobble
552 \let\vphantom\@gobble
553 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

555 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
556 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

557 \let\textlatin\@firstofone
558 \ltx@ifundefined{language@group}{\@firstofone}%
559 \csname HyPsd@babel@{language@group}\endcsname
560 }%
561 \HyPsd@GreekPatch
562 \HyPsd@SpanishPatch
563 \HyPsd@RussianPatch
564 \HyPsd@BabelPatch
565 \let\@safe@activetrue\relax
566 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```
567 \let\cyr\relax
```

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

```
568 \let\es@roman\@Roman
```

Package german.

```
569 \let\glqq\textglqq
570 \let\grqq\textgrqq
571 \let\glq\textglq
572 \let\grq\textgrq
573 \let\flqq\textflqq
574 \let\frqq\textfrqq
575 \let\flq\textflq
576 \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}
```

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

AMS classes.

```
578 \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.

```
579 \let\hspace\HyPsd@hspace
```

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

```
580 \let\label\@gobble
581 \let\index\@gobble
582 \let\glossary\@gobble
583 \let\href\HyPsd@href
584 \let\@mkboth\@gobbletwo
```

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

```
585 \let\ref\HyPsd@ref
586 \let\pageref\HyPsd@pageref
587 \let\nameref\HyPsd@nameref
588 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
589 \let\leavevmode\@empty
590 \let\mbox\@empty
```

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

```
591 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
592 \let\ignorespaces\HyPsd@ignorespaces
593 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
594 \HyPsd@CJKhook
```

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted within $\mathrm{T}_{\mathrm{E}}\mathrm{X}$'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`).

```
595 \Hy@pdfstringtrue
596 \pdfstringdefPreHook
```

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

```
597 \HyPsd@LetUnexpandableSpace\space
598 \HyPsd@LetUnexpandableSpace\ %
599 \HyPsd@LetUnexpandableSpace~%
600 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
601 \let\IfUndefined\@xspace\{
602 \let\xspace\HyPsd@ITALCORR
603 }{
604 \let\xspace\HyPsd@XSPACE
605 }%
606 \let\/\HyPsd@ITALCORR
607 \let\bgroup\/%
608 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
609 \let\discretionary\@gobbletwo
```

`\@ifstar` is defined in $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$ 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 expandable 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:

```
610 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
611 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
612 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
613 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
614 \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 be 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 $\texttt{\texorpdfstring}$). 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).

```
615 \begingroup
616   \let\GenericError\@gobblefour
617   \let\GenericWarning\@gobbletwo
618   \let\GenericInfo\@gobbletwo
```

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

```
619 \ifx\nofrenchguillemets\@undefined
620   \else
621     \nofrenchguillemets
622   \fi
```

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

```
623 \let\Hy@temp\xdef
624 \let\def\HyPsd@DefCommand
625 \let\gdef\HyPsd@DefCommand
```



```

626 \let\edef\HyPsd@DefCommand
627 \let\xdef\HyPsd@DefCommand
628 \let\futurelet\HyPsd@LetCommand
629 \let\let\HyPsd@LetCommand
630 \Hy@temp#1{#2}%
631 \endgroup

```

6.2.3 Postprocessing

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

```

632 \ifx#1\@empty
633 \else

```

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

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

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

```

634 \HyPsd@ProtectSpaces#1%
635 \let\HyPsd@String\@empty
636 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
637 \global\let#1\HyPsd@String

```

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

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

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

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

```

638 \let\HyPsd@SPACEOPTI\relax
639 {%
640 \let\HyPsd@String\@empty
641 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
642 \global\let#1\HyPsd@String
643 }%
644 \expandafter\HyPsd@RemoveMask\expandafter
645 | \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.

```

646 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
647 \let\HyPsd@String\@empty
648 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
649 \global\let#1\HyPsd@String

```

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

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

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

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

```

651 \ifHy@unicode
652 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
653 \HyPsd@SPACEOPTI#1%
654 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
655 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
656 {\HyPsd@SPACEOPTI\80\273}#1%
657 \else
658 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
659 \expandafter\HyPsd@Subst\expandafter{%
660 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
661 \string\273}{\HyPsd@SPACEOPTI\273}#1%
662 \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.

```

663 \ifHy@unicode
664 \HyPsd@StringSubst{\}){\80\051}#1%
665 \HyPsd@Subst){\80\051}#1%
666 \let\HyPsd@empty\relax
667 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
668 {\HyPsd@empty\80\051}#1%
669 \else
670 \HyPsd@StringSubst{\}){\051}#1%
671 \HyPsd@Subst){\051}#1%
672 \let\HyPsd@empty\relax
673 \HyPsd@StringSubst{\051){\HyPsd@empty\string\})}#1%
674 \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`.

```

675 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
676 \ltx@ifundefined{xspace}{%
677 }{%
678 \let\HyPsd@xspace\relax
679 \expandafter\HyPsd@Subst\expandafter
680 {\HyPsd@XSPACE}\HyPsd@xspace#1%
681 \let\HyPsd@xspace\HyPsd@doxspace
682 }%
683 \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.

```

684 \HyPsd@Subst{---}\textemdash#1%
685 \HyPsd@Subst{--}\textendash#1%
686 % \HyPsd@Subst{fi}\textfi#1%
687 % \HyPsd@Subst{fl}\textfl#1%
688 \HyPsd@Subst{!'}\textexclamdown#1%
689 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

690 \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.

```

691 \ifHy@unicode
692 \HyPsd@StringSubst\(\textparenleft#1%
693 \HyPsd@Subst(\textparenleft#1%
694 \else
695 \HyPsd@StringSubst\({\050}#1%
696 \HyPsd@Subst({\050}#1%
697 \HyPsd@StringSubst{\050}{\string\{ }#1%
698 \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.

```

699 \ifHy@unicode
700 \edef\HyPsd@SPACEOPTI{\80\040}%
701 \else
702 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
703 \fi
704 \xdef#1{#1\@empty}%
705 \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.

```

706 \endgroup
707 \begingroup
708 \ifHy@unicode
709 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

710 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
711 \ltx@ifundefined{StringEncodingConvertTest}{%
712 }{%
713 \EdefUnescapeString\HyPsd@temp#1%
714 \ifxetex
715 \let\HyPsd@UnescapedString\HyPsd@temp
716 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
717 {utf16be}{ascii-print}{%
718 \EdefEscapeString\HyPsd@temp\HyPsd@temp
719 \global\let#1\HyPsd@temp
720 \HyPsd@EscapeTeX#1%
721 \Hy@unicodedefalse
722 }{%
723 \HyPsd@ToBigChars#1%
724 }%
725 \else
726 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
727 {utf16be}{pdfdoc}{%
728 \EdefEscapeString\HyPsd@temp\HyPsd@temp
729 \global\let#1\HyPsd@temp

```

```

730      \HyPsd@EscapeTeX#1%
731      \Hy@unicodedefalse
732    }%
733    \fi
734  }%
735  \fi
736  \fi
737  \HyPsd@XeTeXBigCharsfalse

```

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

```

738  \pdfstringdefPostHook#1%
739  \endgroup
740 }

```

`\Hy@pdfstringdef`

```

741 \def\Hy@pdfstringdef#1#2{%
742   \pdfstringdef\Hy@gtemp{#2}%
743   \let#1\Hy@gtemp
744 }

```

6.3 Encodings

6.3.1 XeTeX

```

745 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
746 \catcode\z@=12 %
747 \ifxetex
748   \expandafter\@firstofone
749 \else
750   \let\HyPsd@XeTeXBigCharstrue\@empty
751   \let\HyPsd@XeTeXBigCharsfalse\@empty
752   \expandafter\@gobble
753 \fi
754 {%
755   \newif\ifHyPsd@XeTeXBigChars
756   \def\HyPsd@XeTeXBigCharsfalse{%
757     \global\let\ifHyPsd@XeTeXBigChars\iffalse
758   }%
759   \def\HyPsd@XeTeXBigCharstrue{%
760     \global\let\ifHyPsd@XeTeXBigChars\iftrue
761   }%
762   \def\HyPsd@ToBigChars#1{%
763     \ifHyPsd@XeTeXBigChars
764       \edefEscapeHex\HyPsd@UnescapedString{%
765         \expandafter\@gobbletwo\HyPsd@UnescapedString
766       }%
767       \begingroup
768       \toks@{}%
769       \escapechar=92\relax
770       \let\x\HyPsd@ToBigChar
771       \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
772       \relax\relax\relax\relax\relax\relax\relax
773     \edef\x{%
774       \endgroup
775       \gdef\noexpand#1{\the\toks@}%
776     }%

```

```

777 \x
778 \fi
779 }%
780 \def\HyPsd@ToBigChar#1#2#3#4{%
781 \ifx\relax#1\relax
782 \let\x\relax
783 \else
784 \count@=#1#2#3#4\relax
785 \let\y\@empty
786 \lccode\z@=\count@
787 \ifnum\count@=40 % (
788 \let\y\@backslashchar
789 \else
790 \ifnum\count@=41 % )
791 \let\y\@backslashchar
792 \else
793 \ifnum\count@=92 % backslash
794 \let\y\@backslashchar
795 \else
796 \ifnum\count@=10 % newline
797 \edef\y##1{\string\n}%
798 \else
799 \ifnum\count@=13 % carriage return
800 \edef\y##1{\string\r}%
801 \fi
802 \fi
803 \fi
804 \fi
805 \fi
806 \lowercase{%
807 \toks@\expandafter{%
808 \the\expandafter\toks@
809 \y
810 ^^@%
811 }%
812 }%
813 \fi
814 \x
815 }%
816 }
817 \Hy@temp

```

6.3.2 Workaround for package linguex

```

818 \@ifpackageloaded{linguex}{%
819 \let\HyLinguex@OrgB\b
820 \let\HyLinguex@OrgC\c
821 \let\HyLinguex@OrgD\d
822 \def\HyLinguex@Restore{%
823 \let\b\HyLinguex@OrgB
824 \let\c\HyLinguex@OrgC
825 \let\d\HyLinguex@OrgD
826 }%
827 \Hy@AtEndOfPackage{%
828 \pdfstringdefDisableCommands{%
829 \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
830 \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
831 \ltx@ifundefined{oldd}{-}{\let\d\oldd}%

```

```

832 }%
833 }%
834 }{%
835 \let\HyLinguex@Restore\relax
836 }%

```

6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_εX 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.

```

837 \ifundefined{T@PD1}{%
838 \input{pd1enc.def}%
839 \HyLinguex@Restore
840 }{}
841 \DeclareFontFamily{PD1}{pdf}{}
842 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
843 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_εX'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.

```

844 \def\HyPsd@InitUnicode{%
845 \ifundefined{T@PU}{%
846 \input{puenc.def}%
847 \HyLinguex@Restore
848 }{}%
849 \DeclareFontFamily{PU}{pdf}{}%
850 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
851 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
852 \let\HyPsd@InitUnicode\relax
853 }

```

6.4 Additional user commands

6.4.1 \texorpdfstring

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

```

854 \def\texorpdfstring{%
855 \ifHy@pdfstring
856 \expandafter\@secondoftwo
857 \else
858 \expandafter\@firstoftwo
859 \fi
860 }

```

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`.

```
861 \@ifundefined{pdfstringdefPreHook}{%
862   \let\pdfstringdefPreHook\empty
863 }{}
864 \@ifundefined{pdfstringdefPostHook}{%
865   \let\pdfstringdefPostHook\@gobble
866 }{}
```

`\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`.

```
867 \def\pdfstringdefDisableCommands{%
868   \begingroup
869   \makeatletter
870   \HyPsd@DisableCommands
871 }
```

`\HyPsd@DisableCommands`

```
872 \long\def\HyPsd@DisableCommands#1{%
873   \toks0=\expandafter{\pdfstringdefPreHook}%
874   \toks1={#1}%
875   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
876   \endgroup
877 }
```

`\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`.

```
878 \def\pdfstringdefWarn#1{%
879   \expandafter\noexpand\csname<>-string#1\endcsname
880 }
```


6.5 Help macros for expansion

6.5.1 \ignorespaces

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

```
881 \begingroup
882 \catcode0=12 %
883 \def\x{\endgroup
884 \def\HyPsd@ignorespaces{%
885 \romannumeral\expandafter'\expandafter^^@%
886 \romannumeral'^^@%
887 }%
888 }%
889 \x
```

6.5.2 Babel languages

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

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

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

```
890 \def\HyPsd@BabelPatch{%
891 \let\HyOrg@languageshorthands\languageshorthands
892 \let\languageshorthands\HyPsd@LanguageShorthands
893 }
894 \RequirePackage{pdftexcmds}[2009/04/10]
895 \begingroup\expandafter\expandafter\expandafter\endgroup
896 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
897 \let\HyPsd@langshort@system\@empty
898 \def\HyPsd@LanguageShorthands#1{%
899 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
900 \HyPsd@langshort@system
901 \expandafter\@gobble
902 \else
903 \expandafter\@firstofone
904 \fi
905 {%
906 \HyOrg@languageshorthands{#1}%
907 }%
908 }%
909 \else
910 \def\HyPsd@LanguageShorthands#1{%
911 \ifnum\pdf@strcmp{#1}{system}=\z@
912 \expandafter\@gobble
913 \else
914 \expandafter\@firstofone
915 \fi
```

```

916   {%
917     \HyOrg@languageshorthands{#1}%
918   }%
919 }%
920 \fi
921 \def\Hy@temp{%
922   \@ifpackageloaded{babel}{%
923     \@ifpackagelater{babel}{2008/03/16}{%
924       \let\Hy@temp\@empty
925     }{%
926       \def\HyPsd@BabelPatch{%
927         \let\HyOrg@languageshorthands\languageshorthands
928       }%
929     }%
930   }{}%
931 }
932 \Hy@temp
933 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
934 \newif\ifHy@next

  Nothing to do for english.
935 \ltx@ifundefined{danish@sh@%sel}{%}{%
936   \def\HyPsd@babel@danish{%
937     \declare@shorthand{danish}{"}{|}%
938     \declare@shorthand{danish}{"}{~}{-}%
939   }%
940 }
941 \ltx@ifundefined{dutch@sh@%sel}{%}{%
942   \def\HyPsd@babel@dutch{%
943     \declare@shorthand{dutch}{"}{|}%
944     \declare@shorthand{dutch}{"}{~}{-}%
945   }%
946 }
947 \ltx@ifundefined{finnish@sh@%sel}{%}{%
948   \def\HyPsd@babel@finnish{%
949     \declare@shorthand{finnish}{"}{|}%
950   }%
951 }
952 \ltx@ifundefined{french@sh@%sel}{%}{%
953   \def\HyPsd@babel@frenchb{%
954     \def\guill@spacing{ }%
955   }%
956 }
957 \ltx@ifundefined{german@sh@%sel}{%}{%
958   \def\HyPsd@babel@german{%
959     \declare@shorthand{german}{"}{f}{f}%
960     \declare@shorthand{german}{"}{|}%
961     \declare@shorthand{german}{"}{~}{-}%
962   }%
963 }
964 \ltx@ifundefined{macedonian@sh@%sel}{%}{%
965   \def\HyPsd@babel@macedonian{%
966     \declare@shorthand{macedonian}{"}{|}%
967     \declare@shorthand{macedonian}{"}{~}{-}%
968   }%
969 }{}
970 \ltx@ifundefined{ngerman@sh@%sel}{%}{%

```

```

971 \def\HyPsd@babel@ngerman{%
972   \declare@shorthand{ngerman}{"}{|}%
973   \declare@shorthand{ngerman}{"}{~}{-}%
974 }%
975 }
976 \ltx@ifundefined{portuges@sh@"@sel}{%}{%
977   \def\HyPsd@babel@portuges{%
978     \declare@shorthand{portuges}{"}{|}%
979   }%
980 }
981 \ltx@ifundefined{russian@sh@"@sel}{%}{%
982   \def\HyPsd@babel@russian{%
983     \declare@shorthand{russian}{"}{|}%
984     \declare@shorthand{russian}{"}{~}{-}%
985   }%
986 }
987 \ltx@ifundefined{slovene@sh@"@sel}{%}{%
988   \def\HyPsd@babel@slovene{%
989     \declare@shorthand{slovene}{"}{|}%
990   }%
991 }

```

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

```

992 \ltx@ifundefined{spanish@sh@>@sel}{%}{%
993   \def\HyPsd@babel@spanish{%
994     \declare@shorthand{spanish}{<<}{\guillemotleft}%
995     \declare@shorthand{spanish}{>>}{\guillemotright}%
996     \declare@shorthand{spanish}{=}{}%
997     \declare@shorthand{spanish}{~}{-}%
998     \declare@shorthand{spanish}{!}{\textexclamdown}%
999     \declare@shorthand{spanish}{?}{\textquestiondown}%
1000   }%
1001 }
1002 \ltx@ifundefined{swedish@sh@"@sel}{%}{%
1003   \def\HyPsd@babel@swedish{%
1004     \declare@shorthand{swedish}{"}{|}%
1005     \declare@shorthand{swedish}{"}{~}{-}%
1006   }%
1007 }
1008 \ltx@ifundefined{ukrainian@sh@"@sel}{%}{%
1009   \def\HyPsd@babel@ukrainian{%
1010     \declare@shorthand{ukrainian}{"}{|}%
1011     \declare@shorthand{ukrainian}{"}{~}{-}%
1012   }%
1013 }
1014 \ltx@ifundefined{usorbian@sh@"@sel}{%}{%
1015   \def\HyPsd@babel@usorbian{%
1016     \declare@shorthand{usorbian}{"}{f}{f}%
1017     \declare@shorthand{usorbian}{"}{|}%
1018   }%
1019 }
1020 \ltx@ifundefined{greek@sh@\string~@sel}{%}{%
1021   \let\HyPsd@GreekPatch\@empty
1022 }{%
1023   \def\HyPsd@GreekPatch{%
1024     \let\greeknumeral\HyPsd@greeknumeral
1025     \let\Greeknnumeral\HyPsd@Greeknnumeral
1026   }%

```

```

1027 }
1028 \def\HyPsd@greeknumeral#1{%
1029   \HyPsd@GreekNum\@firstoftwo{#1}%
1030 }
1031 \def\HyPsd@Greeknumeral#1{%
1032   \HyPsd@GreekNum\@secondoftwo{#1}%
1033 }
1034 \def\HyPsd@GreekNum#1#2{%
1035   \ifHy@unicode
1036     \ifnum#2<\@ne
1037       \@arabic{#2}%
1038     \else
1039       \ifnum#2<1000000 %
1040         \HyPsd@@GreekNum#1{#2}%
1041       \else
1042         \@arabic{#2}%
1043       \fi
1044     \fi
1045   \else
1046     \@arabic{#2}%
1047   \fi
1048 }
1049 \def\HyPsd@@GreekNum#1#2{%
1050   \ifnum#2<\@m
1051     \ifnum#2<10 %
1052       \expandafter\HyPsd@GreekNumI
1053       \expandafter\@gobble\expandafter#1\number#2%
1054     \else
1055       \ifnum#2<100 %
1056         \expandafter\HyPsd@GreekNumII
1057         \expandafter\@gobble\expandafter#1\number#2%
1058       \else
1059         \expandafter\HyPsd@GreekNumIII
1060         \expandafter\@gobble\expandafter#1\number#2%
1061       \fi
1062     \fi
1063   \ifnum#2>\z@
1064     \textnumeralsigngreek
1065   \fi
1066   \else
1067     \ifnum#2<\@M
1068       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1069     \else
1070       \ifnum#2<100000 %
1071         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1072       \else
1073         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1074       \fi
1075     \fi
1076   \fi
1077 }
1078 \def\HyPsd@GreekNumI#1#2#3{%
1079   #1{%
1080     \ifnum#3>\z@
1081       \textnumeralsignlowergreek
1082     \fi
1083   }%

```

```

1084 \expandafter#2%
1085 \ifcase#3 %
1086   {}{}%
1087   \or\textalpha\textAlpha
1088   \or\textbeta\textBeta
1089   \or\textgamma\textGamma
1090   \or\textdelta\textDelta
1091   \or\textepsilon\textEpsilon
1092   \or\textstigmagreek\textStigmagreek
1093   \or\textzeta\textZeta
1094   \or\texteta\textEta
1095   \or\texttheta\textTheta
1096   \else
1097     {}{}%
1098   \fi
1099 }
1100 \def\HyPsd@GreekNumII#1#2#3#4{%
1101   #1{%
1102     \ifnum#3>\z@
1103       \textnumeralsignlowergreek
1104       \fi
1105   }%
1106   \expandafter#2%
1107   \ifcase#3 %
1108     {}{}%
1109     \or\textiota\textIota
1110     \or\textkappa\textKappa
1111     \or\textlambda\textLambda
1112     \or\textmu\textMu
1113     \or\textnu\textNu
1114     \or\textxi\textXi
1115     \or\textomicron\textOmicron
1116     \or\textpi\textPi
1117     \or\textkoppagreek\textKoppagreek
1118     \else
1119       {}{}%
1120     \fi
1121   \HyPsd@GreekNumI#1#2#4%
1122 }
1123 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1124   #1{%
1125     \ifnum#3>\z@
1126       \textnumeralsignlowergreek
1127       \fi
1128   }%
1129   \expandafter#2%
1130   \ifcase#3 %
1131     {}{}%
1132     \or\textrho\textRho
1133     \or\textsigma\textSigma
1134     \or\texttau\textTau
1135     \or\textupsilon\textUpsilon
1136     \or\textphi\textPhi
1137     \or\textchi\textChi
1138     \or\textpsi\textPsi
1139     \or\textomega\textOmega
1140     \or\textsampigreek\textSampigreek

```

```

1141 \else
1142   {}{}%
1143 \fi
1144 \HyPsd@GreekNumII#1#2#4#5%
1145 }
1146 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1147   \HyPsd@GreekNumI\@firstofone#1#2%
1148   \HyPsd@@@GreekNum#1{#3#4#5}%
1149 }
1150 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1151   \HyPsd@GreekNumII\@firstofone#1#2#3%
1152   \HyPsd@@@GreekNum#1{#4#5#6}%
1153 }
1154 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1155   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1156   \HyPsd@@@GreekNum#1{#5#6#7}%
1157 }
1158 \def\HyPsd@SpanishPatch{%
1159   \ltx@ifundefined{es@save@dot}{%
1160     }{%
1161       \let\.\es@save@dot
1162     }%
1163 }

```

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

```

1164 \def\HyPsd@RussianPatch{%
1165   \ltx@ifundefined{russian@sh@"@-@}{%
1166     }{%
1167       \@namedef{russian@sh@"@-@}{-}%
1168     }%
1169 }

```

6.5.3 CJK patch

```

1170 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1171 \def\HyPsd@CJKhook{%
1172   \ltx@ifpackageloaded{CJK}{%
1173     \let\CJK@kern\relax
1174     \let\CJKkern\relax
1175     \let\CJK@CJK\relax
1176     \ifHy@CJKbookmarks
1177       \HyPsd@CJKhook@bookmarks
1178     \fi
1179     \HyPsd@CJKhook@unicode
1180   }{}%
1181 }

```

6.5.4 CJK bookmarks

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

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

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

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

```

1182 \begingroup
1183 \catcode"7F=\active
1184 \toks@{%
1185 \let\CJK@ignorespaces\empty
1186 \def\CJK@char#1{\@gobbletwo}%
1187 \let\CJK@charx\@gobblefour
1188 \let\CJK@punctchar\@gobblefour
1189 \def\CJK@punctcharx#1{\@gobblefour}%
1190 \catcode"7F=\active
1191 \def^^7f#1^^7f#2^^7f{%
1192 \string #1\HyPsd@DecimalToOctal{#2}%
1193 }%
1194 % ... ?
1195 \ifHy@unicode
1196 \def\Hy@cjkpu{\80}%
1197 \else
1198 \let\Hy@cjkpu\@empty
1199 \fi
1200 \HyPsd@CJKActiveChars
1201 }%
1202 \count@=127 %
1203 \@whilenum\count@<255 \do{%
1204 \advance\count@ by 1 %
1205 \lccode'\~=\count@
1206 \lowercase{%
1207 \toks@\expandafter{\the\toks@ ~}%
1208 }%
1209 }%
1210 \toks@\expandafter{\the\toks@ !}%
1211 \xdef\HyPsd@CJKhook@bookmarks{%
1212 \the\toks@
1213 }%
1214 \endgroup

```

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

```

1215 \def\HyPsd@CJKActiveChars#1{%
1216 \ifx#1!%
1217 \let\HyPsd@CJKActiveChars\relax
1218 \else
1219 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1220 \fi
1221 \HyPsd@CJKActiveChars
1222 }

```

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

```

1223 \def\HyPsd@DecimalToOctal#1{%
1224 \ifcase #1 %
1225 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1226 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1227 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1228 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1229 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%

```

```

1230 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1231 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1232 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1233 \or @\or A\or B\or C\or D\or E\or F\or G%
1234 \or H\or I\or J\or K\or L\or M\or N\or O%
1235 \or P\or Q\or R\or S\or T\or U\or V\or W%
1236 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1237 \or \140\or a\or b\or c\or d\or e\or f\or g%
1238 \or h\or i\or j\or k\or l\or m\or n\or o%
1239 \or p\or q\or r\or s\or t\or u\or v\or w%
1240 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1241 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1242 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1243 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1244 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1245 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1246 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1247 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1248 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1249 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1250 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1251 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1252 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1253 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1254 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1255 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1256 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1257 \fi
1258 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1259 \def\HyPsd@CJKhook@unicode{%
1260 \let\Unicode\HyPsd@CJK@Unicode
1261 \let\CJKnumber\HyPsd@CJKnumber
1262 \let\CJKdigits\HyPsd@CJKdigits
1263 }

```

\HyPsd@CJK@Unicode

```

1264 \def\HyPsd@CJK@Unicode#1#2{%
1265 \ifnum#1<256 %
1266 \HyPsd@DecimalToOctalFirst{#1}%
1267 \HyPsd@DecimalToOctalSecond{#2}%
1268 \else
1269 \933%
1270 \expandafter\expandafter\expandafter\HyPsd@HighA
1271 \intcalcDiv{#1}{4}!%
1272 \933%
1273 \ifcase\intcalcMod{#1}{4} %
1274 4\or 5\or 6\or 7%
1275 \fi
1276 \HyPsd@DecimalToOctalSecond{#2}%
1277 \fi
1278 }

1279 \def\HyPsd@HighA#1!{%

```



```

1280 \expandafter\expandafter\expandafter\HyPsd@HighB
1281 \IntCalcDiv#1!64!!%
1282 \expandafter\expandafter\expandafter\HyPsd@HighD
1283 \IntCalcMod#1!64!!%
1284 }
1285 \def\HyPsd@HighB#1!{%
1286 \expandafter\expandafter\expandafter\HyPsd@HighC
1287 \IntCalcDec#1!!%
1288 }
1289 \def\HyPsd@HighC#1!{%
1290 \IntCalcDiv#1!4!%
1291 \@backslashchar
1292 \IntCalcMod#1!4!%
1293 }
1294 \def\HyPsd@HighD#1!{%
1295 \ifcase\IntCalcDiv#1!8! %
1296 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1297 \fi
1298 \ifcase\IntCalcMod#1!8! %
1299 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1300 \fi
1301 }
1302 \def\HyPsd@DecimalToOctalFirst#1{%
1303 \9%
1304 \ifcase#1 %
1305 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1306 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1307 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1308 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1309 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1310 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1311 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1312 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1313 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1314 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1315 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1316 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1317 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1318 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1319 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1320 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1321 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1322 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1323 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1324 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1325 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1326 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1327 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1328 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1329 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1330 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1331 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1332 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1333 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1334 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1335 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1336 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%

```

```

1337 \fi
1338 }
1339 \def\HyPsd@DecimalToOctalSecond#1{%
1340 \ifcase #1 %
1341 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1342 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1343 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1344 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1345 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1346 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1347 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1348 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1349 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1350 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1351 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1352 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1353 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1354 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1355 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1356 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1357 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1358 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1359 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1360 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1361 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1362 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1363 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1364 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1365 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1366 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1367 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1368 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1369 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1370 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1371 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1372 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1373 \fi
1374 }
1375 \def\HyPsd@CJKNumber#1{%
1376 \ifnum#1<\z@
1377 \CJK@minus
1378 \expandafter\HyPsd@@CJKNumber\expandafter{\number-\number#1}%
1379 \else
1380 \expandafter\HyPsd@@CJKNumber\expandafter{\number#1}%
1381 \fi
1382 }
1383 \def\HyPsd@@CJKNumber#1{%
1384 \ifcase#1 %
1385 \CJK@zero\or \CJK@one\or \CJK@two\or \CJK@three\or \CJK@four\or
1386 \CJK@five\or \CJK@six\or \CJK@seven\or \CJK@eight\or \CJK@nine\or
1387 \CJK@ten\or \CJK@ten\CJK@one\or \CJK@ten\CJK@two\or
1388 \CJK@ten\CJK@three\or \CJK@ten\CJK@four\or \CJK@ten\CJK@five\or
1389 \CJK@ten\CJK@six\or \CJK@ten\CJK@seven\or \CJK@ten\CJK@eight\or
1390 \CJK@ten\CJK@nine
1391 \else
1392 \ifnum#1<10000 %
1393 \HyPsd@CJKNumberFour#1!\@empty{20}%

```

```

1394 \empty
1395 \else
1396 \ifnum#1<100000000 %
1397 \expandafter\expandafter\expandafter\HyPsd@CJKNumberFour
1398 \IntCalcDiv#1!10000!%
1399 !\{20}%
1400 \CJK@tenthousand
1401 \expandafter\expandafter\expandafter\HyPsd@CJKNumberFour
1402 \IntCalcMod#1!10000!%
1403 !\CJK@zero{10}%
1404 \empty
1405 \else
1406 \expandafter\HyPsd@CJKNumberLarge
1407 \number\IntCalcDiv#1!100000000!\expandafter!%
1408 \number\IntCalcMod#1!100000000!!%
1409 \fi
1410 \fi
1411 \fi
1412 }
1413 \def\HyPsd@CJKNumberLarge#1!#2!{%
1414 \HyPsd@CJKNumberFour#1!\{20}%
1415 \CJK@hundredmillion
1416 \ifnum#2=\z@
1417 \else
1418 \expandafter\expandafter\expandafter\HyPsd@CJKNumberFour
1419 \IntCalcDiv#2!10000!%
1420 !\CJK@zero{10}%
1421 \CJK@tenthousand
1422 \expandafter\expandafter\expandafter\HyPsd@CJKNumberFour
1423 \IntCalcMod#2!10000!%
1424 !\CJK@zero{10}%
1425 \empty
1426 \fi
1427 }
1428 \def\HyPsd@CJKNumberFour#1!#2#3{%
1429 \ifnum#1=\z@
1430 \expandafter\@gobble
1431 \else
1432 \ifnum#1<1000 %
1433 #2%
1434 \HyPsd@CJKNumberThree#1!\{#3}%
1435 \else
1436 \HyPsd@@CJKNumber{\IntCalcDiv#1!1000!}%
1437 \CJK@thousand
1438 \expandafter\expandafter\expandafter\HyPsd@CJKNumberThree
1439 \IntCalcMod#1!1000!%
1440 !\CJK@zero{10}%
1441 \fi
1442 \fi
1443 }
1444 \def\HyPsd@CJKNumberThree#1!#2#3{%
1445 \ifnum#1=\z@
1446 \else
1447 \ifnum#1<100 %
1448 #2%
1449 \HyPsd@CJKNumberTwo#1!\{#3}%
1450 \else

```

```

1451 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1452 \CJK@hundred
1453 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1454 \IntCalcMod#1!100!%
1455 !\CJK@zero{10}%
1456 \fi
1457 \fi
1458 }
1459 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1460 \ifnum#1=\z@
1461 \else
1462 \ifnum#1<#3 %
1463 #2%
1464 \HyPsd@@CJKnumber{#1}%
1465 \else
1466 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1467 \CJK@ten
1468 \ifnum\IntCalcMod#1!10!=\z@
1469 \else
1470 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1471 \fi
1472 \fi
1473 \fi
1474 }
1475 \def\HyPsd@CJKdigits#1{%
1476 \ifx*#1\relax
1477 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1478 \else
1479 \HyPsd@@CJKdigits\CJK@null{#1}%
1480 \fi
1481 }
1482 \def\HyPsd@@CJKdigits#1#2{%
1483 \ifx\#2\%
1484 \else
1485 \HyPsd@@@CJKdigits#1#2\@nil
1486 \fi
1487 }%
1488 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1489 \HyPsd@CJKdigit#1{#2}%
1490 \ifx\#3\%
1491 \expandafter\@gobble
1492 \else
1493 \expandafter\@firstofone
1494 \fi
1495 {%
1496 \HyPsd@@@CJKdigits#1#3\@nil
1497 }%
1498 }
1499 \def\HyPsd@CJKdigit#1#2{%
1500 \ifcase#2 %
1501 #1\or
1502 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1503 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1504 \fi
1505 }

```

6.5.6 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname?\string#1\endcsname\relax
        \expandafter\def\csname?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

1506 \def\HyPsd@inmathwarn#1#2{%
1507   \ifx#2\expandafter
1508     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1509       \HyPsd@GLYPHERR
1510       \expandafter\@gobble\string#1%
1511       >%
1512       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1513     \else
1514       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1515     \fi
1516   \else
1517     \expandafter#2%
1518   \fi
1519 }
1520 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
```

```
1521 \def\HyPsd@EndWithElse#1\else{\else}
```

\HyPsd@add@accent

```
1522 \def\HyPsd@add@accent#1#2{%
1523   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1524   #2%
1525 }%
```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```
1526 \def\HyPsd@LetUnexpandableSpace#1{%
1527   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1528 }
```

\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.

```
1529 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.8 Marker for commands

\HyPsd@XSPACE \HyPsd@ITALCORR \HyPsd@GLYPHERR 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.

```
1530 \edef\HyPsd@XSPACE{\string#\string X}
1531 \edef\HyPsd@ITALCORR{\string#\string I}
1532 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 \hspace fix

\HyPsd@hspace

```
1533 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1534 \def\HyPsd@@hspace#1*#2\END{%
1535   \ifx\#2\%
1536     \HyPsd@hspacetest{#1}%
1537   \else
1538     \expandafter\HyPsd@hspacetest
1539   \fi
1540 }
```

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

```
1541 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```

1542 \ltx@ifundefined{tocsection}{%
1543   \let\HyPsd@AMSclassfix\relax
1544 }{%
1545   \def\HyPsd@AMSclassfix{%
1546     \let\tocpart\HyPsd@tocsection
1547     \let\tocchapter\HyPsd@tocsection
1548     \let\tocappendix\HyPsd@tocsection
1549     \let\tocsection\HyPsd@tocsection
1550     \let\tocsubsection\HyPsd@tocsection
1551     \let\tocsubsubsection\HyPsd@tocsection
1552     \let\tocparagraph\HyPsd@tocsection
1553   }%
1554   \def\HyPsd@tocsection#1#2#3{%
1555     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1556     #3%
1557   }%
1558 }

```

6.5.11 Reference commands

`\HyPsd@href`

```

1559 \def\HyPsd@href#1#{\@secondoftwo}

```

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

```

1560 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1561 \def\HyPsd@@ref#1*#2\END{%
1562   \ifx\#2\%
1563     \HyPsd@@@ref{#1}%
1564   \else
1565     \expandafter\HyPsd@@@ref
1566   \fi
1567 }%

```

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

```

1568 \def\HyPsd@@@ref#1{%
1569   \expandafter\ifx\csname r@#1\endcsname\relax
1570     ??%
1571   \else
1572     \expandafter\expandafter\expandafter
1573     \@car\csname r@#1\endcsname\@nil
1574   \fi
1575 }

```

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

```

1576 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1577 \def\HyPsd@@pageref#1*#2\END{%
1578   \ifx\#2\%
1579     \HyPsd@@@pageref{#1}%
1580   \else

```

```

1581 \expandafter\HyPsd@@@pageref
1582 \fi
1583 }

```

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

```

1584 \def\HyPsd@@@pageref#1{%
1585 \expandafter\ifx\csname r@#1\endcsname\relax
1586 ??%
1587 \else
1588 \expandafter\expandafter\expandafter\expandafter
1589 \expandafter\expandafter\expandafter\@car
1590 \expandafter\expandafter\expandafter\@gobble
1591 \csname r@#1\endcsname{}\@nil
1592 \fi
1593 }

```

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

```

1594 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1595 \def\HyPsd@@nameref#1*#2\END{%
1596 \ifx\#2\%
1597 \HyPsd@@@nameref{#1}%
1598 \else
1599 \expandafter\HyPsd@@@nameref
1600 \fi
1601 }

```

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

```

1602 \def\HyPsd@@@nameref#1{%
1603 \expandafter\ifx\csname r@#1\endcsname\relax
1604 ??%
1605 \else
1606 \expandafter\expandafter\expandafter\expandafter
1607 \expandafter\expandafter\expandafter\@car
1608 \expandafter\expandafter\expandafter\@gobbletwo
1609 \csname r@#1\endcsname{}\@nil
1610 \fi
1611 }

```

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

```

1612 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1613 \def\HyPsd@@autoref#1*#2\END{%
1614 \ifx\#2\%
1615 \HyPsd@@@autoref{#1}%
1616 \else
1617 \expandafter\HyPsd@@@autoref
1618 \fi
1619 }

```

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

```

1620 \def\HyPsd@@@autoref#1{%

```


side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand
1646 \begingroup
1647   \def\x#1#2{%
1648     \endgroup
1649     \let#1\def
1650     \def\HyPsd@DefCommand##1##2##{%
1651       #1%
1652       \expandafter\noexpand
1653       \csname\expandafter\@gobble\string##1\@empty\endcsname
1654       \@gobble
1655     }%
1656     \let#2\let
1657     \def\HyPsd@@LetCommand##1{%
1658       \expandafter\ifx\csname##1\expandafter\endcsname
1659         \csname iftrue\endcsname
1660         \pdfstringdefWarn\let
1661         \expandafter\@gobble
1662       \else
1663         \expandafter\ifx\csname##1\expandafter\endcsname
1664           \csname iffalse\endcsname
1665           \pdfstringdefWarn\let
1666           \expandafter\expandafter\expandafter\@gobble
1667         \else
1668           #2%
1669           \expandafter\noexpand
1670           \csname##1\expandafter\expandafter\expandafter\endcsname
1671         \fi
1672       \fi
1673     }%
1674   }%
1675   \expandafter\x\csname <def>-command\expandafter\endcsname
1676     \csname <let>-command\endcsname
1677   \def\HyPsd@LetCommand#1{%
1678     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1679     \expandafter\expandafter\expandafter{%
1680       \expandafter\@gobble\string#1\@empty
1681     }%
1682   }
```

6.5.13 `\ifnextchar`

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

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

```

1683 \def\HyPsd@ifnextchar#1{%
1684   \pdfstringdefWarn#1%
1685   \expandafter\@gobbletwo\@gobble
1686 }

```

6.5.14 \@protected@testoptifnextchar

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

```

1687 \def\HyPsd@protected@testopt#1{%
1688   \pdfstringdefWarn#1%
1689   \@gobbletwo
1690 }

```

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:

```

1691 \def\HyPsd@Warning#1{%
1692   \begingroup
1693   \def\space{ }%
1694   \Hy@Warning{#1}%
1695   \endgroup
1696 }

```

6.6.2 Protecting spaces

```

1697 \RequirePackage{etexcmds}[2007/09/09]
1698 \ifetex@unexpanded
1699   \expandafter\@secondoftwo
1700 \else
1701   \expandafter\@firstoftwo
1702 \fi
1703 {%

```

\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.

```

1704 \def\HyPsd@ProtectSpaces#1{%
1705   \iftrue
1706     \expandafter\HyPsd@@ProtectSpacesFi
1707     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1708   \fi
1709 }%

```

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

```

1710 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1711   \fi
1712   \ifx\scrollmode#2\scrollmode
1713     \HyPsd@RemoveMask#1\HyPsd@End#3%

```

```

1714 \else
1715 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1716 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@end#3%
1717 \fi
1718 }%

```

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.

```

1719 \def\HyPsd@RemoveMask|#1|\HyPsd@end#2{%
1720 \toks@\expandafter{#1}%
1721 \xdef#2{\the\toks@}%
1722 }%

1723 }{%
1724 \let\HyPsd@fi\fi
1725 \def\HyPsd@ProtectSpaces#1{%
1726 \xdef#1{%
1727 \iftrue
1728 \expandafter\HyPsd@@ProtectSpacesFi
1729 \expandafter|\expandafter\@empty#1| %
1730 \HyPsd@fi
1731 }%
1732 \expandafter\HyPsd@RemoveMask#1\HyPsd@end#1%
1733 }%
1734 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1735 \fi
1736 \etex@unexpanded{#1}%
1737 \ifx\scrollmode#2\scrollmode
1738 \else
1739 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1740 \HyPsd@fi
1741 }%
1742 \def\HyPsd@RemoveMask|#1|\HyPsd@end#2{%
1743 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1744 }%
1745 }

```

6.6.3 Remove grouping braces

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

```

1746 \def\HyPsd@RemoveBraces#1{%
1747 \ifx\scrollmode#1\scrollmode
1748 \else
1749 \HyPsd@@RemoveBracesFi#1\HyPsd@end{#1}%
1750 \fi
1751 }

```

`\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.

```

1752 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1753   \fi
1754   \def\Hy@temp@A{#1#2}%
1755   \def\Hy@temp@B{#3}%
1756   \ifx\Hy@temp@A\Hy@temp@B
1757     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1758       \HyPsd@String#1%
1759     }%
1760     \ifx\scrollmode#2\scrollmode
1761     \else
1762       \Hy@ReturnAfterFiFiEnd{%
1763         \HyPsd@RemoveBraces{#2}%
1764       }%
1765     \fi
1766   \else
1767     \def\Hy@temp@A{#1}%
1768     \HyPsd@AppendItalcrr\HyPsd@String
1769     \ifx\Hy@temp@A\@empty
1770       \Hy@ReturnAfterElseFiFiEnd{%
1771         \HyPsd@RemoveBraces{#2}%
1772       }%
1773     \else
1774       \HyPsd@ProtectSpaces\Hy@temp@A
1775       \HyPsd@AppendItalcrr\Hy@temp@A
1776       \Hy@ReturnAfterFiFiEnd{%
1777         \expandafter\HyPsd@RemoveBraces\expandafter
1778           {\Hy@temp@A#2}%
1779       }%
1780     \fi
1781   \fi
1782   \Hy@ReturnEnd
1783 }

```

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

```

1784 \def\HyPsd@AppendItalcrr#1{%
1785   \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1786 }
1787 \def\HyPsd@@AppendItalcrr#1#2{%
1788   \expandafter\def\expandafter#2\expandafter{#2#1}%
1789 }

```

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).

```

1790 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1791   \global\let\HyPsd@Rest\relax
1792   \ifcat\relax\noexpand#1\relax
1793     \ifx#1\protect
1794       \else
1795         \ifx#1\penalty
1796           \setbox\z@=\hbox{%
1797             \afterassignment\HyPsd@AfterCountRemove
1798             \count@=#2\HyPsd@end
1799           }%
1800         \else
1801           \ifx#1\kern
1802             \setbox\z@=\hbox{%
1803               \afterassignment\HyPsd@AfterDimenRemove
1804               \dimen@=#2\HyPsd@end
1805             }%
1806           \else
1807             \ifx#1\hskip
1808               \setbox\z@=\hbox{%
1809                 \afterassignment\HyPsd@AfterSkipRemove
1810                 \skip@=#2\HyPsd@end
1811               }%
1812             \else
1813               \HyPsd@CatcodeWarning{#1}%
1814             \fi
1815           \fi
1816         \fi
1817       \fi
1818     \else
1819       \ifcat#1A% letter
1820         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1821           \HyPsd@String#1%
1822         }%
1823       \else
1824         \ifcat#1 % SPACE
1825           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1826             \HyPsd@String\HyPsd@SPACEOPTI
1827           }%
1828         \else
1829           \ifcat$#1%
1830             \HyPsd@CatcodeWarning{math shift}%
1831           \else
1832             \ifcat&#1%
1833               \HyPsd@CatcodeWarning{alignment tab}%
1834             \else
1835               \ifcat^#1%
1836                 \HyPsd@CatcodeWarning{superscript}%
1837               \else
1838                 \ifcat_#1%
1839                   \HyPsd@CatcodeWarning{subscript}%
1840                 \else
1841                   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1842                     \HyPsd@String#1%
1843                   }%
1844                 \fi

```

```

1845         \fi
1846     \fi
1847 \fi
1848 \fi
1849 \fi
1850 \fi
1851 \ifx\HyPsd@Rest\relax
1852 \ifx\scrollmode#2\scrollmode
1853 \else
1854 \Hy@ReturnAfterFiFiEnd{%
1855 \HyPsd@CheckCatcodes#2\HyPsd@End
1856 }%
1857 \fi
1858 \else
1859 \ifx\HyPsd@Rest\@empty
1860 \else
1861 \Hy@ReturnAfterFiFiEnd{%
1862 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1863 }%
1864 \fi
1865 \fi
1866 \Hy@ReturnEnd
1867 }

```

Remove counts, dimens, skips.

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

```

1868 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1869 \gdef\HyPsd@Rest{#1}%
1870 }

```

\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.

```

1871 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1872 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1873 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1874 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1875 \else
1876 \ifdim\dimen@=\z@
1877 \else
1878 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1879 \fi
1880 \gdef\HyPsd@Rest{#1}%
1881 \fi
1882 }

```

\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).

```

1883 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1884 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1885 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1886 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1887 \else
1888 \ifdim\skip@=\z@

```

```

1889 \else
1890 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1891 \fi
1892 \gdef\HyPsd@Rest{#1}%
1893 \fi
1894 }

```

Catcode warnings.

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

```

1895 \def\HyPsd@CatcodeWarning#1{%
1896 \HyPsd@Warning{%
1897 Token not allowed in a PDF string (%)
1898 \ifHy@unicode
1899 Unicode%
1900 \else
1901 PDFDocEncoding%
1902 \fi
1903 }:%
1904 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1905 }%
1906 }
1907 \begingroup
1908 \catcode'\|=0 %
1909 \catcode'\|=12 %
1910 \gdef\HyPsd@RemoveCmdPrefix#1{%
1911 |expandafter\HyPsd@@RemoveCmdPrefix
1912 |string#1|@empty\<>-|@empty|@empty
1913 }%
1914 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1915 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1916 \def\HyPsd@RemoveSpaceWarning#1{%
1917 \HyPsd@Warning{%
1918 Token not allowed in a PDF string (%)
1919 \ifHy@unicode
1920 Unicode%
1921 \else
1922 PDFDocEncoding%
1923 \fi
1924 }:%
1925 \MessageBreak #1\MessageBreak
1926 removed%
1927 }%
1928 }

```

\HyPsd@ReplaceSpaceWarning

```

1929 \def\HyPsd@ReplaceSpaceWarning#1{%
1930 \HyPsd@Warning{%
1931 Token not allowed in a PDF string (%)
1932 \ifHy@unicode
1933 Unicode%
1934 \else
1935 PDFDocEncoding%
1936 \fi
1937 }:%

```



```

1938 \MessageBreak #1\MessageBreak
1939 replaced by space%
1940 }%
1941 }

```

6.6.5 Check for wrong glyphs

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

```

1942 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1943 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1944 \HyPsd@String#1%
1945 }%
1946 \ifx\#2\%
1947 \else
1948 \Hy@ReturnAfterFi{%
1949 \HyPsd@GlyphProcessWarning#2\@empty
1950 }%
1951 \fi
1952 }
1953 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1954 \HyPsd@@GlyphProcessWarning#1++>%
1955 \HyPsd@GlyphProcess#2\@empty
1956 }
1957 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1958 \ifx\#2\%
1959 \HyPsd@Warning{%
1960 Glyph not defined in %
1961 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1962 removing \@backslashchar#1'%
1963 }%
1964 \else
1965 \HyPsd@Warning{%
1966 Composite letter '@backslashchar#1+#2'\MessageBreak
1967 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1968 \MessageBreak
1969 removing '@backslashchar#1'%
1970 }%
1971 \fi
1972 }

```

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.

```

1973 \def\HyPsd@spaceopti#1{ % first space
1974 \ifx\HyPsd@spaceopti#1%
1975 \040%
1976 \else
1977 #1%
1978 \fi
1979 }%

```

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.

1980 \def\HyPsd@Subst#1#2#3{%
1981   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1982     \fi
1983     ##1%
1984     \ifx\scrollmode##2\scrollmode
1985     \else
1986       #2%
1987       \HyPsd@@ReplaceFi##2\END
1988     \fi
1989   }%
1990 \xdef#3{%
1991   \iftrue
1992     \expandafter\HyPsd@@ReplaceFi#3#1\END
1993   \fi
1994 }%
1995 }
```

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

```
1996 \def\HyPsd@StringSubst#1{%
1997   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1998 }
```

`\HyPsd@EscapeTeX`

```
1999 \begingroup
2000 \lccode'\!='\%
2001 \lccode'\|='\%
2002 \lccode'\(=\'\%
2003 \lccode'\)='\%
2004 \lccode'0=\ltx@zero
2005 \lccode'1=\ltx@zero
2006 \lccode'3=\ltx@zero
2007 \lccode'4=\ltx@zero
2008 \lccode'5=\ltx@zero
2009 \lccode'7=\ltx@zero
2010 \lowercase{\endgroup
2011 \def\HyPsd@EscapeTeX#1{%
2012   \HyPsd@Subst!{|045}#1%
2013   \HyPsd@Subst{|173}#1%
2014   \HyPsd@Subst){|175}#1%
2015 }%
2016 }
```

6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in $\mathrm{T}_{\mathrm{E}}\mathrm{X}$'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.

```

2017 \def\HyPsd@doxspace#1{%
2018   \ifx#1\relax\else
2019   \ifx#1.\else
2020   \ifx#1:\else
2021   \ifx#1,\else
2022   \ifx#1;\else
2023   \ifx#1!\else
2024   \ifx#1?\else
2025   \ifx#1/\else
2026   \ifx#1-\else
2027   \ifx#1'\else
2028   \HyPsd@SPACEOPTI
2029   \fi
2030   \fi
2031   \fi
2032   \fi
2033   \fi
2034   \fi
2035   \fi
2036   \fi
2037   \fi
2038   \fi
2039   #1%
2040 }%

```

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.

```

2041 \begingroup
2042 \catcode'\|=0 %
2043 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2044 |gdef\HyPsd@ConvertToUnicode#1{%
2045   |xdef#1{%
2046     |expandafter\HyPsd@DoConvert#1|@empty|@empty|@empty
2047   }%
2048   |ifx#1|@empty
2049   |else
2050     |xdef#1{%
2051       \376\377%
2052       #1%
2053     }%
2054     |fi
2055   }%

```

\HyPsd@DoConvert

```

2056 |gdef\HyPsd@DoConvert#1{%
2057   |ifx#1|@empty
2058   |else
2059     |Hy@ReturnAfterFi{%
2060       |ifx#1\%%
2061       \%%
2062     |expandafter\HyPsd@DoEscape

```

```

2063     |else
2064     |HyPsd@Char{#1}%
2065     |expandafter|HyPsd@DoConvert
2066     |fi
2067   }%
2068   |fi
2069 }%

```

\HyPsd@DoEscape

```

2070 |gdef|HyPsd@DoEscape#1{%
2071   |ifx#19%
2072   |expandafter|HyPsd@GetTwoBytes
2073   |else
2074   |Hy@ReturnAfterFi{%
2075   |ifx#18%
2076   00%
2077   |expandafter|HyPsd@GetTwoBytes
2078   |else
2079   #1%
2080   |expandafter|HyPsd@GetOneByte
2081   |fi
2082   }%
2083   |fi
2084 }%

```

\HyPsd@GetTwoBytes

```

2085 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2086   #1\#2#3#4%
2087   |HyPsd@DoConvert
2088   }%

```

\HyPsd@GetOneByte

```

2089 |gdef|HyPsd@GetOneByte#1#2{%
2090   #1#2%
2091   |HyPsd@DoConvert
2092   }%
2093 |endgroup

```

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

```

2094 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2095   \xdef#4{#4#1#2}%
2096   \HyPsd@@ConvertToUnicode#3\END#4%
2097 }

```

\HyPsd@Char

```

2098 \begingroup
2099 \catcode0=9 %
2100 \catcode'\^=7 %
2101 \catcode'\^^=12 %
2102 \def\x{^^^^0000}%
2103 \expandafter\endgroup
2104 \ifx\x\@empty
2105   \def\HyPsd@Char#1{%
2106     \ifnum'#1<128 %
2107       \@backslashchar 000#1%
2108     \else

```

```

2109 \ifnum'#1<65536 %
2110 \expandafter\HyPsd@CharTwoByte\number'#1!%
2111 \else
2112 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2113 \intcalcSub{'#1}{65536}!%
2114 \fi
2115 \fi
2116 }%
2117 \def\HyPsd@CharTwoByte#1!{%
2118 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2119 \IntCalcDiv#1!256!!%
2120 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2121 \IntCalcMod#1!256!!%
2122 }%
2123 \def\HyPsd@CharOctByte#1!{%
2124 \@backslashchar
2125 \IntCalcDiv#1!64!%
2126 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2127 \IntCalcMod#1!8!%
2128 }%
2129 \def\HyPsd@CharSurrogate#1!{%
2130 \@backslashchar 33%
2131 \IntCalcDiv#1!262144!%
2132 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2133 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2134 \@backslashchar 33%
2135 \expandafter\expandafter\expandafter\IntCalcAdd
2136 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2137 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2138 \IntCalcMod#1!256!!%
2139 }%
2140 \else
2141 \def\HyPsd@Char#1{%
2142 \@backslashchar 000#1%
2143 }%
2144 \fi

```

6.6.9 Support for UTF-8 input encoding

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

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

```

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

2145 \begingroup\expandafter\expandafter\expandafter\endgroup
2146 \expandafter\ifx\csname numexpr\endcsname\relax
2147 \let\HyPsd@UTFviii\relax
2148 \else
2149 \begingroup
2150 \lccode'\~='^f4\relax
2151 \lowercase{\endgroup

```

```

2152 \def\HyPsd@UTFviii{%
2153   \let\UTFviii@two@octets\HyPsd@UTFviii@two
2154   \let\UTFviii@three@octets\HyPsd@UTFviii@three
2155   \let\UTFviii@four@octets\HyPsd@UTFviii@four
2156   \ifx~\HyPsd@UTFviii@ccxliv@undef
2157     \let~\HyPsd@UTFviii@ccxliv@def
2158   \fi
2159   \let~\unichar\HyPsd@unichar
2160 }%
2161 }%
2162 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2163 \edef\HyPsd@UTFviii@ccxliv@def{%
2164   \noexpand\UTFviii@four@octets\string ^^f4%
2165 }%

```

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.

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

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

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

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

$$(5)$$

```

2166 \def\HyPsd@UTFviii@two#1#2{%
2167   \expandafter\HyPsd@UTFviii@@two
2168   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2169   \number'#1\expandafter| %
2170   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2171   \number'#2 \@nil
2172 }%
2173 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2174   \expandafter\8%
2175   \number\numexpr #1-48\expandafter\relax
2176   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2177   \number\numexpr #3-8*%
2178   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2179   \number\numexpr #4-8*#3\relax
2180 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2181 \def\HyPsd@UTFviii@three#1#2#3{%
2182   \expandafter\HyPsd@UTFviii@@three
2183   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %

```

```

2184 \number'#1\expandafter| %
2185 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2186 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2187 \number'#2\expandafter| %
2188 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2189 \number'#3 \@nil
2190 }%
2191 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2192 \expandafter\9%
2193 \number\numexpr #1-56\expandafter\relax
2194 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2195 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2196 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2197 \number\numexpr #6-16\expandafter\relax
2198 \number\numexpr #7-8*#6\relax
2199 }%

```

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 = uuuuu - 1
UTF-16: 110110ww wwzzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2200 \def\HyPsd@UTFviii@four#1#2{%
2201 \expandafter\HyPsd@@UTFviii@four\number
2202 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2203 \expandafter|\number
2204 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2205 }%
2206 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2207 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2208 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2209 \ifodd#2 %
2210 \number\numexpr(#2-1)/2\relax
2211 \else
2212 \number\numexpr#2/2\relax
2213 \fi
2214 \number\numexpr\ifodd#2 4+\fi
2215 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2216 \933%
2217 \expandafter\HyPsd@@@UTFviii@four\number
2218 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2219 }%
2220 \def\HyPsd@@@UTFviii@four#1|#2{%
2221 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2222 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2223 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2224 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2225 }%

```

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

```

2226 \def\HyPsd@unichar#1{%
2227 \ifHy@unicode
2228 \ifnum#1>"10FFFF %
2229 \HyPsd@UnicodeReplacementCharacter % illegal
2230 \else

```

2231 \ifnum#1>"FFFF %

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

2232 \expandafter\HyPsd@unichar\expandafter{%
2233 \number\numexpr 55296+%
2234 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2235 \relax\relax\relax
2236 }%

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

2237 \expandafter\HyPsd@unichar\expandafter{%
2238 \number\numexpr#1-9216%
2239 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2240 \relax\relax\relax
2241 }%
2242 \else
2243 \ifnum#1>"7FF %
2244 \9%
2245 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2246 \number
2247 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2248 }%
2249 \else
2250 \8%
2251 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2252 \fi
2253 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2254 \number
2255 \numexpr#1-256*\number
2256 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2257 }%
2258 \fi
2259 \fi
2260 \else
2261 .% unsupported (Unicode -> PDF Doc Encoding)
2262 \fi
2263 }%
2264 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2265 \def\HyPsd@unichar@first@byte#1{%
2266 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2267 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2268 \number
2269 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2270 \relax\relax\relax
2271 }%
2272 }%
2273 \def\HyPsd@unichar@second@byte#1{%
2274 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2275 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2276 \number
2277 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2278 \relax\relax\relax
2279 }%
2280 }%
2281 \def\HyPsd@unichar@octtwo#1{%
2282 \number\dimexpr.125\dimexpr#1sp\relax\relax
2283 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2284 \relax\relax\relax

2285 }%

2286 \fi

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

2287 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%

2288 \ifx\@gobble#1%

2289 \else

2290 [Please insert \textbackslash PrerenderUnicode%

2291 \textbraceleft#1\textbraceright\space

2292 into preamble]%

2293 \fi

2294 }%

7 Support of other packages

7.1 Class memoir

2295 \@ifclassloaded{memoir}{%

2296 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%

2297 }{}

7.2 Package subfigure

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

2298 \@ifpackageloaded{subfigure}{%

2299 \ltx@ifundefined{sub@label}{%

2300 \Hy@hypertexnamesfalse

2301 }{%

2302 \renewcommand*{\sub@label}[1]{%

2303 \@bsphack

2304 \subfig@oldlabel{#1}%

2305 \if@filesw

2306 \begingroup

2307 \edef\@currentlabstr{%

2308 \expandafter\strip@prefix\meaning\@currentlabelname

2309 }%

2310 \protected@write\@auxout{}{%

2311 \string\newlabel{sub@#1}{%

2312 {\@nameuse{\@thesub\@capttype}}}%

2313 {\thepage}%

2314 {%

2315 \expandafter\strip@period\@currentlabstr

2316 \relax.\relax\@@@%

2317 }%

2318 {\@currentHref}%

2319 }}%

2320 }%

2321 }%

2322 \endgroup

2323 \fi

2324 \@esphack

2325 }%

2326 \@ifpackagelater{subfigure}{2002/03/26}{}{%

2327 \providecommand*{\toclevel@subfigure}{1}%

2328 \providecommand*{\toclevel@subtable}{1}%

2329 }%

```

2330 }%
2331 }{}

```

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:

```

2332 \ltx@ifundefined{XR@addURL}{%
2333 }{%

```

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.

```

2334 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2335 \def\XR@dURL#1#2#3#4#5\\{%
2336   {#1}{#2}%
2337   \if!#4!%
2338   \else
2339     {#3}{#4}{\XR@URL}%
2340   \fi
2341 }%
2342 }

2343 \def\Hy@true{true}
2344 \def\Hy@false{false}

```

Providing dummy definitions.

```

2345 \let\literals@out\@gobble
2346 \newcommand\pdfbookmark[3]{}
2347 \def\Acrobatmenu#1#2{\leavevmode#2}
2348 \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

```

2349 \let\HyperRaiseLinkHook\@empty
2350 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

2351 \newcount\Hy@SavedSpaceFactor
2352 \def\Hy@SaveSpaceFactor{%
2353   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@
2354 }
2355 \def\Hy@RestoreSpaceFactor{%
2356   \relax
2357   \ifhmode
2358     \ifnum\Hy@SavedSpaceFactor>\z@

```

```

2359 \spacefactor=\Hy@SavedSpaceFactor
2360 \fi
2361 \fi
2362 }
2363 \def\Hy@SaveSavedSpaceFactor{%
2364 \edef\Hy@RestoreSavedSpaceFactor{%
2365 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2366 }%
2367 }
2368 \def\Hy@raisedlink#1{%
2369 \ifvmode
2370 #1%
2371 \else
2372 \Hy@SaveSpaceFactor
2373 \penalty\@M
2374 \smash{%
2375 \begingroup
2376 \let\HyperRaiseLinkLength\@tempdima
2377 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2378 \HyperRaiseLinkHook
2379 \expandafter\endgroup
2380 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2381 \Hy@RestoreSpaceFactor
2382 #1%
2383 \Hy@SaveSpaceFactor
2384 }%
2385 }%
2386 \Hy@RestoreSpaceFactor
2387 \fi
2388 }

```

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

```

2389 \def\Hy@SaveLastskip{%
2390 \let\Hy@RestoreLastskip\relax
2391 \ifvmode
2392 \ifdim\lastskip=\z@
2393 \let\Hy@RestoreLastskip\nobreak
2394 \else
2395 \begingroup
2396 \skip@=-\lastskip
2397 \edef\x{%
2398 \endgroup
2399 \def\noexpand\Hy@RestoreLastskip{%
2400 \noexpand\ifvmode
2401 \noexpand\nobreak
2402 \vskip\the\skip@
2403 \vskip\the\lastskip\relax
2404 \noexpand\fi
2405 }%
2406 }%
2407 \x
2408 \fi
2409 \else
2410 \ifhmode
2411 \ifdim\lastskip=\z@
2412 \let\Hy@RestoreLastskip\nobreak
2413 \else

```

```

2414     \begingroup
2415     \skip@=-\lastskip
2416     \edef\x{%
2417         \endgroup
2418         \def\noexpand\Hy@RestoreLastskip{%
2419             \noexpand\ifhmode
2420                 \noexpand\nobreak
2421                 \hskip\the\skip@
2422                 \hskip\the\lastskip\relax
2423             \noexpand\fi
2424         }%
2425     }%
2426     \x
2427     \fi
2428     \fi
2429     \fi
2430 }%

```

9 Options

```

2431 \SetupKeyvalOptions{%
2432     family=Hyp,%
2433     prefix=HyOpt%
2434 }

```

9.1 Help macros

\Hy@boolkey

```

2435 \def\Hy@boolkey{@dblarg\Hy@boolkey}
2436 \def\Hy@boolkey[#1]#2#3{%
2437     \edef\Hy@tempa{#3}%
2438     \lowercase\expandafter{%
2439         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2440     }%
2441     \ifx\Hy@tempa\@empty
2442         \let\Hy@tempa\Hy@true
2443     \fi
2444     \ifx\Hy@tempa\Hy@true
2445     \else
2446         \ifx\Hy@tempa\Hy@false
2447         \else
2448             \let\Hy@tempa\relax
2449         \fi
2450     \fi
2451     \ifx\Hy@tempa\relax
2452         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2453     \else
2454         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2455         \csname Hy@#2\Hy@tempa\endcsname
2456     \fi
2457 }

```

\Hy@WarnOptionValue

```

2458 \def\Hy@WarnOptionValue#1#2#3{%
2459     \Hy@Warning{%
2460         Unexpected value ‘#1’\MessageBreak

```

```

2461   of option '#2' instead of\MessageBreak
2462   #3%
2463 }%
2464 }

```

\Hy@DisableOption

```

2465 \def\Hy@DisableOption#1{%
2466   \ifundefined{KV@Hyp@#1@default}{%
2467     \define@key{Hyp}{#1}%
2468   }{%
2469     \define@key{Hyp}{#1}[]%
2470   }%
2471   {\Hy@WarnOptionDisabled{#1}}%
2472 }

```

\Hy@WarnOptionDisabled

```

2473 \def\Hy@WarnOptionDisabled#1{%
2474   \Hy@Warning{%
2475     Option '#1' has already been used,\MessageBreak
2476     setting the option has no effect%
2477   }%
2478 }

```

\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.

```

2479 \def\Hy@CheckOptionValue#1#2#3{%
2480   \begingroup
2481   \edef\x{#1}%
2482   \@onelevel@sanitize\x
2483   \let\y=y%
2484   \def\do##1##2{%
2485     \def\z{##1}%
2486     \@onelevel@sanitize\z
2487     \ifx\x\z
2488       \let\y=n%
2489       \let\do\@gobbletwo
2490     \fi
2491   }%
2492   #3%
2493   \ifx\y y%
2494     \def\do##1##2{%
2495       *'##1'%
2496       \ifx\##2\\\else\space(##2)\fi
2497       \MessageBreak
2498     }%
2499     \Hy@Warning{%
2500       Values of option '#2':\MessageBreak
2501       #3%
2502       * An empty value disables the option.\MessageBreak
2503       Unknown value '\x'%
2504     }%
2505   \fi
2506   \endgroup
2507 }

```

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

```

2508 \def\Hy@DefNameKey#1{%
2509   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2510 }

```

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

#2: option name

#3: \do list with known values.

```

2511 \def\Hy@@DefNameKey#1#2#3{%
2512   \define@key{Hyp}{#2}{%
2513     \edef#1{##1}%
2514     \ifx#1\@empty
2515     \else
2516       \Hy@CheckOptionValue{##1}{#2}{#3}%
2517     \fi
2518   }%
2519   \let#1\@empty
2520 }

```

\Hy@UseNameKey

```

2521 \def\Hy@UseNameKey#1#2{%
2522   \ifx#2\@empty
2523   \else
2524     /#1/#2%
2525   \fi
2526 }

```

9.2 Defining the options

```

2527 \define@key{Hyp}{implicit}[true]{%
2528   \Hy@boolkey{implicit}{#1}%
2529 }
2530 \define@key{Hyp}{draft}[true]{%
2531   \Hy@boolkey{draft}{#1}%
2532 }
2533 \define@key{Hyp}{final}[true]{%
2534   \Hy@boolkey{final}{#1}%
2535 }
2536 \let\KV@Hyp@nolinks\KV@Hyp@draft
2537 \def\Hy@ObsoletePaperOption#1{%
2538   \Hy@WarningNoLine{%
2539     Option ‘#1’ is no longer used%
2540   }%
2541   \define@key{Hyp}{#1}[true]{}%
2542 }
2543 \def\Hy@temp#1{%
2544   \define@key{Hyp}{#1}[true]{%
2545     \Hy@ObsoletePaperOption{#1}%
2546   }%
2547 }
2548 \Hy@temp{a4paper}
2549 \Hy@temp{a5paper}
2550 \Hy@temp{b5paper}
2551 \Hy@temp{letterpaper}
2552 \Hy@temp{legalpaper}
2553 \Hy@temp{executivepaper}
2554 \define@key{Hyp}{setpagesize}[true]{%

```

```

2555 \Hy@boolkey{setpagesize}{#1}%
2556 }
2557 \define@key{Hyp}{debug}[true]{%
2558 \Hy@boolkey[debug]{verbose}{#1}%
2559 }
2560 \define@key{Hyp}{linktocpage}[true]{%
2561 \Hy@boolkey{linktocpage}{#1}%
2562 \ifHy@linktocpage
2563 \let\Hy@linktoc\Hy@linktoc@page
2564 \else
2565 \let\Hy@linktoc\Hy@linktoc@section
2566 \fi
2567 }
2568 \chardef\Hy@linktoc@none=0 %
2569 \chardef\Hy@linktoc@section=1 %
2570 \chardef\Hy@linktoc@page=2 %
2571 \chardef\Hy@linktoc@all=3 %
2572 \ifHy@linktocpage
2573 \let\Hy@linktoc\Hy@linktoc@page
2574 \else
2575 \let\Hy@linktoc\Hy@linktoc@section
2576 \fi
2577 \define@key{Hyp}{linktoc}{%
2578 \@ifundefined{Hy@linktoc@#1}{%
2579 \Hy@Warning{%
2580 Unexpected value '#1' of\MessageBreak
2581 option 'linktoc' instead of 'none',\MessageBreak
2582 'section', 'page' or 'all'%
2583 }%
2584 }{%
2585 \expandafter\let\expandafter\Hy@linktoc
2586 \csname Hy@linktoc@#1\endcsname
2587 }%
2588 }
2589 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2590 \let\XR@ext\relax
2591 \define@key{Hyp}{verbose}[true]{%
2592 \Hy@boolkey{verbose}{#1}%
2593 }
2594 \define@key{Hyp}{typexml}[true]{%
2595 \Hy@boolkey{typexml}{#1}%
2596 }

```

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.

```

2597 \define@key{Hyp}{raiselinks}[true]{%
2598 \Hy@boolkey{raiselinks}{#1}%
2599 }

```

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

```

2600 \def\Hy@setbreaklinks#1{%
2601 \csname breaklinks#1\endcsname
2602 }
2603 \def\Hy@breaklinks@unsupported{%
2604 \ifx\Hy@setbreaklinks\@gobble
2605 \ifHy@breaklinks

```

```

2606 \Hy@WarningNoLine{%
2607   You have enabled option 'breaklinks'.\MessageBreak
2608   But driver '\Hy@driver.def' does not support this.\MessageBreak
2609   Expect trouble with the link areas of broken links%
2610 }%
2611 \fi
2612 \fi
2613 }

```

```

2614 \define@key{Hyp}{breaklinks}[true]{%
2615   \Hy@boolkey{breaklinks}{#1}%
2616   \let\Hy@setbreaklinks\@gobble
2617 }

```

```

2618 \define@key{Hyp}{localanchorname}[true]{%
2619   \Hy@boolkey{localanchorname}{#1}%
2620 }

```

Determines whether an automatic anchor is put on each page

```

2621 \define@key{Hyp}{pageanchor}[true]{%
2622   \Hy@boolkey{pageanchor}{#1}%
2623 }

```

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.

```

2624 \define@key{Hyp}{plainpages}[true]{%
2625   \Hy@boolkey{plainpages}{#1}%
2626 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what \LaTeX provides?

```

2627 \define@key{Hyp}{naturalnames}[true]{%
2628   \Hy@boolkey{naturalnames}{#1}%
2629 }

```

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

```

2630 \define@key{Hyp}{hypertexnames}[true]{%
2631   \Hy@boolkey{hypertexnames}{#1}%
2632 }

```

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

```

2633 \define@key{Hyp}{nesting}[true]{%
2634   \Hy@boolkey{nesting}{#1}%
2635 }

```

```

2636 \define@key{Hyp}{unicode}[true]{%
2637   \Hy@boolkey{unicode}{#1}%
2638   \ifHy@unicode
2639     \def\HyPsd@pdfencoding{unicode}%
2640     \HyPsd@LoadUnicode
2641   \else
2642     \def\HyPsd@pdfencoding{pdfdoc}%
2643   \fi
2644 }
2645 \def\HyPsd@LoadUnicode{%
2646   \@ifundefined{T@PU}{%
2647     \input{puenc.def}%
2648     \HyLinguex@Restore
2649   }{}%
2650   \DeclareFontFamily{PU}{pdf}{}%
2651   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%

```



```

2652 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2653 \global\let\HyPsd@LoadUnicode\relax
2654 }
2655 \Hy@AtBeginDocument{%
2656 \ifx\HyPsd@LoadUnicode\relax
2657 \else
2658 \def\HyPsd@LoadUnicode{%
2659 \Hy@Error{%
2660 Unicode support for bookmarks is not available.\MessageBreak
2661 Activate unicode support by using one of the options.\MessageBreak
2662 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2663 in the preamble%
2664 } \@ehc
2665 \global\let\HyPsd@LoadUnicode\relax
2666 \global\Hy@unicodedefalse
2667 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2668 }%
2669 \fi
2670 }

2671 \define@key{Hyp}{pdfencoding}{%
2672 \edef\HyPsd@temp{#1}%
2673 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2674 \let\HyPsd@pdfencoding\HyPsd@temp
2675 \Hy@unicodedefalse
2676 \else
2677 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2678 \z@
2679 \else
2680 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2681 \z@
2682 \else
2683 \@ne
2684 \fi
2685 \fi
2686 \let\HyPsd@pdfencoding\HyPsd@temp
2687 \hypersetup{unicode}%
2688 \ifHy@unicode
2689 \def\HyPsd@pdfencoding{#1}%
2690 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2691 \HyPsd@LoadStringEncoding
2692 \fi
2693 \else
2694 \Hy@Warning{Cannot switch to unicode bookmarks}%
2695 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2696 \fi
2697 \else
2698 \@onelevel@sanitize\HyPsd@temp
2699 \Hy@Warning{%
2700 Values of option 'pdfencoding':.\MessageBreak
2701 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2702 Ignoring unknown value '\HyPsd@temp'%
2703 }%
2704 \fi
2705 \fi
2706 }
2707 \def\HyPsd@pdfencoding@auto{auto}
2708 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}

```

```

2709 \def\HyPsd@pdfencoding@unicode{unicode}
2710 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2711 \def\HyPsd@LoadStringEnc{%
2712   \RequirePackage{stringenc}[2009/12/15]%
2713   \let\HyPsd@LoadStringEnc\relax
2714 }
2715 \Hy@AtBeginDocument{%
2716   \ifpackageloaded{stringenc}{%
2717     \let\HyPsd@LoadStringEnc\relax
2718   }{%
2719     \def\HyPsd@LoadStringEnc{%
2720       \Hy@WarningNoLine{%
2721         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2722         in the preamble or load the package there%
2723       }%
2724     }%
2725   }%
2726 }

2727 \def\hypersetup{\kvsetkeys{Hyp}}

2728 \newif\ifHy@setpdfversion
2729 \define@key{Hyp}{pdfversion}{%
2730   \ifundefined{Hy@pdfversion@#1}{%
2731     \PackageWarning{hyperref}{%
2732       Unsupported PDF version ‘#1’\MessageBreak
2733       Valid values: 1.2 until 1.9%
2734     }%
2735   }{%
2736     \Hy@setpdfversiontrue
2737     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2738   }%
2739 }
2740 \@namedef{Hy@pdfversion@1.2}{2}%
2741 \@namedef{Hy@pdfversion@1.3}{3}%
2742 \@namedef{Hy@pdfversion@1.4}{4}%
2743 \@namedef{Hy@pdfversion@1.5}{5}%
2744 \@namedef{Hy@pdfversion@1.6}{6}%
2745 \@namedef{Hy@pdfversion@1.7}{7}%
2746 \@namedef{Hy@pdfversion@1.8}{8}%
2747 \@namedef{Hy@pdfversion@1.9}{9}%
2748 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2749 \newif\ifHy@DviMode
2750 \let\Hy@DviErrMsg\ltx@empty
2751 \ifpdf
2752   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2753 \else
2754   \ifxetex
2755     \def\Hy@DviErrMsg{XeTeX is running}%
2756   \else
2757     \ifvtex
2758       \ifvtexdvi
2759         \Hy@DviModetrue
2760       \else
2761         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2762       \fi

```

```

2763 \else
2764 \Hy@DviModetrue
2765 \fi
2766 \fi
2767 \fi
2768 \def\HyOpt@CheckDvi#1{%
2769 \ifHy@DviMode
2770 \expandafter\ltx@firstofone
2771 \else
2772 \Hy@Error{%
2773 Wrong DVI mode driver option '#1',\MessageBreak
2774 because \Hy@DviErrMsg
2775 }\@ehc
2776 \expandafter\ltx@gobble
2777 \fi
2778 }

2779 \DeclareVoidOption{tex4ht}{%
2780 \Hy@texhttrue
2781 \kvsetkeys{Hyp}{colorlinks=true}%
2782 \def\BeforeTeXIVht{\RequirePackage{color}}%
2783 \def\Hy@driver{htex4ht}%
2784 \def\MaybeStopEarly{%
2785 \Hy@Message{Stopped early}%
2786 \Hy@AtBeginDocument{%
2787 \PDF@FinishDoc
2788 \gdef\PDF@FinishDoc{}%
2789 }%
2790 \endinput
2791 }%
2792 }

2793 \DeclareVoidOption{pdftex}{%
2794 \ifpdf
2795 \def\Hy@driver{hpdftex}%
2796 \else
2797 \Hy@Error{%
2798 Wrong driver option 'pdftex',\MessageBreak
2799 because pdfTeX in PDF mode is not detected%
2800 }\@ehc
2801 \fi
2802 }

2803 \DeclareVoidOption{nativepdf}{%
2804 \HyOpt@CheckDvi{nativepdf}{%
2805 \def\Hy@driver{hdvips}%
2806 }%
2807 }

2808 \DeclareVoidOption{dvipdfm}{%
2809 \HyOpt@CheckDvi{dvipdfm}{%
2810 \def\Hy@driver{hdvipdfm}%
2811 }%
2812 }

2813 \DeclareVoidOption{dvipdfmx}{%
2814 \HyOpt@CheckDvi{dvipdfmx}{%
2815 \def\Hy@driver{hdvipdfm}%
2816 }%
2817 }

2818 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2819 \expandafter\ifx\csname if#1\expandafter\endcsname

```

```

2820         \csname iftrue\endcsname
2821     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2822 \else
2823     \chardef\SpecialDvipdfmxOutlineOpen\z@
2824 \fi
2825 }
2826 \DeclareVoidOption{xetex}{%
2827 \ifxetex
2828     \def\Hy@driver{hxetex}%
2829 \else
2830     \Hy@Error{%
2831         Wrong driver option 'xetex',\MessageBreak
2832         because XeTeX is not detected%
2833     }\@ehc
2834 \fi
2835 }
2836 \DeclareVoidOption{pdfmark}{%
2837 \HyOpt@CheckDvi{pdfmark}{%
2838     \def\Hy@driver{hdvips}%
2839 }%
2840 }
2841 \DeclareVoidOption{dvips}{%
2842 \HyOpt@CheckDvi{dvips}{%
2843     \def\Hy@driver{hdvips}%
2844 }%
2845 }
2846 \DeclareVoidOption{hypertex}{%
2847 \HyOpt@CheckDvi{hypertex}{%
2848     \def\Hy@driver{hypertex}%
2849 }%
2850 }
2851 \let\Hy@MaybeStopNow\relax
2852 \DeclareVoidOption{vtex}{%
2853 \ifvtex
2854     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2855     \def\Hy@driver{hvtex}%
2856 \else
2857     \ifnum\OpMode=10\relax
2858     \def\Hy@driver{hvtexhtm}%
2859     \def\MaybeStopEarly{%
2860         \Hy@Message{Stopped early}%
2861         \Hy@AtBeginDocument{%
2862             \PDF@FinishDoc
2863             \gdef\PDF@FinishDoc{}}%
2864         }%
2865     \endinput
2866     }%
2867 \else
2868     \Hy@Error{%
2869         Wrong driver option 'vtex',\MessageBreak
2870         because of wrong OpMode (\the\OpMode)%
2871     }\@ehc
2872 \fi
2873 \fi
2874 \else
2875     \Hy@Error{%
2876         Wrong driver option 'vtex',\MessageBreak

```

```

2877     because VTeX is not running%
2878   }\@ehc
2879 \fi
2880 }
2881 \DeclareVoidOption{vtxpdfmark}{%
2882   \ifvtex
2883     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2884     \def\Hy@driver{hvtexmrk}%
2885   \else
2886     \Hy@Error{%
2887       Wrong driver option 'vtxpdfmark',\MessageBreak
2888       because of wrong OpMode (\the\OpMode)%
2889     }\@ehc
2890   \fi
2891 \else
2892   \Hy@Error{%
2893     Wrong driver option 'vtxpdfmark',\MessageBreak
2894     because VTeX is not running%
2895   }\@ehc
2896 \fi
2897 }
2898 \DeclareVoidOption{dviwindo}{%
2899   \HyOpt@CheckDvi{dviwindo}{%
2900     \def\Hy@driver{hdviwind}%
2901     \kvsetkeys{Hyp}{colorlinks}%
2902     \PassOptionsToPackage{dviwindo}{color}%
2903   }%
2904 }
2905 \DeclareVoidOption{dvipsone}{%
2906   \HyOpt@CheckDvi{dvipsone}{%
2907     \def\Hy@driver{hdvipson}%
2908   }%
2909 }
2910 \DeclareVoidOption{textures}{%
2911   \HyOpt@CheckDvi{textures}{%
2912     \def\Hy@driver{htexture}%
2913   }%
2914 }
2915 \DeclareVoidOption{latex2html}{%
2916   \HyOpt@CheckDvi{latex2html}{%
2917     \Hy@AtBeginDocument{\@@@latextohtmlX}%
2918   }%
2919 }

```

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

```

2920 \DeclareVoidOption{ps2pdf}{%
2921   \HyOpt@CheckDvi{ps2pdf}{%
2922     \def\Hy@driver{hdvips}%
2923   }%
2924 }
2925 \let\HyOpt@DriverFallback\ltx@empty
2926 \define@key{Hyp}{driverfallback}{%
2927   \ifHy@DviMode
2928     \def\HyOpt@DriverFallback{#1}%
2929     \Hy@Match\HyOpt@DriverFallback{%
2930       ^(| dvipdfm| dvipdfmx| dvips| dvipsone| dviwindo| hypertext| ps2pdf| %
2931       latex2html| tex4ht)$%
2932     }{}{%

```

```

2933 \let\HyOpt@DriverFallback\ltx@empty
2934 }%
2935 \fi
2936 }

```

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.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2940 \define@key{Hyp}{hyperfootnotes}[true]{%
2941 \Hy@boolkey[hyperfootnotes]{#1}%
2942 }

```

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

```

2943 \def\back@none{none}
2944 \def\back@section{section}
2945 \def\back@page{page}
2946 \def\back@slide{slide}
2947 \define@key{Hyp}{backref}[section]{%
2948 \lowercase{\def\Hy@tempa{#1}}%
2949 \ifx\Hy@tempa\@empty
2950 \let\Hy@tempa\back@section
2951 \fi
2952 \ifx\Hy@tempa\Hy@false
2953 \let\Hy@tempa\back@none
2954 \fi
2955 \ifx\Hy@tempa\back@slide
2956 \let\Hy@tempa\back@section
2957 \fi
2958 \ifx\Hy@tempa\back@page
2959 \PassOptionsToPackage{hyperpageref}{backref}%
2960 \Hy@backreftrue
2961 \else
2962 \ifx\Hy@tempa\back@section
2963 \PassOptionsToPackage{hyperref}{backref}%
2964 \Hy@backreftrue
2965 \else
2966 \ifx\Hy@tempa\back@none
2967 \Hy@backreffalse
2968 \else
2969 \Hy@WarnOptionValue{#1}{backref}{%
2970 'section', 'slide', 'page', 'none',\MessageBreak
2971 or 'false'}%
2972 \fi
2973 \fi
2974 \fi
2975 }
2976 \define@key{Hyp}{pagebackref}[true]{%
2977 \edef\Hy@tempa{#1}%
2978 \lowercase\expandafter{%
2979 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2980 }%
2981 \ifx\Hy@tempa\@empty

```

```

2982 \let\Hy@tempa\Hy@true
2983 \fi
2984 \ifx\Hy@tempa\Hy@true
2985 \PassOptionsToPackage{hyperpageref}{backref}%
2986 \Hy@backreftrue
2987 \else
2988 \ifx\Hy@tempa\Hy@false
2989 \Hy@backreffalse
2990 \else
2991 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2992 \fi
2993 \fi
2994 }

```

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

```

2995 \define@key{Hyp}{hyperindex}[true]{%
2996 \Hy@boolkey{hyperindex}{#1}%
2997 }

```

Configuration of encap char.

```

2998 \define@key{Hyp}{encap}[||]{%
2999 \def\HyInd@EncapChar{#1}%
3000 }

```

12 Language options

The `\autoref` feature depends on the language.

```

3001 \def\HyLang@afrikaans{%
3002 \def\equationautorefname{Vergelyking}%
3003 \def\footnoteautorefname{Voetnota}%
3004 \def\itemautorefname{Item}%
3005 \def\figureautorefname{Figuur}%
3006 \def\tableautorefname{Tabel}%
3007 \def\partautorefname{Deel}%
3008 \def\appendixautorefname{Bylae}%
3009 \def\chapterautorefname{Hoofstuk}%
3010 \def\sectionautorefname{Afdeling}%
3011 \def\subsectionautorefname{Subafdeling}%
3012 \def\subsubsectionautorefname{Subsubafdeling}%
3013 \def\paragraphautorefname{Paragraaf}%
3014 \def\subparagraphautorefname{Subparagraaf}%
3015 \def\FancyVerbLineautorefname{Lyn}%
3016 \def\theoremautorefname{Teorema}%
3017 \def\pageautorefname{Bladsy}%
3018 }
3019 \def\HyLang@english{%
3020 \def\equationautorefname{Equation}%
3021 \def\footnoteautorefname{footnote}%
3022 \def\itemautorefname{item}%
3023 \def\figureautorefname{Figure}%
3024 \def\tableautorefname{Table}%
3025 \def\partautorefname{Part}%
3026 \def\appendixautorefname{Appendix}%
3027 \def\chapterautorefname{chapter}%
3028 \def\sectionautorefname{section}%
3029 \def\subsectionautorefname{subsection}%

```

```

3030 \def\subsubsectionautorefname{subsubsection}%
3031 \def\paragraphautorefname{paragraph}%
3032 \def\subparagraphautorefname{subparagraph}%
3033 \def\FancyVerbLineautorefname{line}%
3034 \def\theoremautorefname{Theorem}%
3035 \def\pageautorefname{page}%
3036 }
3037 \def\HyLang@french{%
3038 \def\equationautorefname{'Equation}%
3039 \def\footnoteautorefname{note}%
3040 \def\itemautorefname{item}%
3041 \def\figureautorefname{Figure}%
3042 \def\tableautorefname{Tableau}%
3043 \def\partautorefname{Partie}%
3044 \def\appendixautorefname{Appendice}%
3045 \def\chapterautorefname{chapitre}%
3046 \def\sectionautorefname{section}%
3047 \def\subsectionautorefname{sous-section}%
3048 \def\subsubsectionautorefname{sous-sous-section}%
3049 \def\paragraphautorefname{paragraphe}%
3050 \def\subparagraphautorefname{sous-paragraphe}%
3051 \def\FancyVerbLineautorefname{ligne}%
3052 \def\theoremautorefname{Th\'eor\`eme}%
3053 \def\pageautorefname{page}%
3054 }
3055 \def\HyLang@german{%
3056 \def\equationautorefname{Gleichung}%
3057 \def\footnoteautorefname{Fu\ss note}%
3058 \def\itemautorefname{Punkt}%
3059 \def\figureautorefname{Abbildung}%
3060 \def\tableautorefname{Tabelle}%
3061 \def\partautorefname{Teil}%
3062 \def\appendixautorefname{Anhang}%
3063 \def\chapterautorefname{Kapitel}%
3064 \def\sectionautorefname{Abschnitt}%
3065 \def\subsectionautorefname{Unterabschnitt}%
3066 \def\subsubsectionautorefname{Unterunterabschnitt}%
3067 \def\paragraphautorefname{Absatz}%
3068 \def\subparagraphautorefname{Unterabsatz}%
3069 \def\FancyVerbLineautorefname{Zeile}%
3070 \def\theoremautorefname{Theorem}%
3071 \def\pageautorefname{Seite}%
3072 }
3073 \def\HyLang@italian{%
3074 \def\equationautorefname{Equazione}%
3075 \def\footnoteautorefname{nota}%
3076 \def\itemautorefname{punto}%
3077 \def\figureautorefname{Figura}%
3078 \def\tableautorefname{Tabella}%
3079 \def\partautorefname{Parte}%
3080 \def\appendixautorefname{Appendice}%
3081 \def\chapterautorefname{Capitolo}%
3082 \def\sectionautorefname{sezione}%
3083 \def\subsectionautorefname{sottosezione}%
3084 \def\subsubsectionautorefname{sottosottosezione}%
3085 \def\paragraphautorefname{paragrafo}%
3086 \def\subparagraphautorefname{sottoparagrafo}%

```



```

3087 \def\FancyVerbLineautorefname{linea}%
3088 \def\theoremautorefname{Teorema}%
3089 \def\pageautorefname{Pag.\@}%
3090 }
3091 \def\HyLang@magyar{%
3092 \def\equationautorefname{Egyenlet}%
3093 \def\footnoteautorefname{l'abjegyzet}%
3094 \def\itemautorefname{Elem}%
3095 \def\figureautorefname{'Abra}%
3096 \def\tableautorefname{T'abl'azat}%
3097 \def\partautorefname{R'esz}%
3098 \def\appendixautorefname{F'uggel'ek}%
3099 \def\chapterautorefname{fejezet}%
3100 \def\sectionautorefname{szakasz}%
3101 \def\subsectionautorefname{alszakasz}%
3102 \def\subsubsectionautorefname{alalszakasz}%
3103 \def\paragraphautorefname{bekezd'es}%
3104 \def\subparagraphautorefname{albekezd'es}%
3105 \def\FancyVerbLineautorefname{sor}%
3106 \def\theoremautorefname{T'etel}%
3107 \def\pageautorefname{oldal}%
3108 }
3109 \def\HyLang@portuges{%
3110 \def\equationautorefname{Equa\c c\~ao}%
3111 \def\footnoteautorefname{Nota de rodap'e}%
3112 \def\itemautorefname{Item}%
3113 \def\figureautorefname{Figura}%
3114 \def\tableautorefname{Tabela}%
3115 \def\partautorefname{Parte}%
3116 \def\appendixautorefname{Ap\~endice}%
3117 \def\chapterautorefname{Cap'itulo}%
3118 \def\sectionautorefname{Se\c c\~ao}%
3119 \def\subsectionautorefname{Subse\c c\~ao}%
3120 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3121 \def\paragraphautorefname{par'agrafo}%
3122 \def\subparagraphautorefname{subpar'agrafo}%
3123 \def\FancyVerbLineautorefname{linha}%
3124 \def\theoremautorefname{Teorema}%
3125 \def\pageautorefname{P'agina}%
3126 }

```

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`.

```

3127 \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`?

```

3128 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%

```

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

```

3129 % \def\equationautorefname{%
3130 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3131 % }%

```

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

```

3132 \def\footnoteautorefname{%
3133   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3134 }%

```

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}”

```

3135 % \def\footnoteautorefname{%
3136 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrh\cyrn\cyro\cyre\ %
3137 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrrh\cyra\cyrn\cyri\cyre
3138 % }%

```

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

```

3139 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3140 % \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.

```

3141 \def\itemautorefname{\cyr\cyrp.}%
3142 % \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.

```

3143 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3144 \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.

```

3145 \def\partautorefname{\cyr\cyrrh.}%
3146 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3147 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

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

```

3148 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3149 % \def\appendixautorefname{%
3150 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
3151 % }%

```

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.

```

3152 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3153 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

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

```

3154 \def\paragraphautorefname{\cyr\cyrp.}%
3155 \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.

```
3156 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3157 % \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.

```
3158 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3159 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3160 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3161 % \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 . . .

```
3162 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3163 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3164 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3165 \def\pageautorefname{\cyr\cyrs.}%
3166 }
```

```
3167 \def\HyLang@spanish{%
3168 \def\equationautorefname{Ecuaci'on}%
3169 \def\footnoteautorefname{Nota a pie de p'agina}%
3170 \def\itemautorefname{Elemento}%
3171 \def\figureautorefname{Figura}%
3172 \def\tableautorefname{Tabla}%
3173 \def\partautorefname{Parte}%
3174 \def\appendixautorefname{Ap'endice}%
3175 \def\chapterautorefname{Cap'itulo}%
3176 \def\sectionautorefname{Secci'on}%
3177 \def\subsectionautorefname{Subsecci'on}%
3178 \def\subsubsectionautorefname{Subsubsecci'on}%
3179 \def\paragraphautorefname{P'arrafo}%
3180 \def\subparagraphautorefname{Subp'arrafo}%
3181 \def\FancyVerbLineautorefname{L'inea}%
3182 \def\theoremautorefname{Teorema}%
3183 \def\pageautorefname{P'agina}%
3184 }
```

```
3185 \def\HyLang@vietnamese{%
3186 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr'inh}%
3187 \def\footnoteautorefname{Ch'u th'ich}%
3188 \def\itemautorefname{m\d{u}c}%
3189 \def\figureautorefname{H'inh}%
3190 \def\tableautorefname{B'h{a}ng}%
3191 \def\partautorefname{Ph'\acircumflex{n}}%
3192 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
```

```

3193 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
3194 \def\sectionautorefname{m\du{c}}%
3195 \def\subsectionautorefname{m\du{c}}%
3196 \def\subsubsectionautorefname{m\du{c}}%
3197 \def\paragraphautorefname{\dj{}}\od{a}n}%
3198 \def\subparagraphautorefname{\dj{}}\od{a}n}%
3199 \def\FancyVerbLineautorefname{d\'ong}%
3200 \def\theoremautorefname{DJ{}}\di{nh l\'y}%
3201 \def\pageautorefname{Trang}%
3202 }

```

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

```

3203 \def\HyLang@addto#1#2{%
3204   #2%
3205   \@temptokena{#2}%
3206   \ifx#1\relax
3207     \let#1\@empty
3208   \fi
3209   \ifx#1\@undefined
3210     \edef#1{\the\@temptokena}%
3211   \else
3212     \toks@\expandafter{#1}%
3213     \edef#1{\the\toks@\the\@temptokena}%
3214   \fi
3215   \@temptokena{}\toks@\@temptokena
3216 }

3217 \def\HyLang@DeclareLang#1#2#3{%
3218   \ifpackagewith{babel}{#1}{%
3219     \expandafter\HyLang@addto
3220     \csname extras#1\expandafter\endcsname
3221     \csname HyLang@#2\endcsname
3222     \begingroup
3223     \edef\x{\endgroup
3224       #3%
3225     }%
3226     \x
3227     \@namedef{HyLang@#1@done}{}%
3228   }{%
3229     \begingroup
3230     \edef\x##1##2{%
3231       \noexpand\ifx##2\relax
3232         \errmessage{No definitions for language #2' found!}%
3233       \noexpand\fi
3234     \endgroup
3235     \noexpand\define@key{Hyp}{#1}[]{%
3236       \noexpand\@ifundefined{HyLang@#1@done}{%
3237         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3238         #3%
3239       \noexpand\@namedef{HyLang@#1@done}{}%
3240     }{%
3241     }%
3242   }%
3243   \expandafter\x\csname extras#1\expandafter\endcsname
3244     \csname HyLang@#2\endcsname
3245 }
3246 \HyLang@DeclareLang{english}{english}{}

```

```

3247 \HyLang@DeclareLang{UKenglish}{english}{}
3248 \HyLang@DeclareLang{british}{english}{}
3249 \HyLang@DeclareLang{USenglish}{english}{}
3250 \HyLang@DeclareLang{american}{english}{}
3251 \HyLang@DeclareLang{german}{german}{}
3252 \HyLang@DeclareLang{austrian}{german}{}
3253 \HyLang@DeclareLang{ngerman}{german}{}
3254 \HyLang@DeclareLang{naustrian}{german}{}
3255 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3256 \HyLang@DeclareLang{brazil}{portuges}{}
3257 \HyLang@DeclareLang{brazilian}{portuges}{}
3258 \HyLang@DeclareLang{portuguese}{portuges}{}
3259 \HyLang@DeclareLang{spanish}{spanish}{}
3260 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3261 \HyLang@DeclareLang{french}{french}{}
3262 \HyLang@DeclareLang{frenchb}{french}{}
3263 \HyLang@DeclareLang{français}{french}{}
3264 \HyLang@DeclareLang{acadian}{french}{}
3265 \HyLang@DeclareLang{canadien}{french}{}
3266 \HyLang@DeclareLang{italian}{italian}{}
3267 \HyLang@DeclareLang{magyar}{magyar}{}
3268 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3269 \DeclareVoidOption{vietnamese}{%
3270   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3271   \Hy@AtEndOfPackage{%
3272     \ifundefined{T@PU}{}{}%
3273     \input{puvnenc.def}%
3274   }%
3275 }%
3276 }
3277 \DeclareVoidOption{vietnam}{%
3278   \HyLang@addto\extravietnam\HyLang@vietnamese
3279   \Hy@AtEndOfPackage{%
3280     \ifundefined{T@PU}{}{}%
3281     \input{puvnenc.def}%
3282   }%
3283 }%
3284 }

```

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

```

3285 \DeclareVoidOption{arabic}{%
3286   \Hy@AtEndOfPackage{%
3287     \ifundefined{T@PU}{}{}%
3288     \input{puarenc.def}%
3289   }%
3290 }%
3291 }

```

13 Options to change appearance of links

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

```

3292 \define@key{Hyp}{colorlinks}[true]{%
3293   \Hy@boolkey{colorlinks}{#1}%
3294 }
3295 \define@key{Hyp}{ocgcolorlinks}[true]{%

```

```

3296 \Hy@boolkey{ocgcolorlinks}{#1}%
3297 }
3298 \Hy@AtBeginDocument{%
3299 \begingroup
3300 \ifundefined{OBJ@OCG@view}{%
3301 \ifHy@ocgcolorlinks
3302 \Hy@Warning{%
3303 Driver does not support 'ocgcolorlinks',\MessageBreak
3304 using 'colorlinks' instead%
3305 }%
3306 \fi
3307 }{}%
3308 \endgroup
3309 }
3310 \define@key{Hyp}{frenchlinks}[true]{%
3311 \Hy@boolkey{frenchlinks}{#1}%
3312 }

```

14 Bookmarking

```

3313 \begingroup\expandafter\expandafter\expandafter\endgroup
3314 \expandafter\ifx\csname chapter\endcsname\relax
3315 \def\toclevel@part{0}%
3316 \else
3317 \def\toclevel@part{-1}%
3318 \fi
3319 \def\toclevel@chapter{0}
3320 \def\toclevel@section{1}
3321 \def\toclevel@subsection{2}
3322 \def\toclevel@subsubsection{3}
3323 \def\toclevel@paragraph{4}
3324 \def\toclevel@subparagraph{5}
3325 \def\toclevel@figure{0}
3326 \def\toclevel@table{0}
3327 \ifpackageloaded{listings}{%
3328 \providecommand*\theHlstlisting{\thelstlisting}%
3329 \providecommand*\toclevel@lstlisting{0}%
3330 }{}
3331 \ifpackageloaded{listing}{%
3332 \providecommand*\theHlisting{\thelisting}%
3333 \providecommand*\toclevel@listing{0}%
3334 }{}

3335 \define@key{Hyp}{bookmarks}[true]{%
3336 \Hy@boolkey{bookmarks}{#1}%
3337 }

3338 \define@key{Hyp}{bookmarksopen}[true]{%
3339 \Hy@boolkey{bookmarksopen}{#1}%
3340 }

```

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.

```

3341 \let\Hy@bookmarksdepth\c@tocdepth
3342 \define@key{Hyp}{bookmarksdepth}[]{}%
3343 \begingroup
3344   \edef\x{#1}%
3345   \ifx\x\empty
3346     \global\let\Hy@bookmarksdepth\c@tocdepth
3347   \else
3348     \@ifundefined{toclevel@\x}{}%
3349     \onelevel@sanitize\x
3350     \edef\y{\expandafter\@car\x\@nil}%
3351     \ifcase 0\expandafter\ifx\y-1\fi
3352       \expandafter\ifnum\expandafter\y>47 %
3353       \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3354     \Hy@Warning{Unknown document division name (\x)}%
3355   \else
3356     \setbox\z@=\hbox{%
3357       \count@=\x
3358       \xdef\Hy@bookmarksdepth{\the\count@}%
3359     }%
3360     \fi
3361   }{}%
3362   \setbox\z@=\hbox{%
3363     \count@=\csname toclevel@\x\endcsname
3364     \xdef\Hy@bookmarksdepth{\the\count@}%
3365   }%
3366   }%
3367 \fi
3368 \endgroup
3369 }

```

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

```

3370 \define@key{Hyp}{bookmarksopenlevel}{}%
3371 \def\@bookmarksopenlevel{#1}%
3372 }
3373 \def\@bookmarksopenlevel{\maxdimen}
3374 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3375 \define@key{Hyp}{bookmarkstype}{}%
3376 \def\Hy@bookmarkstype{#1}%
3377 }
3378 \def\Hy@bookmarkstype{toc}

```

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

```

3379 \define@key{Hyp}{bookmarksnumbered}[true]{}%
3380 \Hy@boolkey{bookmarksnumbered}{#1}%
3381 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

3382 \define@key{Hyp}{CJKbookmarks}[true]{}%
3383 \Hy@boolkey{CJKbookmarks}{#1}%
3384 }

3385 \def\Hy@temp#1{}%
3386 \expandafter\Hy@@@temp\csname @#1color\endcsname{#1}%
3387 }

```

```

3388 \def\Hy@@temp#1#2#3{%
3389   \define@key{Hyp}{#2color}{%
3390     \HyColor@HyperrefColor{##1}#1%
3391   }%
3392   \def#1{#3}%
3393 }
3394 \Hy@temp{link}{red}
3395 \Hy@temp{anchor}{black}
3396 \Hy@temp{cite}{green}
3397 \Hy@temp{file}{cyan}
3398 \Hy@temp{url}{magenta}
3399 \Hy@temp{menu}{red}
3400 \Hy@temp{run}{\@filecolor}
3401 \define@key{Hyp}{pagecolor}{%
3402   \Hy@WarningPageColor
3403 }
3404 \def\Hy@WarningPageColor{%
3405   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3406   \global\let\Hy@WarningPageColor\relax
3407 }

3408 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3409 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3410 \let\@baseurl\@empty
3411 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3412 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3413 \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.

```

3414 \let\@pdfpagetransition\relax
3415 \define@key{Hyp}{pdfpagetransition}{%
3416   \def\@pdfpagetransition{#1}%
3417 }

```

`\@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.

```

3418 \let\@pdfpageduration\relax
3419 \define@key{Hyp}{pdfpageduration}{%
3420   \def\@pdfpageduration{#1}%
3421   \Hy@Match\@pdfpageduration{%
3422     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3423   }{%
3424     \Hy@Warning{%
3425       Invalid value '\@pdfpageduration'\MessageBreak
3426       of 'pdfpageduration'\MessageBreak
3427       is replaced by an empty value%
3428     }%
3429     \let\@pdfpageduration\ltx@empty
3430   }%
3431 }

```


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.

```

3432 \newif\ifHy@useHidKey
3433 \Hy@useHidKeyfalse
3434 \define@key{Hyp}{pdfpagehidden}[true]{%
3435   \Hy@boolkey{pdfpagehidden}{#1}%
3436   \ifHy@pdfpagehidden
3437     \global\Hy@useHidKeytrue
3438   \fi
3439 }

```

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).

```

3440 \def\Hy@ColorList{cite,file,link,menu,run,url}
3441 \@for\Hy@temp:=\Hy@ColorList\do{%
3442   \edef\Hy@temp{%
3443     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3444       \noexpand\HyColor@HyperrefBorderColor
3445       {##1}%
3446       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3447       {hyperref}%
3448       {\Hy@temp bordercolor}%
3449     }%
3450   }%
3451   \Hy@temp
3452 }
3453 \define@key{Hyp}{pagebordercolor}{%
3454   \Hy@WarningPageBorderColor
3455 }
3456 \def\Hy@WarningPageBorderColor{%
3457   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3458   \global\let\Hy@WarningPageBorderColor\relax
3459 }
3460 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3461 \Hy@DefNameKey{pdfhighlight}{%
3462   \do{/I}{Invert}%
3463   \do{/N}{None}%
3464   \do{/O}{Outline}%
3465   \do{/P}{Push}%
3466 }
3467 \define@key{Hyp}{pdfborder}{%
3468   \let\Hy@temp\@pdfborder
3469   \def\@pdfborder{#1}%
3470   \Hy@Match\@pdfborder{%
3471     ^\HyPat@NonNegativeReal/ %
3472     \HyPat@NonNegativeReal/ %
3473     \HyPat@NonNegativeReal/%
3474     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3475   }{ }{%
3476     \Hy@Warning{%
3477       Invalid value '\@pdfborder'\MessageBreak

```

```

3478     for option 'pdfborder'.\MessageBreak
3479     Option setting is ignored%
3480 }%
3481 \let\@pdfborder\Hy@temp
3482 }%
3483 }
3484 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3485 \def\Hy@setpdfborder{%
3486 \ifx\@pdfborder\@empty
3487 \else
3488 /Border[\@pdfborder]%
3489 \fi
3490 \ifx\@pdfborderstyle\@empty
3491 \else
3492 /BS<<\@pdfborderstyle>>%
3493 \fi
3494 }
3495 \Hy@DefNameKey{pdfpagemode}{%
3496 \do{UseNone}{}%
3497 \do{UseOutlines}{}%
3498 \do{UseThumbs}{}%
3499 \do{FullScreen}{}%
3500 \do{UseOC}{PDF 1.5}%
3501 \do{UseAttachments}{PDF 1.6}%
3502 }
3503 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3504 \do{UseNone}{}%
3505 \do{UseOutlines}{}%
3506 \do{UseThumbs}{}%
3507 \do{FullScreen}{}%
3508 \do{UseOC}{PDF 1.5}%
3509 \do{UseAttachments}{PDF 1.6}%
3510 }
3511 \Hy@DefNameKey{pdfdirection}{%
3512 \do{L2R}{Left to right}%
3513 \do{R2L}{Right to left}%
3514 }
3515 \Hy@DefNameKey{pdfviewarea}{%
3516 \do{MediaBox}{}%
3517 \do{CropBox}{}%
3518 \do{BleedBox}{}%
3519 \do{TrimBox}{}%
3520 \do{ArtBox}{}%
3521 }
3522 \Hy@DefNameKey{pdfviewclip}{%
3523 \do{MediaBox}{}%
3524 \do{CropBox}{}%
3525 \do{BleedBox}{}%
3526 \do{TrimBox}{}%
3527 \do{ArtBox}{}%
3528 }
3529 \Hy@DefNameKey{pdfprintarea}{%
3530 \do{MediaBox}{}%
3531 \do{CropBox}{}%
3532 \do{BleedBox}{}%
3533 \do{TrimBox}{}%
3534 \do{ArtBox}{}%

```

```

3535 }
3536 \Hy@DefNameKey{pdfprintclip}{%
3537   \do{MediaBox}{}%
3538   \do{CropBox}{}%
3539   \do{BleedBox}{}%
3540   \do{TrimBox}{}%
3541   \do{ArtBox}{}%
3542 }
3543 \Hy@DefNameKey{pdfprintscaling}{%
3544   \do{AppDefault}{}%
3545   \do{None}{}%
3546 }
3547 \Hy@DefNameKey{pdfduplex}{%
3548   \do{Simplex}{}%
3549   \do{DuplexFlipShortEdge}{}%
3550   \do{DuplexFlipLongEdge}{}%
3551 }
3552 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3553   \do{true}{}%
3554   \do{false}{}%
3555 }
3556 \define@key{Hyp}{pdfprintpagerange}{%
3557   \def\@pdfprintpagerange{#1}%
3558 }
3559 \Hy@DefNameKey{pdfnumcopies}{%
3560   \do{2}{two copies}%
3561   \do{3}{three copies}%
3562   \do{4}{four copies}%
3563   \do{5}{five copies}%
3564 }
3565 \define@key{Hyp}{pdfusetitle}[true]{%
3566   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3567 }
3568 \def\HyXeTeX@CheckUnicode{%
3569   \ifxetex
3570     \ifHy@unicode
3571     \else
3572       \Hy@WarningNoLine{%
3573         XeTeX driver only supports unicode.\MessageBreak
3574         Enabling option 'unicode'%
3575       }%
3576       \kvsetkeys{Hyp}{unicode}%
3577     \fi
3578   \else
3579     \let\HyXeTeX@CheckUnicode\relax
3580   \fi
3581 }
3582 \def\HyPsd@PrerenderUnicode#1{%
3583   \begingroup
3584     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3585     \else
3586       \sbox0{%
3587         \let\GenericInfo\@gobbletwo
3588         \let\GenericWarning\@gobbletwo
3589         \let\GenericError\@gobblefour
3590         \PrerenderUnicode{#1}%
3591       }%

```

```

3592 \fi
3593 \endgroup
3594 }
3595 \define@key{Hyp}{pdftitle}{%
3596 \HyXeTeX@CheckUnicode
3597 \HyPsd@XeTeXBigCharstrue
3598 \HyPsd@PrerenderUnicode{#1}%
3599 \pdfstringdef\@pdftitle{#1}%
3600 }
3601 \define@key{Hyp}{pdfauthor}{%
3602 \HyXeTeX@CheckUnicode
3603 \HyPsd@XeTeXBigCharstrue
3604 \HyPsd@PrerenderUnicode{#1}%
3605 \pdfstringdef\@pdfauthor{#1}%
3606 }
3607 \define@key{Hyp}{pdfproducer}{%
3608 \HyXeTeX@CheckUnicode
3609 \HyPsd@XeTeXBigCharstrue
3610 \HyPsd@PrerenderUnicode{#1}%
3611 \pdfstringdef\@pdfproducer{#1}%
3612 }
3613 \define@key{Hyp}{pdfcreator}{%
3614 \HyXeTeX@CheckUnicode
3615 \HyPsd@XeTeXBigCharstrue
3616 \HyPsd@PrerenderUnicode{#1}%
3617 \pdfstringdef\@pdfcreator{#1}%
3618 }
3619 \define@key{Hyp}{pdfcreationdate}{%
3620 \begingroup
3621 \Hy@unicodedefalse
3622 \pdfstringdef\@pdfcreationdate{#1}%
3623 \endgroup
3624 }
3625 \define@key{Hyp}{pdfmoddate}{%
3626 \begingroup
3627 \Hy@unicodedefalse
3628 \pdfstringdef\@pdfmoddate{#1}%
3629 \endgroup
3630 }
3631 \define@key{Hyp}{pdfsubject}{%
3632 \HyXeTeX@CheckUnicode
3633 \HyPsd@XeTeXBigCharstrue
3634 \HyPsd@PrerenderUnicode{#1}%
3635 \pdfstringdef\@pdfsubject{#1}%
3636 }
3637 \define@key{Hyp}{pdfkeywords}{%
3638 \HyXeTeX@CheckUnicode
3639 \HyPsd@XeTeXBigCharstrue
3640 \HyPsd@PrerenderUnicode{#1}%
3641 \pdfstringdef\@pdfkeywords{#1}%
3642 }
3643 \define@key{Hyp}{pdftrapped}{%
3644 \lowercase{\edef\Hy@temp{#1}}%
3645 \ifx\Hy@temp\HyInfo@trapped@true
3646 \def\@pdftrapped{True}%
3647 \else
3648 \ifx\Hy@temp\HyInfo@trapped@false

```

```

3649 \def\@pdftrapped{False}%
3650 \else
3651 \ifx\Hy@temp\HyInfo@trapped@unknown
3652 \def\@pdftrapped{Unknown}%
3653 \else
3654 \ifx\Hy@temp\@empty
3655 \else
3656 \Hy@Warning{%
3657     Unsupported value '#1'\MessageBreak
3658     for option 'pdftrapped'%
3659 }%
3660 \fi
3661 \def\@pdftrapped{}%
3662 \fi
3663 \fi
3664 \fi
3665 }
3666 \def\HyInfo@trapped@true{true}
3667 \def\HyInfo@trapped@false{false}
3668 \def\HyInfo@trapped@unknown{unknown}
3669 \def\HyInfo@TrappedUnsupported{%
3670 \ifx\@pdftrapped\@empty
3671 \else
3672 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3673 \gdef\HyInfo@TrappedUnsupported{}%
3674 \fi
3675 }
3676 \define@key{Hyp}{pdfinfo}{%
3677 \kvsetkeys{pdfinfo}{#1}%
3678 }
3679 \def\Hy@temp#1{%
3680 \lowercase{\Hy@temp@A{#1}}{#1}%
3681 }
3682 \def\Hy@temp@A#1#2{%
3683 \define@key{pdfinfo}{#2}{%
3684 \hypersetup{pdf#1={##1}}%
3685 }%
3686 }
3687 \Hy@temp{Title}
3688 \Hy@temp{Author}
3689 \Hy@temp{Keywords}
3690 \Hy@temp{Subject}
3691 \Hy@temp{Creator}
3692 \Hy@temp{Producer}
3693 \Hy@temp{CreationDate}
3694 \Hy@temp{ModDate}
3695 \Hy@temp{Trapped}
3696 \newif\ifHyInfo@AddonUnsupported
3697 \kv@set@family@handler{pdfinfo}{%
3698 \HyInfo@AddonHandler{#1}{#2}%
3699 }
3700 \let\HyInfo@do\relax
3701 \def\HyInfo@AddonHandler#1#2{%
3702 \ifx\kv@value\relax
3703 \Hy@Warning{%
3704     Option 'pdfinfo': ignoring key '\kv@key' without value%
3705 }%

```

```

3706 \else
3707 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3708 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3709 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3710 \ifHyInfo@AddonUnsupported
3711 \Hy@Warning{%
3712 This driver does not support additional\MessageBreak
3713 information entries, therefore\MessageBreak
3714 '\kv@key' is ignored%
3715 }%
3716 \else
3717 \define@key{pdfinfo}{\HyInfo@Key}{%
3718 \HyXeTeX@CheckUnicode
3719 \HyPsd@XeTeXBigCharstrue
3720 \HyPsd@PrerenderUnicode{##1}%
3721 \pdfstringdef\HyInfo@Value{##1}%
3722 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3723 \HyInfo@Value
3724 }%
3725 \edef\HyInfo@AddonList{%
3726 \HyInfo@AddonList
3727 \HyInfo@do{\HyInfo@Key}%
3728 }%
3729 \kv@parse@normalized{%
3730 \HyInfo@Key={#2}%
3731 }{%
3732 \kv@processor@default{pdfinfo}%
3733 }%
3734 \fi
3735 \else
3736 \kv@parse@normalized{%
3737 \HyInfo@Key={#2}%
3738 }{%
3739 \kv@processor@default{pdfinfo}%
3740 }%
3741 \fi
3742 \fi
3743 }
3744 \def\HyInfo@GenerateAddons{%
3745 \ifHyInfo@AddonUnsupported
3746 \def\HyInfo@Addons{}%
3747 \else
3748 \begingroup
3749 \toks@{}%
3750 \def\HyInfo@do##1{%
3751 \EdefEscapeName\HyInfo@Key{##1}%
3752 \edef\x{%
3753 \toks@{%
3754 \the\toks@
3755 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3756 }%
3757 }%
3758 \x
3759 }%
3760 \HyInfo@AddonList
3761 \edef\x{\endgroup
3762 \def\noexpand\HyInfo@Addons{\the\toks@}%

```

```

3763 }%
3764 \x
3765 \fi
3766 }
3767 \def\HyInfo@AddonList{}

3768 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3769 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3770 \let\setpdfinkmargin\@gobble
3771 \def\calculate@pdfview#1 #2\{%
3772 \def\@pdfview{#1}%
3773 \ifx\#2\%
3774 \def\@pdfviewparams{ -32768}%
3775 \else
3776 \def\@pdfviewparams{ #2}%
3777 \fi
3778 }
3779 \begingroup\expandafter\expandafter\expandafter\endgroup
3780 \expandafter\ifx\csname numexpr\endcsname\relax
3781 \def\Hy@number#1{%
3782 \expandafter\@firstofone\expandafter{\number#1}%
3783 }%
3784 \else
3785 \def\Hy@number#1{%
3786 \the\numexpr#1\relax
3787 }%
3788 \fi
3789 \define@key{Hyp}{pdfstartpage}{%
3790 \ifx\#1\%
3791 \def\@pdfstartpage{}%
3792 \else
3793 \edef\@pdfstartpage{\Hy@number{#1}}%
3794 \fi
3795 }%
3796 \define@key{Hyp}{pdfstartview}{%
3797 \ifx\#1\%
3798 \def\@pdfstartview{}%
3799 \else
3800 \hypercalcbpdef\@pdfstartview{/#1}%
3801 \fi
3802 }
3803 \def\HyPat@NonNegativeReal/{%
3804 ([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)%
3805 }
3806 \define@key{Hyp}{pdfremotestartview}{%
3807 \ifx\#1\%
3808 \def\@pdfremotestartview{/Fit}%
3809 \else
3810 \hypercalcbpdef\@pdfremotestartview{#1}%
3811 \edef\@pdfremotestartview{\@pdfremotestartview}%
3812 \Hy@Match\@pdfremotestartview{%
3813 ^{XYZ}-(null|\HyPat@NonNegativeReal/)%
3814 -(null|\HyPat@NonNegativeReal/)%
3815 (null|\HyPat@NonNegativeReal/)|%
3816 Fit(|B|
3817 (H|V|BH|BV)(null|\HyPat@NonNegativeReal/)|%
3818 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3819 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%

```

```

3820    ))$%
3821  }{}{%
3822    \Hy@Warning{%
3823      Invalid value '\@pdfremotestartview'\MessageBreak
3824      of 'pdfremotestartview'\MessageBreak
3825      is replaced by 'Fit'%
3826    }%
3827    \let\@pdfremotestartview\@empty
3828  }%
3829  \ifx\@pdfremotestartview\@empty
3830    \def\@pdfremotestartview{/Fit}%
3831  \else
3832    \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3833  \fi
3834 \fi
3835 }
3836 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3837 \define@key{Hyp}{pdftoolbar}[true]{%
3838   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3839 }
3840 \define@key{Hyp}{pdfmenubar}[true]{%
3841   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3842 }
3843 \define@key{Hyp}{pdfwindowui}[true]{%
3844   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3845 }
3846 \define@key{Hyp}{pdffitwindow}[true]{%
3847   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3848 }
3849 \define@key{Hyp}{pdfcenterwindow}[true]{%
3850   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3851 }
3852 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3853   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3854 }
3855 \define@key{Hyp}{pdfa}[true]{%
3856   \Hy@boolkey[pdfa]{#1}%
3857 }
3858 \define@key{Hyp}{pdfnewwindow}[true]{%
3859   \def\Hy@temp{#1}%
3860   \ifx\Hy@temp\@empty
3861     \Hy@newwindowsetfalse
3862   \else
3863     \Hy@newwindowsettrue
3864     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3865   \fi
3866 }
3867 \def\Hy@SetNewWindow{%
3868   \ifHy@newwindowset
3869     /NewWindow %
3870   \ifHy@newwindow true\else false\fi
3871 \fi
3872 }
3873 \Hy@DefNameKey{pdfpagelayout}{%
3874   \do{SinglePage}{}%
3875   \do{OneColumn}{}%
3876   \do{TwoColumnLeft}{}%

```



```

3877 \do{TwoColumnRight}{}%
3878 \do{TwoPageLeft}{PDF 1.5}%
3879 \do{TwoPageRight}{PDF 1.5}%
3880 }
3881 \define@key{Hyp}{pdflang}{%
3882 \def\@pdflang{#1}%
3883 }
3884 \define@key{Hyp}{pdfpagelabels}[true]{%
3885 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3886 }
3887 \define@key{Hyp}{pdfescapeform}[true]{%
3888 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3889 }

```

Default values:

```

3890 \def\@linkbordercolor{1 0 0}
3891 \def\@urlbordercolor{0 1 1}
3892 \def\@menubordercolor{1 0 0}
3893 \def\@filebordercolor{0 .5 .5}
3894 \def\@runbordercolor{0 .7 .7}
3895 \def\@citebordercolor{0 1 0}
3896 \def\@pdfhighlight{/I}
3897 \def\@pdftitle{}
3898 \def\@pdfauthor{}
3899 \let\@pdfproducer\relax
3900 \def\@pdfcreator{LaTeX with hyperref package}
3901 \def\@pdfcreationdate{}
3902 \def\@pdfmoddate{}
3903 \def\@pdfsubject{}
3904 \def\@pdfkeywords{}
3905 \def\@pdftrapped{}
3906 \def\@pdfpagescrop{}
3907 \def\@pdfstartview{/Fit}
3908 \def\@pdfremotestartview{/Fit}
3909 \def\@pdfstartpage{1}
3910 \def\@pdfprintpagerange{}
3911 \def\@pdflang{}
3912 \let\PDF@SetupDoc\@empty
3913 \let\PDF@FinishDoc\@empty
3914 \let\phantomsection\@empty
3915 \let\special@paper\@empty
3916 \def\HyperDestNameFilter#1{#1}
3917 \Hy@AtBeginDocument{%
3918 \begingroup
3919 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3920 \dimen@=\x\relax
3921 \ifdim\dimen@>\z@
3922 \else
3923 \dimen@=11in\relax
3924 \Hy@WarningNoLine{%
3925 Height of page (\expandafter\string\x) %
3926 is invalid (\the\x),\MessageBreak
3927 using 11in%
3928 }%
3929 \fi
3930 \dimen@=0.99626401\dimen@
3931 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3932 \endgroup

```

```

3933 }
3934 \def\HyInd@EncapChar{\|}

```

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

```

3935 \let\hyper@normalise\ExecuteOptions
3936 \let\ExecuteOptions\hypersetup
3937 \Hy@RestoreCatcodes
3938 \InputIfFileExists{hyperref.cfg}{\|}{\|}
3939 \Hy@SetCatcodes
3940 \let\ExecuteOptions\hyper@normalise
3941 \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.

```

3942 \SetupKeyvalOptions{family=Hyp}
3943 \DeclareLocalOptions{%
3944   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3945 }

```

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

```

3946 \@ifpackageloaded{tex4ht}{\|}%
3947   \@ifpackagewith{hyperref}{tex4ht}{\|}{\|}%
3948   \PassOptionsToPackage{tex4ht}{hyperref}%
3949   }%
3950 }{}

3951 \let\ReadBookmarks\relax
3952 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3953 \Hy@AtBeginDocument{%
3954   \ifHy@draft
3955     \let\hyper@@anchor\@gobble
3956     \gdef\hyper@link#1#2#3{#3}%
3957     \let\hyper@anchorstart\@gobble
3958     \let\hyper@anchorend\@empty
3959     \let\hyper@linkstart\@gobbletwo
3960     \let\hyper@linkend\@empty
3961     \def\hyper@linkurl#1#2{#1}%
3962     \def\hyper@linkfile#1#2#3{#1}%
3963     \def\hyper@link@{#1}#2#3{}%
3964     \def\Acrobatmenu#1#2{\leavevmode#2}%
3965     \let\PDF@SetupDoc\@empty
3966     \let\PDF@FinishDoc\@empty
3967     \let\@fifthoffive\@secondoftwo
3968     \let\@secondoffive\@secondoftwo
3969     \let\ReadBookmarks\relax
3970     \let\WriteBookmarks\relax
3971     \Hy@WarningNoLine{Draft mode on}%
3972   \fi
3973   \Hy@DisableOption{draft}%
3974   \Hy@DisableOption{nolinks}%
3975   \Hy@DisableOption{final}%
3976 }

```

15.1 PDF/A

```
3977 \Hy@DisableOption{pdfa}
3978 \ifHy@pdfa
3979 \kvsetkeys{Hyp}{pdfversion=1.4}%
3980 \def\Hy@Acrobatmenu#1#2{%
3981 \leavevmode
3982 \beginngroup
3983 \edef\x{#1}%
3984 \@onelevel@sanitize\x
3985 \ifx\x\Hy@NextPage
3986 \let\y=Y%
3987 \else
3988 \ifx\x\Hy@PrevPage
3989 \let\y=Y%
3990 \else
3991 \ifx\x\Hy@FirstPage
3992 \let\y=Y%
3993 \else
3994 \ifx\x\Hy@LastPage
3995 \let\y=Y%
3996 \else
3997 \let\y=N%
3998 \fi
3999 \fi
4000 \fi
4001 \fi
4002 \expandafter\endgroup
4003 \ifx\y Y%
4004 \else
4005 \Hy@Error{%
4006 PDF/A: Named action ‘#1’ is not permitted%
4007 }\@ehc
4008 {#2}%
4009 \expandafter\@gobble
4010 \fi
4011 }%
4012 \def\Hy@temp#1{%
4013 \expandafter\def\csname Hy@#1\endcsname{#1}%
4014 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4015 }%
4016 \Hy@temp{NextPage}%
4017 \Hy@temp{PrevPage}%
4018 \Hy@temp{FirstPage}%
4019 \Hy@temp{LastPage}%
4020 \else
4021 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4022 \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.

```
4023 \Hy@nextfalse
4024 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4025 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4026 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4027 \ifHy@next
```

```

4028 \let\texttilde\~%
4029 \fi

4030 \ifHy@figures
4031 \Hy@Info{Hyper figures ON}%
4032 \else
4033 \Hy@Info{Hyper figures OFF}%
4034 \fi

4035 \ifHy@nesting
4036 \Hy@Info{Link nesting ON}%
4037 \else
4038 \Hy@Info{Link nesting OFF}%
4039 \fi

4040 \ifHy@hyperindex
4041 \Hy@Info{Hyper index ON}%
4042 \else
4043 \Hy@Info{Hyper index OFF}%
4044 \fi

4045 \ifHy@plainpages
4046 \Hy@Info{Plain pages ON}%
4047 \else
4048 \Hy@Info{Plain pages OFF}%
4049 \fi

4050 \ifHy@backref
4051 \Hy@Info{Backreferencing ON}%
4052 \else
4053 \Hy@Info{Backreferencing OFF}%
4054 \fi

4055 \ifHy@typexml
4056 \Hy@AtEndOfPackage{%
4057 \RequirePackage{color}%
4058 \RequirePackage{nameref}%
4059 }%
4060 \fi

4061 \Hy@DisableOption{typexml}
4062 \ifHy@implicit
4063 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4064 \else
4065 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4066 \def\MaybeStopEarly{%
4067 \Hy@Message{Stopped early}%
4068 \Hy@AtBeginDocument{%
4069 \PDF@FinishDoc
4070 \gdef\PDF@FinishDoc{}%
4071 }%
4072 \endinput
4073 }%
4074 \Hy@AtBeginDocument{%
4075 \let\autoref\ref
4076 \let\autopageref\pageref
4077 \ifx\@pdfpagemode\@empty
4078 \gdef\@pdfpagemode{UseNone}%
4079 \fi
4080 \global\Hy@backreffalse
4081 }%
4082 \Hy@AtEndOfPackage{%
4083 \global\let\ReadBookmarks\relax
4084 \global\let\WriteBookmarks\relax

```

```

4085 }%
4086 \fi
4087 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

4088 \Hy@AtEndOfPackage{%
4089 \ifpackageloaded{tex4ht}{%
4090 \def\Hy@driver{htex4ht}%
4091 \Hy@texhttrue
4092 }{}%

```

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.

```

4093 \ifx\Hy@driver\@empty
4094 \else
4095 \def\Hy@temp{hpdftex}%
4096 \ifpdf
4097 \ifx\Hy@driver\Hy@temp
4098 \else
4099 \Hy@WarningNoLine{%
4100   Wrong driver '\Hy@driver.def';\MessageBreak
4101   pdfTeX is running in PDF mode.\MessageBreak
4102   Forcing driver '\Hy@temp.def'%
4103 }%
4104 \let\Hy@driver\Hy@temp
4105 \fi
4106 \else
4107 \ifx\Hy@driver\Hy@temp
4108 \Hy@WarningNoLine{%
4109   Wrong driver '\Hy@driver.def';\MessageBreak
4110   pdfTeX is not running in PDF mode.\MessageBreak
4111   Using default driver%
4112 }%
4113 \let\Hy@driver\@empty
4114 \fi
4115 \fi
4116 \fi
4117 \ifx\Hy@driver\@empty
4118 \else
4119 \def\Hy@temp{hxtex}%
4120 \ifxetex
4121 \ifx\Hy@driver\Hy@temp
4122 \else
4123 \Hy@WarningNoLine{%
4124   Wrong driver '\Hy@driver.def';\MessageBreak
4125   XeTeX is running.\MessageBreak
4126   Forcing driver '\Hy@temp.def' for XeTeX%
4127 }%
4128 \let\Hy@driver\Hy@temp
4129 \fi
4130 \fi
4131 \fi
4132 \ifx\Hy@driver\@empty
4133 \else
4134 \def\Hy@temp{hvtexhtm}%
4135 \ifvtexhtml
4136 \ifx\Hy@driver\Hy@temp

```

```

4137 \else
4138 \Hy@WarningNoLine{%
4139   Wrong driver '\Hy@driver.def';\MessageBreak
4140   VTeX is running in HTML mode.\MessageBreak
4141   Forcing driver '\Hy@temp.def'%
4142 }%
4143 \let\Hy@driver\Hy@temp
4144 \fi
4145 \else
4146 \ifx\Hy@driver\Hy@temp
4147 \Hy@WarningNoLine{%
4148   Wrong driver '\Hy@driver.def';\MessageBreak
4149   VTeX is not running in HTML mode.\MessageBreak
4150   Using default driver%
4151 }%
4152 \let\Hy@driver\@empty
4153 \fi
4154 \fi
4155 \fi

```

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

```

4156 \def\HyOpt@DriverType{%
4157 \ifx\Hy@driver\@empty
4158 \def\HyOpt@DriverType{ (autodetected)}%
4159 \providecommand*\Hy@defaultdriver{hypertex}%
4160 \ifpdf
4161 \def\Hy@driver{hpdftex}%
4162 \else
4163 \ifxetex
4164 \def\Hy@driver{hxetex}%
4165 \else
4166 \ifvtexhtml
4167 \def\Hy@driver{hvtexhtm}%
4168 \def\MaybeStopEarly{%
4169 \Hy@Message{Stopped early}%
4170 \Hy@AtBeginDocument{%
4171 \PDF@FinishDoc
4172 \gdef\PDF@FinishDoc{}%
4173 }%
4174 \endinput
4175 }%
4176 \else
4177 \ifvtexpdf
4178 \def\Hy@driver{hvtex}%
4179 \else
4180 \ifvtexps
4181 \def\Hy@driver{hvtex}%
4182 \else
4183 \ifx\HyOpt@DriverFallback\ltx@empty
4184 \let\Hy@driver\Hy@defaultdriver
4185 \def\HyOpt@DriverType{ (default)}%
4186 \else
4187 \begingroup
4188 \toks@\expandafter{\HyOpt@DriverFallback}%
4189 \edef\x{\endgroup
4190 \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4191 }%
4192 \x

```

```

4193         \ifx\Hy@driver\ltx@empty
4194             \let\Hy@driver\Hy@defaultdriver
4195             \def\HyOpt@DriverType{ (default)}%
4196         \else
4197             \def\HyOpt@DriverType{ (fallback)}%
4198         \fi
4199     \fi
4200 \fi
4201 \fi
4202 \fi
4203 \fi
4204 \fi
4205 \ifx\Hy@driver\Hy@defaultdriver
4206     \def\Hy@temp{hdvwind}%
4207     \ifx\Hy@temp\Hy@driver
4208         \kvsetkeys{Hyp}{colorlinks}%
4209         \PassOptionsToPackage{dviwindo}{color}%
4210     \fi
4211 \fi
4212 \fi
4213 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4214 \input{\Hy@driver.def}%
4215 \let\@unprocessedoptions\relax
4216 \Hy@RestoreCatcodes
4217 \Hy@DisableOption{tex4ht}%
4218 \Hy@DisableOption{pdftex}%
4219 \Hy@DisableOption{nativepdf}%
4220 \Hy@DisableOption{dvipdfm}%
4221 \Hy@DisableOption{dvipdfmx}%
4222 \Hy@DisableOption{dvipdfmx-outline-open}%
4223 \Hy@DisableOption{pdfmark}%
4224 \Hy@DisableOption{dvips}%
4225 \Hy@DisableOption{hypertex}%
4226 \Hy@DisableOption{vtex}%
4227 \Hy@DisableOption{vtexpdfmark}%
4228 \Hy@DisableOption{dviwindo}%
4229 \Hy@DisableOption{dvipsone}%
4230 \Hy@DisableOption{textures}%
4231 \Hy@DisableOption{latex2html}%
4232 \Hy@DisableOption{ps2pdf}%
4233 \Hy@DisableOption{xetex}%
4234 \Hy@DisableOption{pdfversion}%
4235 }

```

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

```

4236 \newif\ifHy@DvipdfmxOutlineOpen
4237 \ifxetex
4238     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4239     \else
4240         \Hy@DvipdfmxOutlineOpentrue
4241     \fi
4242 \fi
4243 \begingroup\expandafter\expandafter\expandafter\endgroup
4244 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4245 \else
4246     \ifnum\SpecialDvipdfmxOutlineOpen>\z@

```

```

4247 \Hy@DvipdfmxOutlineOpentru
4248 \fi
4249 \fi

```

15.2.2 Bookmarks

```

4250 \def\WriteBookmarks{0}
4251 \def\@bookmarkopenstatus#1{%
4252 \ifHy@bookmarksopen

```

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

```

4253 \ifnum#1<\expandafter\@firstofone\expandafter
4254     {\number\@bookmarksopenlevel} % explicit space
4255 \else
4256 -%
4257 \fi
4258 \else
4259 -%
4260 \fi
4261 }
4262 \ifHy@bookmarks
4263 \Hy@Info{Bookmarks ON}%
4264 \ifx\@pdfpagemode\@empty
4265 \def\@pdfpagemode{UseOutlines}%
4266 \fi
4267 \else
4268 \def\@bookmarkopenstatus#1{%
4269 \Hy@Info{Bookmarks OFF}%
4270 \Hy@AtEndOfPackage{%
4271 \global\let\ReadBookmarks\relax
4272 \global\let\WriteBookmarks\relax
4273 }%
4274 \ifx\@pdfpagemode\@empty
4275 \def\@pdfpagemode{UseNone}%
4276 \fi
4277 \fi
4278 \Hy@DisableOption{bookmarks}

```

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

```

4279 \def\Hy@CatcodeWrapper#1{%
4280 \def\Hy@EndWrap{}%
4281 \def\TMP@EnsureCode##1##2{%
4282 \edef\Hy@EndWrap{%
4283 \Hy@EndWrap
4284 \catcode##1 \the\catcode##1\relax
4285 }%
4286 \catcode##1 ##2\relax
4287 }%
4288 \TMP@EnsureCode{10}{12}% ^^J
4289 \TMP@EnsureCode{33}{12}% !
4290 \TMP@EnsureCode{34}{12}% "
4291 \TMP@EnsureCode{36}{3}% $ (math)
4292 \TMP@EnsureCode{38}{4}% & (alignment)
4293 \TMP@EnsureCode{39}{12}% '
4294 \TMP@EnsureCode{40}{12}% (
4295 \TMP@EnsureCode{41}{12}% )
4296 \TMP@EnsureCode{42}{12}% *
4297 \TMP@EnsureCode{43}{12}% +
4298 \TMP@EnsureCode{44}{12}% ,

```



```

4299 \TMP@EnsureCode{45}{12}% -
4300 \TMP@EnsureCode{46}{12}% .
4301 \TMP@EnsureCode{47}{12}% /
4302 \TMP@EnsureCode{58}{12}% :
4303 \TMP@EnsureCode{59}{12}% ;
4304 \TMP@EnsureCode{60}{12}% <
4305 \TMP@EnsureCode{61}{12}% =
4306 \TMP@EnsureCode{62}{12}% >
4307 \TMP@EnsureCode{63}{12}% ?
4308 \TMP@EnsureCode{91}{12}% [
4309 \TMP@EnsureCode{93}{12}% ]
4310 \TMP@EnsureCode{94}{7}% ^ (superscript)
4311 \TMP@EnsureCode{95}{8}% _ (subscript)
4312 \TMP@EnsureCode{96}{12}% '
4313 \TMP@EnsureCode{124}{12}% |
4314 \TMP@EnsureCode{126}{13}% ~ (active)
4315 #1\relax
4316 \Hy@endWrap
4317 }

```

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

```

4318 \Hy@AtBeginDocument{%
4319   \ifHy@ocgcolorlinks
4320     \kvsetkeys{Hyp}{colorlinks}%
4321     \ifHy@pdfa
4322       \Hy@Warning{%
4323         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4324         using 'colorlinks' instead of 'ocgcolorlinks'%
4325       }%
4326       \Hy@ocgcolorlinksfalse
4327     \fi
4328   \fi
4329   \ifHy@ocgcolorlinks
4330   \else
4331     \Hy@DisableOption{ocgcolorlinks}%
4332   \fi
4333   \ifHy@colorlinks
4334     \def\@pdfborder{0 0 0}%
4335     \let\@pdfborderstyle\@empty
4336     \ifHy@typexml
4337     \else
4338       \Hy@CatcodeWrapper{%
4339         \RequirePackage{color}%
4340       }%
4341     \fi
4342     \def\Hy@colorlink#1{%
4343       \begingroup
4344       \HyColor@UseColor#1%
4345     }%
4346     \def\Hy@endcolorlink{\endgroup}%
4347     \Hy@Info{Link coloring ON}%
4348   \else
4349     \ifHy@frenchlinks
4350       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4351       \def\Hy@endcolorlink{\endgroup}%
4352       \Hy@Info{French linking ON}%
4353     \else

```

for grouping consistency:

```

4354 \def\Hy@colorlink#1{\begingroup}%
4355 \def\Hy@endcolorlink{\endgroup}%
4356 \Hy@Info{Link coloring OFF}%
4357 \fi
4358 \fi
4359 \Hy@DisableOption{colorlinks}%
4360 \Hy@DisableOption{frenchlinks}%
4361 \ifHy@texht
4362 \long\def\@firstoffive#1#2#3#4#5{#1}%
4363 \long\def\@secondoffive#1#2#3#4#5{#2}%
4364 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4365 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4366 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4367 \providecommand*\@safe@activetrue{}%
4368 \providecommand*\@safe@activesfalse{}%
4369 \def\T@ref#1{%
4370 \Hy@safe@activetrue
4371 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4372 \Hy@safe@activesfalse
4373 }%
4374 \def\T@pageref#1{%
4375 \Hy@safe@activetrue
4376 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4377 \Hy@safe@activesfalse
4378 }%
4379 \else
4380 \ifHy@typexml
4381 \else
4382 \Hy@CatcodeWrapper{%
4383 \RequirePackage{nameref}%
4384 }%
4385 \fi
4386 \fi
4387 \DeclareRobustCommand\ref{%
4388 \@ifstar\@refstar\T@ref
4389 }%
4390 \DeclareRobustCommand\pageref{%
4391 \@ifstar\@pagerefstar\T@pageref
4392 }%
4393 % \@ifclassloaded{memoir}{%
4394 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4395 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4396 % }%
4397 % }\ltx@secondoftwo
4398 % {%
4399 % \DeclareRobustCommand*\@nameref{%
4400 % \@ifstar\@mem@titlerefno link\@mem@titleref
4401 % }%
4402 % }{%
4403 \DeclareRobustCommand*\@nameref{%
4404 \@ifstar\@namerefstar\T@nameref
4405 }%
4406 % }%
4407 }
4408 \Hy@AtBeginDocument{%
4409 \ifHy@texht

```

```

4410 \else
4411   \Hy@CatcodeWrapper{%
4412     \ReadBookmarks
4413   }%
4414 \fi
4415 }

4416 \ifHy@backref
4417   \RequirePackage{backref}%
4418 \else
4419   \let\Hy@backout\@gobble
4420 \fi
4421 \Hy@DisableOption{backref}
4422 \Hy@DisableOption{pagebackref}
4423 \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.

```

4424 \begingroup
4425   \endlinechar=-1 %
4426   \catcode'\^^A=14 %
4427   \catcode'\^^M\active
4428   \catcode'\%\active
4429   \catcode'\#\active
4430   \catcode'\_\active
4431   \catcode'\$\active
4432   \catcode'\&\active
4433   \gdef\hyper@normalise{^^A
4434     \begingroup
4435     \catcode'\^^M\active
4436     \def^^M{ }^^A
4437     \catcode'\%\active
4438     \let%\@percentchar
4439     \let%\@percentchar
4440     \catcode'\#\active
4441     \def#{\hyper@hash}^^A
4442     \def\#{\hyper@hash}^^A
4443     \@makeother\&^^A
4444     \edef&{\string&}^^A
4445     \edef&{\string&}^^A
4446     \edef\textunderscore{\string_}^^A
4447     \let_\textunderscore
4448     \catcode'\_\active
4449     \let_\textunderscore
4450     \let~\hyper@tilde
4451     \let~\hyper@tilde
4452     \let~\textasciitilde\hyper@tilde
4453     \let\\ \@backslashchar
4454     \edef${\string$}^^A
4455     \Hy@safe@activetrue
4456     \hyper@n@rmalise

```

```

4457 }^^A
4458 \catcode'\#=6 ^^A
4459 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4460 \gdef\hyper@n@rmalise#1#2{^^A
4461 \def\Hy@tempa{#2}^^A
4462 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4463 \Hy@ReturnAfterElseFi{^^A
4464 \hyper@@normalise{#1}^^A
4465 }^^A
4466 \else
4467 \Hy@ReturnAfterFi{^^A
4468 \hyper@@normalise{#1}{#2}^^A
4469 }^^A
4470 \fi
4471 }^^A
4472 \gdef\hyper@@normalise#1#2{^^A
4473 \edef\Hy@tempa{^^A
4474 \endgroup
4475 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4476 }^^A
4477 \Hy@tempa
4478 }^^A
4479 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4480 #1^^A
4481 \ifx\limits#2\limits
4482 \else
4483 \Hy@ReturnAfterFi{^^A
4484 \Hy@RemovePercentCr #2\@nil
4485 }^^A
4486 \fi
4487 }^^A
4488 \endgroup
4489 \providecommand*\hyper@chars{%
4490 \let\#\hyper@hash
4491 \let\%\@percentchar
4492 \Hy@safe@activetrue
4493 }

4494 \def\hyperlink#1#2{%
4495 \hyper@@link{#1}{#2}%
4496 }

4497 \def\Hy@VerboseLinkStart#1#2{%
4498 \ifHy@verbose
4499 \begingroup
4500 \Hy@safe@activetrue
4501 \xdef\Hy@VerboseGlobalTemp{(#1 '#2')%
4502 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4503 \xdef\Hy@VerboseGlobalTemp{%
4504 \Hy@VerboseGlobalTemp, %
4505 line \the\inputlineno
4506 }%
4507 \endgroup
4508 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4509 \@onelevel@sanitize\Hy@VerboseLinkInfo
4510 \fi
4511 }

4512 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}

```

```

4513 \def\Hy@VerboseLinkStop{%
4514   \ifHy@verbose
4515     \begingroup
4516     \edef\x{\endgroup
4517       \write\m@ne{%
4518         Package 'hyperref' Info: %
4519         End of reference \Hy@VerboseLinkInfo.%
4520       }%
4521     }%
4522   \x
4523 \fi
4524 }

4525 \def\Hy@VerboseAnchor#1{%
4526   \ifHy@verbose
4527     \begingroup
4528     \Hy@safe@activetrue
4529     \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4530   \endgroup
4531 \fi
4532 }

4533 \def\Hy@AllowHyphens{%
4534   \relax
4535   \ifhmode
4536     \penalty\@M
4537     \hskip\z@skip
4538   \fi
4539 }

4540 \DeclareRobustCommand*\href}[1][]{%
4541   \begingroup
4542   \setkeys{href}{#1}%
4543   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4544 }

4545 \def\Hy@href#1{%
4546   \hyper@normalise\href@
4547 }

4548 \begingroup
4549 \catcode'\$=6 %
4550 \catcode'\#=12 %
4551 \gdef\href@#1{\expandafter\href@split$1##\}%
4552 \gdef\href@split$1#$2#$3\#$4{%
4553   \hyper@@link{$1}{$2}{$4}%
4554 }
4555 }%
4556 \endgroup

```

Option 'page'.

```

4557 \define@key{href}{page}{%
4558   \def\Hy@href@page{#1}%
4559 }
4560 \let\Hy@href@page\@empty
4561 \newcount\c@Hy@tempcnt
4562 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4563 \def\Hy@MakeRemoteAction{%
4564   \ifx\Hy@href@page\@empty
4565     \def\Hy@href@page{0}%
4566   \else
4567     \setcounter{Hy@tempcnt}{\Hy@href@page}%

```

```

4568 \ifnum\c@Hy@tempcnt<\@ne
4569 \Hy@Warning{%
4570 Invalid page number (\theHy@tempcnt)\MessageBreak
4571 for remote PDF file.\MessageBreak
4572 Using page 1%
4573 }%
4574 \def\Hy@href@page{0}%
4575 \else
4576 \global\advance\c@Hy@tempcnt\m@ne
4577 \edef\Hy@href@page{\theHy@tempcnt}%
4578 \fi
4579 \fi

```

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

```

4580 \ifx\Hy@href@nextactionraw\@empty
4581 \else
4582 \Hy@newwindowsettrue
4583 \Hy@newwindowtrue
4584 \fi
4585 }

```

Option ‘pdfremotestartview’.

```

4586 \define@key{href}{pdfremotestartview}{%
4587 \setkeys{Hyp}{pdfremotestartview={#1}}%
4588 }

```

Option ‘pdfnewwindow’.

```

4589 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4590 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4591 \newif\ifHy@href@ismap
4592 \define@key{href}{ismap}[true]{%
4593 \ltx@ifundefined{Hy@href@ismap#1}{%
4594 \Hy@Error{%
4595 Invalid value (#1) for key ‘ismap’.\MessageBreak
4596 Permitted values are ‘true’ or ‘false’.\MessageBreak
4597 Ignoring ‘ismap’%
4598 }\@ehc
4599 }{%
4600 \csname Hy@href@ismap#1\endcsname
4601 }%
4602 }

```

Option ‘nextactionraw’.

```

4603 \let\Hy@href@nextactionraw\@empty
4604 \define@key{href}{nextactionraw}{%
4605 \edef\Hy@href@nextactionraw{#1}%
4606 \ifx\Hy@href@nextactionraw\@empty
4607 \else
4608 \Hy@Match\Hy@href@nextactionraw{%
4609 ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|%
4610 \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?)]$}%
4611 }{}{%
4612 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4613 \Hy@href@nextactionraw\MessageBreak
4614 The action is discarded%
4615 }%

```

```

4616 }%
4617 \ifx\Hy@href@nextactionraw\@empty
4618 \else
4619 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4620 \fi
4621 \fi
4622 }
4623 \def\HyPat@ObjRef/{.+}

```

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

```

4624 \RequirePackage{url}
4625 \let\HyOrg@url\url
4626 \def\Hurl{\begingroup \Url}
4627 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4628 \def\nolinkurl@#1{\Hurl{#1}}
4629 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4630 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4631 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4632 \providecommand\hyper@image[2]{#2}

4633 \def\hypertarget#1#2{%
4634 \ifHy@nesting
4635 \hyper@@anchor{#1}{#2}%
4636 \else
4637 \hyper@@anchor{#1}{\relax}#2%
4638 \fi
4639 }

```

\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.

```

4640 \DeclareRobustCommand*\hyperref{%
4641 \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref}
4642 }
4643 \def\Hy@babelnormalise#1[#2]{%
4644 \begingroup
4645 \Hy@safe@activetrue
4646 \edef\Hy@tempa{%
4647 \endgroup
4648 \noexpand#1[#2]}%
4649 }%
4650 \Hy@tempa
4651 }
4652 \def\@hyperref{\hyper@normalise\@hyperref}
4653 \def\@hyperref#1#2#3{%
4654 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4655 \expandafter\tryhyper@link\ref@one\{#1}%
4656 }
4657 \def\tryhyper@link#1\#2{%
4658 \hyper@@link{#2}{#1}%
4659 }

4660 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef]}
4661 \def\@hyperdef#1#2#3{%, category, name, text
4662 \ifx\#1\%

```

```

4663 \def\Hy@AnchorName{#2}%
4664 \else
4665 \def\Hy@AnchorName{#1.#2}%
4666 \fi
4667 \ifHy@nesting
4668 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4669 \else
4670 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4671 \fi
4672 }

```

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.

```

4673 \def\label@hyperref[#1]{%
4674 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4675 }%
4676 \def\label@@hyperref#1#2#3{%
4677 \ifx#1\relax
4678 \protect\G@refundefinedtrue
4679 \@latex@warning{%
4680 Hyper reference ‘#2’ on page \thepage \space undefined%
4681 }%
4682 \hyper@@link{}{??}{#3}%
4683 \else
4684 \hyper@@link{\expandafter\@fifthoffive#1}%
4685 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4686 \fi
4687 }
4688 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4689 % anchor text
4690 \@bsphack
4691 \ifx\#2\%
4692 \def\Hy@AnchorName{#3}%
4693 \else
4694 \def\Hy@AnchorName{#2.#3}%
4695 \fi
4696 \if@filesw
4697 \protected@write\@auxout{}{%
4698 \string\newlabel{#1}{\{}{}\}\{\Hy@AnchorName\}}%
4699 }%
4700 \fi
4701 \@esphack
4702 \ifHy@nesting
4703 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4704 \else
4705 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4706 \fi
4707 }

```

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.

```

4708 \def\hyper@@link{\let\Hy@reserved@a\relax

```



```

4709 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4710 }
4711 \def\hyper@link@{#1}#2#3#4{%
4712 \begingroup
4713 \protected@edef\Hy@tempa{#2}%
4714 \Hy@safe@activetrue
4715 \edef\x{#3}%
4716 \ifx\Hy@tempa\@empty
4717 \toks0{\hyper@link{#1}}%
4718 \else
4719 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4720 \fi
4721 \toks2{%
4722 \Hy@safe@activesfalse
4723 #4%
4724 }%
4725 \edef\Hy@tempa{\the\toks2}%
4726 \edef\x{\endgroup
4727 \ifx\Hy@tempa\@empty
4728 \noexpand\Hy@Warning{Suppressing empty link}%
4729 \else
4730 \the\toks0 {\x}{\the\toks2}}%%
4731 \fi
4732 }%
4733 \x
4734 }

```

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.

```

4735 \def\hyper@readexternallink#1\{#2#3#4{%
4736 \begingroup
4737 \let\\\relax
4738 \expandafter\endgroup
4739 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
4740 }
4741 \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.

```

4742 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4743 }

```

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

```

4744 \def\@pdftempwordfile{file}%
4745 \def\@pdftempwordrun{run}%
4746 \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:

```

4747 \ifx\#6\%
4748 \@hyper@linkfile file:#7\#{#3}{#2}{#7}%
4749 \else
4750 \ifx\#4\%
4751 \@hyper@linkfile file:#7\#{#3}{#2}{#7}%
4752 \else

```

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

```

4753 \def\@pdftempa{#4}%
4754 \ifx\@pdftempa\@pdftempwordfile
4755 \@hyper@linkfile#7\#{#3}{#2}{#7}%
4756 \else

```

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

```

4757 \ifx\@pdftempa\@pdftempwordrun
4758 \ifHy@pdfa
4759 \Hy@Error{%
4760 PDF/A: Launch action is prohibited%
4761 }\@ehc
4762 \begingroup
4763 \leavevmode
4764 #2%
4765 \endgroup
4766 \else
4767 \@hyper@launch#7\#{#3}{#2}%
4768 \fi
4769 \else

```

otherwise its a URL

```

4770 \hyper@linkurl{#3}{#7\ifx\#2\ \else\hyper@hash#2\fi}%
4771 \fi
4772 \fi
4773 \fi
4774 \fi
4775 }

```

By default, turn run: into file:

```

4776 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4777 \hyper@linkurl{#2}{%
4778 \Hy@linkfileprefix
4779 #1%
4780 \ifx\#3\%
4781 \else
4782 \hyper@hash
4783 #3%
4784 \fi
4785 }%
4786 }

```

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

```

4787 \def\@hyper@linkfile file:#1\#2#3#4{%
4788 %file url,link string, name, original uri
4789 \filename@parse{#1}%
4790 \ifx\filename@ext\relax

```

```

4791 \edef\filename@ext{\XR@ext}%
4792 \fi
4793 \def\use@file{\filename@area\filename@base.\filename@ext}%
4794 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
4795 \hyper@linkfile{#2}{\use@file}{#3}%
4796 }{%
4797 \ifx\@baseurl\@empty
4798 \hyper@linkurl{#2}{%
4799 #4\ifx\\#3\\else\hyper@hash#3\fi
4800 }%
4801 \else
4802 \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
4803 \fi
4804 }%
4805 }

4806 \def\Hy@ifStringEndsWith#1#2{%
4807 \begingroup
4808 \edef\x{#1}%
4809 \@onelevel@sanitize\x
4810 \edef\x{.\x$}%
4811 \edef\y{#2}%
4812 \@onelevel@sanitize\y
4813 \edef\y{.\y$}%
4814 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4815 \endgroup
4816 \ifx\relax##2\relax
4817 \expandafter\ltx@secondoftwo
4818 \else
4819 \expandafter\ltx@firstoftwo
4820 \fi
4821 }%
4822 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4823 }

4824 \def\Hy@StringLocalhost{localhost}
4825 \@onelevel@sanitize\Hy@StringLocalhost
4826 \def\Hy@CleanupFile#1{%
4827 \edef#1{#1}%
4828 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
4829 }
4830 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4831 \begingroup
4832 \toks@{\endgroup}%
4833 \def\x{#1}%
4834 \ifx\x\@empty
4835 \def\x{#2}%
4836 \ifx\x\@empty
4837 \toks@{\endgroup\def#5{/#3}}%
4838 \else
4839 \@onelevel@sanitize\x
4840 \ifx\x\Hy@StringLocalhost
4841 \toks@{\endgroup\def#5{/#3}}%
4842 \fi
4843 \fi
4844 \fi
4845 \the\toks@
4846 }

```

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.

```

4847 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4848 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4849   \ifx\#1\%
4850     #2\Hy@Warning{Ignoring empty anchor}%
4851   \else
4852     \def\anchor@spot{#2#3}%
4853     \let\put@me@back\@empty
4854     \ifx\relax#2\relax
4855     \else
4856       \ifHy@nesting
4857       \else
4858         \ifcat a\noexpand#2\relax
4859         \else
4860           \ifcat 0\noexpand#2 \relax
4861           \else
4862             \typeout{Anchor start is not alphanumeric %
4863             on input line\the\inputlineno%
4864             }%
4865             \let\anchor@spot\@empty
4866             \def\put@me@back{#2#3}%
4867           \fi
4868         \fi
4869       \fi
4870     \fi
4871     \ifHy@activeanchor
4872     \anchor@spot
4873   \else
4874     \hyper@anchor{#1}%
4875   \fi
4876   \expandafter\put@me@back
4877 \fi
4878 \let\anchor@spot\@empty
4879 }
4880 \def\anchor@spot{}
```

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.

```

4881 \let\htmladdimg\hyperimage
4882 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4883 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4884 \def\htmlref#1#2{% anchor text, label
```

```

4885 \label@hyperref[#{#2}]{#1}%
4886 }

```

This is really too much. The `LATEX2html` 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.

```

4887 \def\@latex2htmlX{%
4888   \let\hhyperref\hyperref
4889   \def\hyperref##1##2##3##4{% anchor text for HTML
4890     % text to print before label in print
4891     % label
4892     % post-label text in print
4893     ##2\ref{##4}##3%
4894   }%
4895 }

```

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.

```

4896 \RequirePackage{bitset}

```

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

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

```

\HyField@NewFlag  #1: type: F annot flags, Ff field flags
                  #2: PDF name
                  #3: PDF position
4897 \def\HyField@NewFlag#1#2{%
4898   \lowercase{\HyField@NewOption{#2}}%
4899   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4900 }

```

```

\HyField@NewFlagOnly
4901 \def\HyField@NewFlagOnly#1#2{%
4902   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4903 }

```

```

\HyField@NewOption #1: option name
4904 \def\HyField@NewOption#1{%
4905   \expandafter\newif\csname ifFld@#1\endcsname
4906   \define@key{Field}{#1}[true]{%
4907     \lowercase{\Field@boolkey{##1}}{#1}%
4908   }%
4909 }

```

`\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

```
4910 \def\HyField@NewBitsetFlag#1#2#3#4{%
4911   \begingroup
4912   \count@=#4\relax
4913   \advance\count@\m@ne
4914   \def\x##1{%
4915     \endgroup
4916     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4917     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4918       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4919         (\number#4) #2%
4920       }%
4921     \else
4922       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4923         \csname HyField@#3@##1\endcsname
4924         /#2%
4925       }%
4926     \fi
4927   }%
4928   \expandafter\x\expandafter{\the\count@}%
4929 }
```

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

```
4930 \def\HyField@UseFlag#1#2{%
4931   \lowercase{\HyField@@UseFlag{#2}}{#1}%
4932 }
```

`\HyField@@UseFlag`

```
4933 \def\HyField@@UseFlag#1#2{%
4934   \bitsetSetValue{HyField@#2}{%
4935     \csname HyField@#2@#1\endcsname
4936   }{%
4937     \csname ifFld@#1\endcsname 1\else 0\fi
4938   }%
4939 }
```

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

```
4940 \def\HyField@SetFlag#1#2{%
4941   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4942 }
```

`\HyField@@SetFlag`

```
4943 \def\HyField@@SetFlag#1#2{%
4944   \bitsetSetValue{HyField@#2}{%
4945     \csname HyField@#2@#1\endcsname
4946   }{1}%
4947 }
```

`\HyField@PrintFlags`

```
4948 \def\HyField@PrintFlags#1#2{%
4949   \ifHy@verbose
4950     \begingroup
```

```

4951 \let\Hy@temp\@empty
4952 \let\MessageBreak\relax
4953 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4954 \bitsetGetSetBitList{HyField@#1}\do{%
4955 \edef\Hy@temp{%
4956 \Hy@temp
4957 \csname HyField@#1@\x\endcsname\MessageBreak
4958 }%
4959 }%
4960 \edef\x{\endgroup
4961 \noexpand\Hy@Info{%
4962 Field flags: %
4963 \expandafter\ifx\@car#1\@nil S\else/\fi
4964 #1 %
4965 \bitsetGetDec{HyField@#1} %
4966 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4967 \Hy@temp
4968 for #2%
4969 }%
4970 }\x
4971 \fi
4972 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4973 \HyField@NewFlag{Ff}{ReadOnly}{1}
4974 \HyField@NewFlag{Ff}{Required}{2}
4975 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4976 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4977 \HyField@NewFlag{Ff}{Radio}{16}
4978 \HyField@NewFlag{Ff}{Pushbutton}{17}
4979 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4980 \HyField@NewFlag{Ff}{Multiline}{13}
4981 \HyField@NewFlag{Ff}{Password}{14}
4982 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4983 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4984 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4985 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4986 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4987 \HyField@NewFlag{Ff}{Combo}{18}
4988 \HyField@NewFlag{Ff}{Edit}{19}
4989 \HyField@NewFlag{Ff}{Sort}{20}
4990 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4991 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4992 \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.

```

4993 \newif\iffld@popdown
4994 \define@key{Field}{popdown}[true]{%

```

```

4995 \lowercase{\Field@boolkey{#1}}{popdown}%
4996 }

```

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.

```

4997 \HyField@NewFlag{F}{Invisible}{1}
4998 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4999 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5000 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5001 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5002 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5003 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5004 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5005 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5006 \ifHy@pdfa
5007 \def\HyField@PDFAFldWarning#1#2{%
5008   \Hy@Warning{%
5009     PDF/A: Annotation flag '#1' must\MessageBreak
5010     be set to '#2'%
5011   }%
5012 }%
5013 \Fld@invisiblefalse
5014 \def\Fld@invisibletrue{%
5015   \HyField@PDFAFldWarning{invisible}{false}%
5016 }%
5017 \Fld@hiddenfalse
5018 \def\Fld@hiddentrue{%
5019   \HyField@PDFAFldWarning{hidden}{false}%
5020 }%
5021 \Fld@printtrue
5022 \def\Fld@printfalse{%
5023   \HyField@PDFAFldWarning{print}{true}%
5024 }%
5025 \Fld@nozoomtrue
5026 \def\Fld@nozoomfalse{%
5027   \HyField@PDFAFldWarning{nozoom}{true}%
5028 }%
5029 \Fld@norotatefalse
5030 \def\Fld@norotatefalse{%
5031   \HyField@PDFAFldWarning{norotate}{true}%
5032 }%
5033 \Fld@noviewfalse
5034 \def\Fld@noviewtrue{%
5035   \HyField@PDFAFldWarning{noview}{false}%
5036 }%
5037 \fi

```

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

```

5038 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5039 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5040 \HyField@NewFlag{Submit}{GetMethod}{4}
5041 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5042 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5043 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}

```



```

5044 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5045 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5046 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5047 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5048 \HyField@NewFlag{Submit}{ExclFKey}{12}
5049 \HyField@NewFlag{Submit}{EmbedForm}{14}

5050 \define@key{Field}{export}{%
5051   \lowercase{\def\Hy@temp{#1}}%
5052   \@ifundefined{Fld@export@\Hy@temp}{%
5053     \@onelevel@sanitize\Hy@temp
5054     \Hy@Error{%
5055       Unknown export format '\Hy@temp'.\MessageBreak
5056       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5057     }\@ehc
5058   }{%
5059     \let\Fld@export\Hy@temp
5060   }%
5061 }
5062 \def\Fld@export{fdf}
5063 \@namedef{Fld@export@fdf}{0}%
5064 \@namedef{Fld@export@html}{1}%
5065 \@namedef{Fld@export@xfdf}{2}%
5066 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5067 \def\HyField@FlagsSubmit{%
5068   \bitsetReset{HyField@Submit}%
5069   \ifcase\@nameuse{Fld@export@\Fld@export} %
5070     % FDF
5071     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5072     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5073     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5074     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5075     \HyField@UseFlag{Submit}{CanonicalFormat}%
5076     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5077     \HyField@UseFlag{Submit}{ExclFKey}%
5078     \HyField@UseFlag{Submit}{EmbedForm}%
5079   \or % HTML
5080     \HyField@SetFlag{Submit}{ExportFormat}%
5081     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5082     \HyField@UseFlag{Submit}{GetMethod}%
5083     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5084     \HyField@UseFlag{Submit}{CanonicalFormat}%
5085   \or % XFDF
5086     \HyField@SetFlag{Submit}{XFDF}%
5087     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5088     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5089     \HyField@UseFlag{Submit}{CanonicalFormat}%
5090   \or % PDF
5091     \HyField@SetFlag{Submit}{SubmitPDF}%
5092     \HyField@UseFlag{Submit}{GetMethod}%
5093   \fi
5094   \HyField@PrintFlags{Submit}{submit button field}%
5095   \bitsetIsEmpty{HyField@Submit}{%
5096     \def\Fld@submitflags{%

```

```

5097 }{%
5098   \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
5099 }%
5100 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5101 \def\HyField@FlagsAnnot#1{%
5102   \bitsetReset{HyField@F}%
5103   \HyField@UseFlag{F}{Invisible}%
5104   \HyField@UseFlag{F}{Hidden}%
5105   \HyField@UseFlag{F}{Print}%
5106   \HyField@UseFlag{F}{NoZoom}%
5107   \HyField@UseFlag{F}{NoRotate}%
5108   \HyField@UseFlag{F}{NoView}%
5109   \HyField@UseFlag{F}{Locked}%
5110   \HyField@UseFlag{F}{ToggleNoView}%
5111   \HyField@UseFlag{F}{LockedContents}%
5112   \HyField@PrintFlags{F}{#1}%
5113   \bitsetIsEmpty{HyField@F}{%
5114     \def\Fld@annotflags{%
5115     }{%
5116       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5117   }%
5118 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5119 \def\HyField@FlagsPushButton{%
5120   \HyField@FlagsAnnot{push button field}%
5121   \bitsetReset{HyField@Ff}%
5122   \HyField@UseFlag{Ff}{ReadOnly}%
5123   \HyField@UseFlag{Ff}{Required}%
5124   \HyField@UseFlag{Ff}{NoExport}%
5125   \HyField@SetFlag{Ff}{Pushbutton}%
5126   \HyField@PrintFlags{Ff}{push button field}%
5127   \bitsetIsEmpty{HyField@Ff}{%
5128     \def\Fld@flags{%
5129     }{%
5130       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5131   }%
5132 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5133 \def\HyField@FlagsCheckBox{%
5134   \HyField@FlagsAnnot{check box field}%
5135   \bitsetReset{HyField@Ff}%
5136   \HyField@UseFlag{Ff}{ReadOnly}%
5137   \HyField@UseFlag{Ff}{Required}%
5138   \HyField@UseFlag{Ff}{NoExport}%
5139   \HyField@PrintFlags{Ff}{check box field}%
5140   \bitsetIsEmpty{HyField@Ff}{%

```

```

5141 \def\Fld@flags{%
5142 }{%
5143 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5144 }%
5145 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5146 \def\HyField@FlagsRadioButton{%
5147 \HyField@FlagsAnnot{radio button field}%
5148 \bitsetReset{HyField@Ff}%
5149 \HyField@UseFlag{Ff}{ReadOnly}%
5150 \HyField@UseFlag{Ff}{Required}%
5151 \HyField@UseFlag{Ff}{NoExport}%
5152 \HyField@UseFlag{Ff}{NoToggleToOff}%
5153 \HyField@SetFlag{Ff}{Radio}%
5154 \HyField@UseFlag{Ff}{RadiosInUnison}%
5155 \HyField@PrintFlags{Ff}{radio button field}%
5156 \bitsetIsEmpty{HyField@Ff}{%
5157 \def\Fld@flags{%
5158 }{%
5159 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5160 }%
5161 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5162 \def\HyField@FlagsText{%
5163 \HyField@FlagsAnnot{text field}%
5164 \bitsetReset{HyField@Ff}%
5165 \HyField@UseFlag{Ff}{ReadOnly}%
5166 \HyField@UseFlag{Ff}{Required}%
5167 \HyField@UseFlag{Ff}{NoExport}%
5168 \HyField@UseFlag{Ff}{Multiline}%
5169 \HyField@UseFlag{Ff}{Password}%
5170 \HyField@UseFlag{Ff}{FileSelect}%
5171 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5172 \HyField@UseFlag{Ff}{DoNotScroll}%
5173 \ifFld@comb
5174 \ifcase0\ifFld@multiline
5175 \else\ifFld@password
5176 \else\ifFld@fileselect
5177 \else 1\fi\fi\fi\relax
5178 \Hy@Error{%
5179 Field option 'comb' cannot used together with\MessageBreak
5180 'multiline', 'password', or 'fileselect'%
5181 }\@ehc
5182 \else
5183 \HyField@UseFlag{Ff}{Comb}%
5184 \fi
5185 \fi
5186 \HyField@UseFlag{Ff}{RichText}%
5187 \HyField@PrintFlags{Ff}{text field}%
5188 \bitsetIsEmpty{HyField@Ff}{%

```

```

5189 \def\Fld@flags{%
5190 }{%
5191 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5192 }%
5193 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5194 \def\HyField@FlagsChoice{%
5195 \HyField@FlagsAnnot{choice field}%
5196 \bitsetReset{HyField@Ff}%
5197 \HyField@UseFlag{Ff}{ReadOnly}%
5198 \HyField@UseFlag{Ff}{Required}%
5199 \HyField@UseFlag{Ff}{NoExport}%
5200 \HyField@UseFlag{Ff}{Combo}%
5201 \ifFld@combo
5202 \HyField@UseFlag{Ff}{Edit}%
5203 \fi
5204 \HyField@UseFlag{Ff}{Sort}%
5205 \HyField@UseFlag{Ff}{MultiSelect}%
5206 \ifFld@combo
5207 \ifFld@edit
5208 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5209 \fi
5210 \fi
5211 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5212 \HyField@PrintFlags{Ff}{choice field}%
5213 \bitsetIsEmpty{HyField@Ff}{%
5214 \def\Fld@flags{%
5215 }{%
5216 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5217 }%
5218 }

```

19.2 Choice field

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, \ifFld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

```

5219 \def\HyField@PDFChoices#1{%
5220 \begingroup
5221 \gdef\Fld@choices{%
5222 \def\HyTmp@Optlist{%
5223 \let\HyTmp@Optitem\relax
5224 \count@=0 %
5225 \kv@parse{#1}{%
5226 \Hy@pdfstringdef\kv@key\kv@key
5227 \ifx\kv@value\relax
5228 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5229 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5230 \else
5231 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5232 \fi
5233 \else
5234 \Hy@pdfstringdef\kv@value\kv@value

```

```

5235 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5236 \fi
5237 \edef\HyTmp@optlist{%
5238 \HyTmp@optlist
5239 \HyTmp@optitem{\the\count@}{\kv@key}0%
5240 }%
5241 \advance\count@ by 1 %
5242 \@gobbletwo
5243 }%
5244 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5245 \ifFld@multiselect
5246 \HyField@@PDFChoices{DV}\Fld@default
5247 \HyField@@PDFChoices{V}\Fld@value
5248 \else
5249 \ifx\Fld@default\relax
5250 \else
5251 \pdfstringdef\Hy@gtemp\Fld@default
5252 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5253 \fi
5254 \ifx\Fld@value\relax
5255 \else
5256 \pdfstringdef\Hy@gtemp\Fld@value
5257 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5258 \fi
5259 \fi
5260 \endgroup
5261 }

```

\HyField@@PDFChoices

```

5262 \def\HyField@@PDFChoices#1#2{%
5263 \ifx#2\relax
5264 \else
5265 \count@=0 %
5266 \def\HyTmp@optitem##1##2##3{%
5267 \def\HyTmp@key{##2}%
5268 \ifx\HyTmp@key\Hy@gtemp
5269 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5270 \HyTmp@optlist
5271 \HyTmp@optitem{##1}{##2}1%
5272 }%
5273 \let\HyTmp@found=Y%
5274 \else
5275 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5276 \HyTmp@optlist
5277 \HyTmp@optitem{##1}{##2}##3%
5278 }%
5279 \fi
5280 }%
5281 \expandafter\comma@parse\expandafter{#2}{%
5282 \pdfstringdef\Hy@gtemp\comma@entry
5283 \let\HyTmp@found=N %
5284 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5285 \HyTmp@optlist
5286 \ifx\HyTmp@found Y%
5287 \advance\count@ by 1 %
5288 \else
5289 \@onelevel@sanitize\comma@entry

```

```

5290 \PackageWarning{hyperref}{%
5291 \string\ChoiceBox: Ignoring value '\comma@entry',%
5292 \MessageBreak
5293 it cannot be found in the choices%
5294 }%
5295 \fi
5296 \@gobble
5297 }%
5298 \def\HyTmp@optitem##1##2##3{%
5299 \ifnum##3=1 %
5300 (##2)%
5301 \fi
5302 }%
5303 \ifcase\count@
5304 \or
5305 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5306 \else
5307 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5308 \ifx#1V%
5309 \def\HyTmp@optitem##1##2##3{%
5310 \ifnum##3=1 %
5311 \@firstofone{ ##1}%
5312 \fi
5313 }%
5314 \edef\HyTmp@optlist{\HyTmp@optlist}%
5315 \xdef\Fld@choices{%
5316 \Fld@choices
5317 /I[\expandafter\@firstofone\HyTmp@optlist]%
5318 }%
5319 \fi
5320 \fi
5321 \fi
5322 }

```

19.3 Forms

\HyField@SetKeys

```

5323 \def\HyField@SetKeys{%
5324 \kvsetkeys{Field}%
5325 }

5326 \newif\ifFld@checked
5327 \newif\ifFld@disabled
5328 \Fld@checkedfalse
5329 \Fld@disabledfalse
5330 \newcount\Fld@menulength
5331 \newdimen\Fld@Width
5332 \newdimen\Fld@charsize
5333 \Fld@charsize=10\p@
5334 \def\Fld@maxlen{0}
5335 \def\Fld@align{0}
5336 \def\Fld@color{0 0 0 rg}
5337 \def\Fld@bcolor{1 1 1}
5338 \def\Fld@bordercolor{1 0 0}
5339 \def\Fld@bordersep{1\p@}
5340 \def\Fld@borderwidth{1}
5341 \def\Fld@borderstyle{S}

```

```

5342 \def\Fld@cbsymbol{4}
5343 \def\Fld@radiosymbol{H}
5344 \def\Fld@rotation{0}
5345 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5346 \def\endForm{\@endForm}
5347 \newif\ifForm@html
5348 \Form@htmlfalse
5349 \def\Form@boolkey#1#2{%
5350   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5351 }
5352 \define@key{Form}{action}{%
5353   \hyper@normalise\Hy@DefFormAction{#1}%
5354 }
5355 \def\Hy@DefFormAction{\def\Form@action}
5356 \def\enc@html{html}
5357 \define@key{Form}{encoding}{%
5358   \def\Hy@tempa{#1}%
5359   \ifx\Hy@tempa\enc@html
5360     \Form@htmltrue
5361     \def\Fld@export{html}%
5362   \else
5363     \Hy@Warning{%
5364       Form 'encoding' key with \MessageBreak
5365       unknown value '#1'%
5366     }%
5367     \Form@htmlfalse
5368   \fi
5369 }
5370 \define@key{Form}{method}{%
5371   \lowercase{\def\Hy@temp{#1}}%
5372   \@ifundefined{Form@method@\Hy@temp}{%
5373     \@onelevel@sanitize\Hy@temp
5374     \Hy@Error{%
5375       Unknown method '\Hy@temp'\MessageBreak
5376       Known values are 'post' and 'get'%
5377     } \@ehc
5378   }{%
5379     \let\Form@method\Hy@temp
5380     \ifcase\@nameuse{Form@method@\Hy@temp} %
5381       \Fld@getmethodfalse
5382     \else
5383       \Fld@getmethodtrue
5384     \fi
5385   }%
5386 }
5387 \def\Form@method{}
5388 \@namedef{Form@method@post}{0}
5389 \@namedef{Form@method@get}{1}
5390 \def\Field@boolkey#1#2{%
5391   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5392 }
5393 \ifHy@texht
5394   \newtoks\Field@toks
5395   \Field@toks={ }%
5396   \def\Field@addtoks#1#2{%
5397     \edef\@processme{\Field@toks{the\Field@toks\space #1="#2"}}%
5398     \@processme

```

```

5399 }%
5400 \else
5401 \def\Hy@WarnHTMLFieldOption#1{%
5402   \Hy@Warning{%
5403     HTML field option '#1'\MessageBreak
5404     is ignored%
5405   }%
5406 }%
5407 \fi
5408 \def\Fld@checkequals#1=#2=#3\\{%
5409   \def\@currDisplay{#1}%
5410   \ifx\\#2\\%
5411     \def\@currValue{#1}%
5412   \else
5413     \def\@currValue{#2}%
5414   \fi
5415 }
5416 \define@key{Field}{loc}{%
5417   \def\Fld@loc{#1}%
5418 }
5419 \define@key{Field}{checked}[true]{%
5420   \lowercase{\Field@boolkey{#1}}{checked}%
5421 }
5422 \define@key{Field}{disabled}[true]{%
5423   \lowercase{\Field@boolkey{#1}}{disabled}%
5424 }
5425 \ifHy@texht
5426   \define@key{Field}{accesskey}{%
5427     \Field@addtoks{accesskey}{#1}%
5428   }%
5429   \define@key{Field}{tabkey}{%
5430     \Field@addtoks{tabkey}{#1}%
5431   }%
5432 \else
5433   \define@key{Field}{accesskey}{%
5434     \Hy@WarnHTMLFieldOption{accesskey}%
5435   }%
5436   \define@key{Field}{tabkey}{%
5437     \Hy@WarnHTMLFieldOption{tabkey}%
5438   }%
5439 \fi
5440 \define@key{Field}{name}{%
5441   \def\Fld@name{#1}%
5442 }
5443 \define@key{Field}{width}{%
5444   \def\Fld@width{#1}%
5445   \Field@Width#1\setbox0=\hbox{m}%
5446 }
5447 \define@key{Field}{maxlen}{%
5448   \def\Fld@maxlen{#1}%
5449 }
5450 \define@key{Field}{menulength}{%
5451   \Fld@menulength=#1\relax
5452 }
5453 \define@key{Field}{height}{%
5454   \def\Fld@height{#1}%
5455 }

```



```

5456 \define@key{Field}{charsize}{%
5457   \Fld@charsize#1%
5458 }
5459 \define@key{Field}{borderwidth}{%
5460   \def\Fld@borderwidth{#1}%
5461 }
5462 \define@key{Field}{borderstyle}{%
5463   \def\Fld@borderstyle{#1}%
5464 }
5465 \define@key{Field}{bordersep}{%
5466   \def\Fld@bordersep{#1}%
5467 }
5468 \define@key{Field}{default}{%
5469   \def\Fld@default{#1}%
5470 }
5471 \define@key{Field}{align}{%
5472   \def\Fld@align{#1}%
5473 }
5474 \define@key{Field}{value}{%
5475   \def\Fld@value{#1}%
5476 }
5477 \define@key{Field}{checkboxsymbol}{%
5478   \Fld@DingDef\Fld@cbsymbol{#1}%
5479 }
5480 \define@key{Field}{radiosymbol}{%
5481   \Fld@DingDef\Fld@radiosymbol{#1}%
5482 }
5483 \def\Fld@DingDef#1#2{%
5484   \def\Fld@temp{}%
5485   \Fld@@DingDef#2\ding{}\@nil
5486   \let#1\Fld@temp
5487 }
5488 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5489   \expandafter\def\expandafter\Fld@temp\expandafter{%
5490     \Fld@temp
5491     #1%
5492   }%
5493   \ifx\\#3\\%
5494     \expandafter\@gobble
5495   \else
5496     \begingroup
5497       \lccode'0=#2\relax
5498       \lowercase{\endgroup
5499       \expandafter\def\expandafter\Fld@temp\expandafter{%
5500         \Fld@temp
5501         0%
5502       }%
5503     }%
5504     \expandafter\@firstofone
5505   \fi
5506   {%
5507     \Fld@@DingDef#3\@nil
5508   }%
5509 }

5510 \define@key{Field}{rotation}{%
5511   \def\Fld@rotation{#1}%
5512 }

```

```

5513 \define@key{Field}{backgroundcolor}{%
5514   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5515 }
5516 \define@key{Field}{bordercolor}{%
5517   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5518 }
5519 \define@key{Field}{color}{%
5520   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5521 }

5522 \def\Fld@onclick@code{}
5523 \def\Fld@format@code{}
5524 \def\Fld@validate@code{}
5525 \def\Fld@calculate@code{}
5526 \def\Fld@keystroke@code{}
5527 \def\Fld@onfocus@code{}
5528 \def\Fld@onblur@code{}
5529 \def\Fld@onmousedown@code{}
5530 \def\Fld@onmouseup@code{}
5531 \def\Fld@onenter@code{}
5532 \def\Fld@onexit@code{}
5533 \def\Hy@temp#1{%
5534   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5535 }
5536 \def\Hy@@temp#1#2{%
5537   \ifHy@pdfa
5538     \define@key{Field}{#2}{%
5539       \Hy@Error{%
5540         PDF/A: Additional action ‘#2’ is prohibited%
5541       }\@ehc
5542     }%
5543   \else
5544     \define@key{Field}{#2}{%
5545       \def#1{##1}%
5546     }%
5547   \fi
5548 }
5549 \Hy@temp{keystroke}
5550 \Hy@temp{format}
5551 \Hy@temp{validate}
5552 \Hy@temp{calculate}
5553 \Hy@temp{onfocus}
5554 \Hy@temp{onblur}
5555 \Hy@temp{onenter}
5556 \Hy@temp{onexit}
5557 \ifHy@texht
5558   \def\Hy@temp#1{%
5559     \define@key{Field}{#1}{%
5560       \Field@addtoks{#1}{##1}%
5561     }%
5562   }%
5563 \else
5564   \def\Hy@temp#1{%
5565     \define@key{Field}{#1}{%
5566       \Hy@WarnHTMLFieldOption{#1}%
5567     }%
5568   }%
5569 \fi

```

```

5570 \Hy@temp{ondblclick}
5571 \Hy@temp{onmousedown}
5572 \Hy@temp{onmouseup}
5573 \Hy@temp{onmouseover}
5574 \Hy@temp{onmousemove}
5575 \Hy@temp{onmouseout}
5576 \Hy@temp{onkeydown}
5577 \Hy@temp{onkeyup}
5578 \Hy@temp{onselect}
5579 \Hy@temp{onchange}
5580 \Hy@temp{onkeypress}
5581 \ifHy@texht
5582   \define@key{Field}{onclick}{%
5583     \Field@addtoks{onclick}{#1}%
5584   }%
5585 \else
5586   \ifHy@pdfa
5587     \define@key{Field}{onclick}{%
5588       \Hy@Error{%
5589         PDF/A: Action 'onclick' is prohibited%
5590       } \@ehc
5591     }%
5592   \else
5593     \define@key{Field}{onclick}{%
5594       \def\Fld@onclick@code{#1}%
5595     }%
5596   \fi
5597 \fi

5598 \DeclareRobustCommand\TextField{%
5599   \@ifnextchar[{\@TextField}{\@TextField[]}%
5600 }
5601 \DeclareRobustCommand\ChoiceMenu{%
5602   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5603 }
5604 \DeclareRobustCommand\CheckBox{%
5605   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5606 }
5607 \DeclareRobustCommand\PushButton{%
5608   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5609 }
5610 \DeclareRobustCommand\Gauge{%
5611   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5612 }
5613 \DeclareRobustCommand\Submit{%
5614   \@ifnextchar[{\@Submit}{\@Submit[]}%
5615 }
5616 \DeclareRobustCommand\Reset{%
5617   \@ifnextchar[{\@Reset}{\@Reset[]}%
5618 }
5619 \def\LayoutTextField#1#2{% label, field
5620   #1 #2%
5621 }
5622 \def\LayoutChoiceField#1#2{% label, field
5623   #1 #2%
5624 }
5625 \def\LayoutCheckField#1#2{% label, field
5626   #1 #2%

```

```

5627 }
5628 \def\LayoutPushButtonField#1{% button
5629   #1%
5630 }
5631 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5632 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5633 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5634 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5635 \def\MakeButtonField#1{%
5636   \sbox0{%
5637     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5638   }%
5639   \@tempdima\ht0 %
5640   \advance\@tempdima by \Fld@borderwidth bp %
5641   \advance\@tempdima by \Fld@borderwidth bp %
5642   \ht0\@tempdima
5643   \@tempdima\dp0 %
5644   \advance\@tempdima by \Fld@borderwidth bp %
5645   \advance\@tempdima by \Fld@borderwidth bp %
5646   \dp0\@tempdima
5647   \box0\relax
5648 }
5649 \def\DefaultHeightofSubmit{14pt}
5650 \def\DefaultWidthofSubmit{2cm}
5651 \def\DefaultHeightofReset{14pt}
5652 \def\DefaultWidthofReset{2cm}
5653 \def\DefaultHeightofCheckBox{\baselineskip}
5654 \def\DefaultWidthofCheckBox{\baselineskip}
5655 \def\DefaultHeightofChoiceMenu{\baselineskip}
5656 \def\DefaultWidthofChoiceMenu{\baselineskip}
5657 \def\DefaultHeightofText{\baselineskip}
5658 \def\DefaultHeightofTextMultiline{4\baselineskip}
5659 \def\DefaultWidthofText{3cm}
5660 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5661 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5662 \def\DefaultOptionsofPushButton{print}
5663 \def\DefaultOptionsofCheckBox{print}
5664 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5665 \def\DefaultOptionsofListBox{print}
5666 \def\DefaultOptionsofComboBox{print,edit,sort}
5667 \def\DefaultOptionsofPopdownBox{print}
5668 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5669 \ifHy@figures
5670   \Hy@Info{Hyper figures ON}%
5671 \else
5672   \Hy@Info{Hyper figures OFF}%
5673 \fi
5674 \ifHy@nesting
5675   \Hy@Info{Link nesting ON}%
5676 \else
5677   \Hy@Info{Link nesting OFF}%
5678 \fi

```

```

5679 \ifHy@hyperindex
5680 \Hy@Info{Hyper index ON}%
5681 \else
5682 \Hy@Info{Hyper index OFF}%
5683 \fi
5684 \ifHy@backref
5685 \Hy@Info{backreferencing ON}%
5686 \else
5687 \Hy@Info{backreferencing OFF}%
5688 \fi
5689 \ifHy@colorlinks
5690 \Hy@Info{Link coloring ON}%
5691 \else
5692 \Hy@Info{Link coloring OFF}%
5693 \fi
5694 \ifHy@ocgcolorlinks
5695 \Hy@Info{Link coloring with OCG ON}%
5696 \else
5697 \Hy@Info{Link coloring with OCG OFF}%
5698 \fi
5699 \ifHy@pdfa
5700 \Hy@Info{PDF/A mode ON}%
5701 \else
5702 \Hy@Info{PDF/A mode OFF}%
5703 \fi

```

21 Low-level utility macros

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

```

5704 \edef\hyper@hash{\string#}
5705 \edef\hyper@tilde{\string~}
5706 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5707 \def\@currentHref{Doc-Start}
5708 \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.

```

5709 \Hy@AtBeginDocument{%
5710 \Hy@pdfstringtrue
5711 \PDF@SetupDoc
5712 \let\PDF@SetupDoc\@empty
5713 \Hy@DisableOption{pdfpagescrop}%
5714 \Hy@DisableOption{pdfpagemode}%
5715 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5716 \Hy@DisableOption{pdfdirection}%
5717 \Hy@DisableOption{pdfviewarea}%
5718 \Hy@DisableOption{pdfviewclip}%
5719 \Hy@DisableOption{pdfprintarea}%
5720 \Hy@DisableOption{pdfprintclip}%
5721 \Hy@DisableOption{pdfprintscaling}%
5722 \Hy@DisableOption{pdfduplex}%
5723 \Hy@DisableOption{pdfpicktraybypdfsize}%
5724 \Hy@DisableOption{pdfprintpagerange}%
5725 \Hy@DisableOption{pdfnumcopies}%
5726 \Hy@DisableOption{pdfstartview}%
5727 \Hy@DisableOption{pdfstartpage}%

```

```

5728 \Hy@DisableOption{pdftoolbar}%
5729 \Hy@DisableOption{pdfmenubar}%
5730 \Hy@DisableOption{pdfwindowui}%
5731 \Hy@DisableOption{pdfitwindow}%
5732 \Hy@DisableOption{pdfcenterwindow}%
5733 \Hy@DisableOption{pdfdisplaydoctitle}%
5734 \Hy@DisableOption{pdfpagelayout}%
5735 \Hy@DisableOption{pdflang}%
5736 \Hy@DisableOption{baseurl}%
5737 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5738 \Hy@pdfstringfalse
5739 }

```

Ignore star from referencing macros:

```

5740 \LetLtxMacro\NoHy@OrgRef\ref
5741 \DeclareRobustCommand*\ref{%
5742   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5743 }
5744 \LetLtxMacro\NoHy@OrgPageRef\pageref
5745 \DeclareRobustCommand*\pageref{%
5746   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5747 }

```

22 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```

5748 \def\NoHyper{%
5749   \def\hyper@link@{##1}##2##3##4{##4}%
5750   \def\hyper@@anchor##1{%
5751     \global\let\hyper@livelink\hyper@link
5752     \gdef\hyper@link##1##2##3{##3}%
5753     \def\hyper@anchor##1{%
5754       \def\hyper@anchorstart##1{%
5755         \let\hyper@anchorend\@empty
5756         \def\hyper@linkstart##1##2{%
5757           \let\hyper@linkend\@empty
5758           \def\hyper@linkurl##1##2{##1}%
5759           \def\hyper@linkfile##1##2##3{##1}%
5760           \def\hyper@link@{##1}##2##3{%
5761             \let\Hy@backout\@gobble
5762           }
5763         \def\stop@hyper{%
5764           \def\hyper@link@{##1}##2##3##4{##4}%
5765           \let\Hy@backout\@gobble
5766           \def\hyper@@anchor##1{%
5767             \def\hyper@link##1##2##3{##3}%
5768             \def\hyper@anchor##1{%
5769               \def\hyper@anchorstart##1{%
5770                 \let\hyper@anchorend\@empty
5771                 \def\hyper@linkstart##1##2{%
5772                   \let\hyper@linkend\@empty
5773                   \def\hyper@linkurl##1##2{##1}%
5774                   \def\hyper@linkfile##1##2##3{##1}%

```

```

5775 \def\hyper@link@{##1}##2##3}%
5776 }
5777 \def\endNoHyper{%
5778 \global\let\hyper@link\hyper@livelink
5779 }
5780 \</package>

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

Package nohyperref is a dummy package that defines some low level and some top-level commands. It is done for jadetex, which calls hyperref low-level commands, but it would also be useful with people using normal hyperref, who really do not want the package loaded at all.

Some low-level commands:

```

5781 \*nohyperref
5782 \RequirePackage{letltxmacro}[2008/06/13]
5783 \let\hyper@@anchor\@gobble
5784 \def\hyper@link#1##2##3{##3}%
5785 \let\hyper@anchorstart\@gobble
5786 \let\hyper@anchorend\@empty
5787 \let\hyper@linkstart\@gobbletwo
5788 \let\hyper@linkend\@empty
5789 \def\hyper@linkurl#1##2{##1}%
5790 \def\hyper@linkfile#1##2##3{##1}%
5791 \def\hyper@link@{##1}##2##3}%
5792 \let\PDF@SetupDoc\@empty
5793 \let\PDF@FinishDoc\@empty
5794 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

5795 \def\Acrobatmenu#1##2{\leavevmode#2}
5796 \let\pdfstringdefDisableCommands\@gobbletwo
5797 \let\texorpdfstring\@firstoftwo
5798 \let\pdfbookmark\@undefined
5799 \newcommand\pdfbookmark[3]{}{}
5800 \let\phantomsection\@empty
5801 \let\hypersetup\@gobble
5802 \let\hyperbaseurl\@gobble
5803 \newcommand*{\href}[3]{}{##3}
5804 \let\hyperdef\@gobbletwo
5805 \let\hyperlink\@gobble
5806 \let\hypertarget\@gobble
5807 \def\hyperref{%
5808 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5809 }
5810 \long\def\@gobbleopt[#1]{}
5811 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5812 \LetLtxMacro\NoHy@OrgRef\ref
5813 \DeclareRobustCommand*{\ref}{%
5814 \ifstar\NoHy@OrgRef\NoHy@OrgRef
5815 }
5816 \LetLtxMacro\NoHy@OrgPageRef\pageref
5817 \DeclareRobustCommand*{\pageref}{%

```

```

5818 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5819 }
5820 \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}`

```

5821 \*package
5822 \Hy@AtBeginDocument{%

```

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

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

```

5823 \if@filesw
5824 \ifHy@typexml
5825 \immediate\closeout\@mainaux
5826 \immediate\openout\@mainaux\jobname.aux\relax
5827 \immediate\write\@auxout{<relaxxml>\relax}%
5828 \fi
5829 \immediate\write\@auxout{%
5830 \string\providecommand\string\HyperFirstAtBeginDocument{%
5831 \string\AtBeginDocument}^^J%
5832 \string\HyperFirstAtBeginDocument{%
5833 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5834 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5835 \string\gdef\string\contentsline%
5836 \string#1\string#2\string#3\string#4{%
5837 \string\oldcontentsline%
5838 {\string#1}{\string#2}{\string#3}^^J%
5839 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5840 \string\gdef\string\newlabel\string#1\string#2{%
5841 \string\newlabelxx{\string#1}\string#2}^^J%
5842 \string\gdef\string\newlabelxx%
5843 \string#1\string#2\string#3\string#4\string#5\string#6{%
5844 \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.

```

5845 \string\AtEndDocument{%
5846 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5847 \string\let\string\contentsline\string\oldcontentsline^^J%
5848 \string\let\string\newlabel\string\oldnewlabel^^J%
5849 \string\fi%
5850 }^^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.

```

5851 \string\fi%
5852 }^^J%
5853 \string\global\string\let\string\hyper@last\relax^^J%
5854 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
5855 }%
5856 \fi
5857 \def\HyperFirstAtBeginDocument#1{#1}%

```


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.

```

5858 \ifx\hyper@last\@undefined
5859 \def\@starttoc#1{%
5860 \begingroup
5861 \makeatletter
5862 \IfFileExists{\jobname.#1}{%
5863 \Hy@WarningNoLine{%
5864 old #1 file detected, not used; run LaTeX again%
5865 }%
5866 }{}%
5867 \if@filesw
5868 \expandafter\newwrite\csname tf@#1\endcsname
5869 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5870 \fi
5871 \@nobreakfalse
5872 \endgroup
5873 }%
5874 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5875 \fi
5876 }

```

25 Title strings

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

```

5877 \ifHy@usetitle
5878 \let\HyOrg@title\title
5879 \let\HyOrg@author\author
5880 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5881 \def\Hy@scanopttitle[#1]{%
5882 \gdef\Hy@title{#1}%
5883 \HyOrg@title{#1}%
5884 }%
5885 \def\Hy@scantitle#1{%
5886 \gdef\Hy@title{#1}%
5887 \HyOrg@title{#1}%
5888 }%
5889 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5890 \def\Hy@scanoptauthor[#1]{%
5891 \gdef\Hy@author{#1}%
5892 \HyOrg@author{#1}%
5893 }%
5894 \def\Hy@scanauthor#1{%
5895 \gdef\Hy@author{#1}%
5896 \HyOrg@author{#1}%
5897 }%

```

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.

```

5898 \begingroup
5899 \def\process@me#1\@nil#2{%
5900 \expandafter\let\expandafter\x\csname @#2\endcsname

```

```

5901 \edef\y{\expandafter\strip@prefix\meaning\x}%
5902 \def\c##1##1##2\@nil{%
5903 \ifx\##1\%
5904 \else
5905 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5906 \expandafter{x}%
5907 \fi
5908 }%
5909 \expandafter\c\y\relax#1\@nil
5910 }%
5911 \expandafter\process@me\string\@latex@\@nil{title}%
5912 \expandafter\process@me\string\@latex@\@nil{author}%
5913 \endgroup
5914 \fi
5915 \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.

```

5916 \def\Hy@UseMaketitleString#1{%
5917 \ltx@ifundefined{Hy@#1}{}{%
5918 \begingroup
5919 \let\Hy@saved@hook\pdfstringdefPreHook
5920 \pdfstringdefDisableCommands{%
5921 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
5922 \let\newline\\%
5923 }%
5924 \expandafter\ifx\csname @pdf#1\endcsname\@empty
5925 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5926 \csname Hy@#1\endcsname\@empty
5927 }%
5928 \fi
5929 \global\let\pdfstringdefPreHook\Hy@saved@hook
5930 \endgroup
5931 }%
5932 }
5933 \def\Hy@newline@title#1{ #1}
5934 \def\Hy@newline@author#1{, #1}
5935 \def\Hy@UseMaketitleInfos{%
5936 \Hy@UseMaketitleString{title}%
5937 \Hy@UseMaketitleString{author}%
5938 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

5939 \RequirePackage{atbegshi}[2007/09/09]
5940 \def\Hy@EveryPageHook{}
5941 \def\Hy@EveryPageBoxHook{}
5942 \def\Hy@FirstPageHook{}
5943 \AtBeginShipout{%
5944   \Hy@EveryPageHook
5945   \ifx\Hy@EveryPageBoxHook\@empty
5946   \else
5947     \setbox\AtBeginShipoutBox=\vbox{%
5948       \offinterlineskip
5949       \Hy@EveryPageBoxHook
5950       \box\AtBeginShipoutBox
5951     }%
5952   \fi
5953 }
5954 \AtBeginShipoutFirst{%
5955   \Hy@FirstPageHook
5956 }
5957 \g@addto@macro\Hy@FirstPageHook{%
5958   \PDF@FinishDoc
5959   \gdef\PDF@FinishDoc{}}%
5960 }

```

27.1 PDF /PageLabels

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

```

5961 \ifHy@pagelabels
5962   \begingroup\expandafter\expandafter\expandafter\endgroup
5963   \expandafter\ifx\csname thepage\endcsname\relax
5964     \Hy@pagelabelsfalse
5965     \Hy@WarningNoLine{%
5966       Option 'pdfpagelabels' is turned off\MessageBreak
5967       because \string\thepage\space is undefined%
5968     }%
5969     \csname fi\endcsname
5970     \csname iffalse\expandafter\endcsname
5971   \fi

```

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

```

5972 \def\thispdfpagelabel#1{%
5973   \gdef\HyPL@thisLabel{#1}%
5974 }%
5975 \global\let\HyPL@thisLabel\relax

```

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

```

5976 \def\HyPL@Labels{}%

```

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

```

5977 \newcount\Hy@abspage
5978 \Hy@abspage=0 %

```

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

```

5979 \def\HyPL@LastType{init}%
5980 \def\HyPL@LastNumber{0}%
5981 \def\HyPL@LastPrefix{}%

```

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

```
5982 \def\HyPL@arabic{D}%
5983 \def\HyPL@Roman{R}%
5984 \def\HyPL@roman{r}%
5985 \def\HyPL@Alph{A}%
5986 \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.

```
5987 \def\HyPL@EveryPage{%
5988   \begingroup
5989   \ifx\HyPL@thisLabel\relax
5990     \let\HyPL@page\thepage
5991   \else
5992     \let\HyPL@page\HyPL@thisLabel
5993   \global\let\HyPL@thisLabel\relax
5994   \fi
5995   \let\HyPL@Type\relax
5996   \ifnum\the\c@page>0 %
5997     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5998   \fi
5999   \let\Hy@temp Y%
6000   \ifx\HyPL@Type\HyPL@LastType
6001   \else
6002     \let\Hy@temp N%
6003   \fi
6004   \ifx\HyPL@Type\relax
6005     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6006   \else
6007     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6008   \fi
6009   \ifx\HyPL@Prefix\HyPL@LastPrefix
6010   \else
6011     \let\Hy@temp N%
6012   \fi
6013   \if Y\Hy@temp
6014     \advance\c@page by -1 %
6015     \ifnum\HyPL@LastNumber=\the\c@page\relax
6016     \else
6017       \let\Hy@temp N%
6018     \fi
6019     \Hy@StepCount\c@page
6020   \fi
6021   \if N\Hy@temp
6022     \ifx\HyPL@Type\relax
6023       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6024     \else
6025       \HyPL@StorePageLabel{%
6026         \ifx\HyPL@Prefix\@empty
6027         \else
6028           /P(\HyPL@Prefix)%
6029         \fi
6030         /S/\csname HyPL\HyPL@Type\endcsname
6031         \ifnum\the\c@page=1 %
6032         \else
6033           \space/St \the\c@page
6034         \fi
```

```

6035     }%
6036     \fi
6037     \fi
6038     \xdef\HyPL@LastNumber{\the\c@page}%
6039     \global\let\HyPL@LastType\HyPL@Type
6040     \global\let\HyPL@LastPrefix\HyPL@Prefix
6041     \endgroup
6042     \Hy@GlobalStepCount\Hy@abspage
6043 }%

```

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

```

6044 \def\HyPL@CheckThePage#1\@nil{%
6045   \HyPL@@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6046 }%

```

`\HyPL@@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , 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`.

```

6047 \def\HyPL@@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6048   \def\Hy@tempa{#4}%
6049   \def\Hy@tempb{\csname\endcsname\c@page}%
6050   \ifx\Hy@tempa\Hy@tempb
6051     \expandafter\ifx\csname HyPL#3\endcsname\relax
6052     \else
6053       \def\HyPL@Type{#3}%
6054       \def\HyPL@Prefix{#2}%
6055       \fi
6056     \else
6057       \begingroup
6058       \let\Hy@next\endgroup
6059       \let\HyPL@found\@undefined
6060       \def\arabic{\HyPL@Format{arabic}}%
6061       \def\Roman{\HyPL@Format{Roman}}%
6062       \def\roman{\HyPL@Format{roman}}%
6063       \def\Alph{\HyPL@Format{Alph}}%
6064       \def\alph{\HyPL@Format{alph}}%
6065       \protected@edef\Hy@temp{#1}%
6066       \ifx\HyPL@found\relax
6067         \toks@{\expandafter{\Hy@temp}}%
6068         \edef\Hy@next{\endgroup
6069           \noexpand\HyPL@@@CheckThePage\the\toks@
6070           \noexpand\HyPL@found\relax\noexpand\@nil
6071         }%
6072         \fi
6073       \Hy@next
6074     \fi
6075 }%

```

`\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`.

```

6076 \def\HyPL@Format#1#2{%
6077   \ifx\HyPL@found\@undefined
6078     \expandafter\ifx\csname c@#2\endcsname\c@page

```

```

6079     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6080     \else
6081     \expandafter\noexpand\csname#1\endcsname{#2}%
6082     \fi
6083     \else
6084     \expandafter\noexpand\csname#1\endcsname{#2}%
6085     \fi
6086   }%

```

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

```

6087 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6088   \def\Hy@tempa{#3}%
6089   \def\Hy@tempb{\HyPL@found\relax}%
6090   \ifx\Hy@tempa\Hy@tempb
6091     \def\HyPL@Type{#2}%
6092     \def\HyPL@Prefix{#1}%
6093   \fi
6094 }%

```

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

```

6095 \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`.

```

6096 \def\HyPL@Useless{0<</S/D>>}%
6097 \@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.

```

6098 \def\HyPL@SetPageLabels{%
6099   \@onelevel@sanitize\HyPL@Labels
6100   \ifx\HyPL@Labels\@empty
6101   \else
6102     \ifx\HyPL@Labels\HyPL@Useless
6103     \else
6104       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6105     \fi
6106   \fi
6107 }%

```

```

6108 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6109 \fi

```

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

```

6110 \Hy@DisableOption{pdfpagelabels}
6111 </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`

```

6112 <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.

```

6113 <*vtex>
6114 \providecommand*{\XR@ext}{pdf}
6115 \edef\Hy@VTeXversion{%
6116   \ifx\VTeXversion\@undefined
6117     \z@
6118   \else
6119     \ifx\VTeXversion\relax
6120       \z@
6121     \else
6122       \VTeXversion
6123     \fi
6124   \fi
6125 }
6126 \begingroup
6127   \ifnum\Hy@VTeXversion<660 %
6128     \gdef\Hy@PutCatalog#1{%
6129       \Hy@WarningNoLine{%
6130         VTeX 6.59g or above required for pdfpagelabels%
6131       }%
6132     }%
6133   \else
6134     \gdef\Hy@PutCatalog#1{%
6135       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6136     }%
6137     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6138       \ifx\#2\%
6139         \else
6140           \immediate\special{!pdfpagelabels #2}%
6141         \fi
6142       }%
6143     \fi
6144   \endgroup
6145 </vtex>

6146 <*pdfTeX | vtex>

```

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

```

6147 \ifHy@pagelabels
6148   \def\HyPL@StorePageLabel#1{%
6149     \toks@\expandafter{\HyPL@Labels}%
6150     \xdef\HyPL@Labels{%
6151       \the\toks@
6152       \the\Hy@abspage<<#1>>%
6153     }%
6154   }%

```

Package atveryend is used to get behind the final \clearpage and to avoid a \clearpage in \AtEndDocument. Then the PDF catalog entry for \PageLabels is set.

```

6155 \RequirePackage{atveryend}[2009/12/07]%
6156 \AtVeryEndDocument{%
6157   \HyPL@SetPageLabels
6158 }%

```

```

6159 \fi
6160 </pdfTEX | vTeX>

```

27.1.2 xetex

```

6161 <*xetex>
6162 \HyPsd@LoadUnicode
6163 \Hy@unicodetrue
6164 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6165 \else
6166 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6167 \fi
6168 \HyPsd@LoadStringEncoding
6169 \define@key{Hyp}{unicode}[true]{%
6170 \Hy@boolkey{unicode}{#1}%
6171 \ifHy@unicode
6172 \else
6173 \Hy@Warning{%
6174 XeTeX driver only supports 'unicode=true'.\MessageBreak
6175 Ignoring option setting 'unicode=false'%
6176 }%
6177 \Hy@unicodetrue
6178 \fi
6179 }
6180 \define@key{Hyp}{pdfencoding}{%
6181 \edef\HyPsd@temp{#1}%
6182 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6183 \let\HyPsd@pdfencoding\HyPsd@temp
6184 \else
6185 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6186 \let\HyPsd@pdfencoding\HyPsd@temp
6187 \else
6188 \Hy@Warning{%
6189 XeTeX driver only supports\MessageBreak
6190 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6191 setting 'pdfencoding=\HyPsd@temp'%
6192 }%
6193 \fi
6194 \fi
6195 }
6196 \let\HyXeTeX@CheckUnicode\relax
6197 </xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6198 <*pdfmarkbase>
6199 \begingroup
6200 \@ifundefined{headerps@out}{%
6201 \toks@\expandafter{\Hy@FirstPageHook}%
6202 \xdef\Hy@FirstPageHook{%
6203 \noexpand\headerps@out{%
6204 systemdict /pdfmark known%
6205 {%
6206 userdict /?pdfmark systemdict /exec get put%
6207 }{%
6208 userdict /?pdfmark systemdict /pop get put %
6209 userdict /pdfmark systemdict /cleartomark get put%
6210 }%

```



```

6211     ifelse%
6212     }%
6213     \the\toks@
6214     }%
6215     }%
6216 \endgroup
6217 \pdfmarkbase>

```

\Hy@PutCatalog

```

6218 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
6219 <*pdfmarkbase>
6220 \def\Hy@PutCatalog#1{%
6221   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6222 }
6223 </pdfmarkbase>

6224 <*pdfmarkbase | dvipdfm | xetex>
6225 \ifHy@pagelabels

```

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

```

6226 \def\HyPL@StorePageLabel#1{%
6227   \if@filesw
6228     \begingroup
6229     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6230     \immediate\write\@mainaux{%
6231       \string\HyPL@Entry{\Hy@tempa}%
6232     }%
6233     \endgroup
6234   \fi
6235 }%

```

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.

```

6236 \Hy@AtBeginDocument{%
6237   \if@filesw
6238     \immediate\write\@mainaux{%
6239       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6240     }%
6241   \fi
6242   \ifx\HyPL@Labels\@empty
6243     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6244   \else
6245     \HyPL@SetPageLabels
6246   \fi
6247   \let\HyPL@Entry\@gobble
6248 }%

```

\HyPL@Entry

```

6249 \def\HyPL@Entry#1{%
6250   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6251     \HyPL@Labels
6252     #1%
6253   }%
6254 }%

6255 \fi
6256 </pdfmarkbase | dvipdfm | xetex>

```

```

6257 <*package>
6258 \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

```

6259 \def\Hy@CounterExists#1{%
6260   \begingroup\expandafter\expandafter\expandafter\endgroup
6261   \expandafter\ifx\csname c@#1\endcsname\relax
6262     \expandafter\@gobble
6263   \else
6264     \begingroup\expandafter\expandafter\expandafter\endgroup
6265     \expandafter\ifx\csname the#1\endcsname\relax
6266       \expandafter\expandafter\expandafter\@gobble
6267     \else
6268       \expandafter\expandafter\expandafter\@firstofone
6269     \fi
6270   \fi
6271 }
6272 \Hy@CounterExists{section}{%
6273   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6274 }
6275 \Hy@CounterExists{part}{%
6276   \newcommand\theHpart{\arabic{part}}}%
6277 }
6278 \ltx@ifundefined{thechapter}{%
6279   \newcommand\theHsection   {\arabic{section}}}%
6280   \newcommand\theHfigure    {\arabic{figure}}}%
6281   \newcommand\theHtable     {\arabic{table}}}%
6282 }{%
6283   \newcommand\theHchapter   {\arabic{chapter}}}%
6284   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6285   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
6286   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
6287 }
6288 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
6289 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6290 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6291 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}

```

```

6292 \newcommand\theHtheorem    {\theHsection.\arabic{theorem}}
6293 \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.

```

6294 \let\H@item\item
6295 \newcounter{Item}
6296 \def\theHItem{\arabic{Item}}
6297 \def\item{%
6298   \@hyper@itemfalse
6299   \if@nmbrlist\@hyper@itemtrue\fi
6300   \H@item
6301 }

6302 \newcommand\theHenumi    {\theHItem}
6303 \newcommand\theHenumii   {\theHItem}
6304 \newcommand\theHenumiii  {\theHItem}
6305 \newcommand\theHenumiv   {\theHItem}
6306 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6307 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6308 \let\theHHmpfootnote\theHHfootnote

```

Tanmoy asked for this default handling of undefined `\theH<name>` situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like `\arabic{name}`. We take the latter course, slightly worriedly.

```

6309 \let\H@refstepcounter\refstepcounter
6310 \edef\name@of@eq{equation}%
6311 \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.

```

6312 \newif\if@hyper@item
6313 \newif\if@skiphyperref
6314 \@hyper@itemfalse
6315 \@skiphyperreffalse
6316 \def\refstepcounter#1{%
6317   \ifHy@pdfstring
6318   \else
6319     \H@refstepcounter{#1}%
6320     \edef\This@name{#1}%
6321     \ifx\This@name\name@of@slide
6322     \else
6323       \if@skiphyperref
6324       \else
6325         \if@hyper@item
6326           \stepcounter{Item}%
6327           \hyper@refstepcounter{Item}%
6328           \@hyper@itemfalse
6329         \else
6330           \hyper@refstepcounter{#1}%
6331         \fi
6332       \fi
6333     \fi
6334   \fi
6335 }
6336 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS \LaTeX processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```
6337 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6338 \def\hyper@refstepcounter#1{%
6339   \edef\This@name{#1}%
6340   \ifx\This@name\name@of@eq
6341     \ifundefined{theHequation}{%
6342       \make@stripped@name{\theequation}%
6343       \let\theHequation\newname
6344     }{}%
6345   \fi
6346   \ifundefined{theH#1}{%
6347     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6348   }{}%
6349   \hyper@makecurrent{#1}%
6350   \ifmeasuring@
6351   \else
6352     \Hy@raisedlink{%
6353       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6354     }%
6355   \fi
6356 }
```

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`.

```
6357 \begingroup\expandafter\expandafter\expandafter\endgroup
6358 \expandafter\ifx\csname chapter\endcsname\relax
6359   \def\Hy@chapterstring{section}%
6360 \else
6361   \def\Hy@chapterstring{chapter}%
6362 \fi
6363 \def\Hy@appendixstring{appendix}
6364 \def\Hy@chapapp{\Hy@chapterstring}
6365 \let\HyOrg@appendix\appendix
6366 \def\appendix{%
6367   \ltx@ifundefined{chapter}%
6368   {\gdef\theHsection{\Alph{section}}}%
6369   {\gdef\theHchapter{\Alph{chapter}}}%
6370   \xdef\Hy@chapapp{\Hy@appendixstring}%
6371   \HyOrg@appendix
6372 }
```

`\Hy@Test@alph`

```
6373 \def\Hy@Test@alph#1{%
6374   \ifcase#1\or
6375     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6376     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6377     u\or v\or w\or x\or y\or z%
6378   \else
6379     \@ctrerr
```

```

6380 \fi
6381 }

```

\Hy@Test@Alph

```

6382 \def\Hy@Test@Alph#1{%
6383   \ifcase#1\or
6384     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6385     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6386     U\or V\or W\or X\or Y\or Z%
6387   \else
6388     \@ctrerr
6389   \fi
6390 }

```

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

```

6391 \def\hyper@makecurrent#1{%
6392   \begingroup
6393   \edef\Hy@param{#1}%
6394   \ifx\Hy@param\Hy@chapterstring
6395     \let\Hy@param\Hy@chapapp
6396   \fi
6397   \ifHy@hypertextnames
6398     \let\@number\@firstofone
6399     \def\@fnsymbol##1{fnsymbol\number##1}%
6400     \ifx\@alph\Hy@Test@alph
6401       \else
6402         \def\@alph{alph\number}%
6403       \fi
6404     \ifx\@Alph\Hy@Test@Alph
6405       \else
6406         \def\@Alph{Alph\number}%
6407       \fi
6408     \ifHy@naturalnames
6409       \let\textlatin\@firstofone
6410       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6411     \else
6412       \xdef\HyperGlobalCurrentHref{%
6413         \csname
6414           the%
6415           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6416           #1%
6417         \endcsname
6418       }%
6419     \fi
6420     \xdef\HyperGlobalCurrentHref{%
6421       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6422     }%
6423   \else
6424     \Hy@GlobalStepCount\Hy@linkcounter
6425     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6426   \fi
6427 \endgroup
6428 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6429 \ifHy@localanchaname
6430   \let\@currentHref\HyperLocalCurrentHref
6431 \else

```

```

6432 \global\let\@currentHref\HyperGlobalCurrentHref
6433 \fi
6434 }

```

\Hy@MakeCurrentHref

```

6435 \def\Hy@MakeCurrentHref#1{%
6436 \edef\HyperLocalCurrentHref{#1}%
6437 \@onelevel@sanitize\HyperLocalCurrentHref
6438 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6439 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6440 \ifHy@localanchorname
6441 \let\@currentHref\HyperLocalCurrentHref
6442 \else
6443 \global\let\@currentHref\HyperGlobalCurrentHref
6444 \fi
6445 }

```

\Hy@MakeCurrentHrefAuto

```

6446 \def\Hy@MakeCurrentHrefAuto#1{%
6447 \Hy@GlobalStepCount\Hy@linkcounter
6448 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6449 }

```

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

```

6450 \def\@currentHlabel{\@currentHref}

6451 \@ifpackageloaded{fancyvrb}{%
6452 \@ifpackagelater{fancyvrb}{1998/05/20}{}%
6453 \def\FV@StepLineNo{%
6454 \FV@SetLineNo
6455 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6456 \FV@StepLineNo
6457 }%
6458 }%
6459 }{}

```

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

```

6460 \Hy@AtBeginDocument{%
6461 \@ifclassloaded{revtex4}{%
6462 \@namedef{ver@lastpage.sty}{1994/06/25}%
6463 }{}%
6464 \@ifpackageloaded{lastpage}{%
6465 \ifHy@pageanchor
6466 \else
6467 \Hy@WarningNoLine{%

```

```

6468     The \string\pageref{LastPage} link doesn't work\MessageBreak
6469     with disabled option 'pageanchor'%
6470 }%
6471 \fi
6472 \def\lastpage@putlabel{%
6473   \addtocounter{page}{-1}%
6474   \if@filesw
6475     \begingroup
6476     \let\@number\@firstofone
6477     \ifHy@pageanchor
6478       \ifHy@hypertextnames
6479         \ifHy@plainpages
6480           \def\Hy@temp{\arabic{page}}%
6481         \else
6482           \Hy@unicodedefalse
6483           \pdfstringdef\Hy@temp{\thepage}%
6484         \fi
6485       \else
6486         \def\Hy@temp{\the\Hy@pagecounter}%
6487       \fi
6488     \fi
6489     \immediate\write\@auxout{%
6490       \string\newlabel
6491       {LastPage}{\the\Hy@temp}{\thepage}{\thepage}%
6492       \ifHy@pageanchor page.\Hy@temp\fi}{\thepage}}%
6493   }%
6494 \endgroup
6495 \fi
6496 \addtocounter{page}{1}%
6497 }%
6498 \@ifclassloaded{revtex4}{%
6499   \begingroup
6500   \toks@\expandafter{\lastpage@putlabel}%
6501   \edef\x{\endgroup
6502     \def\noexpand\lastpage@putlabel{%
6503       \noexpand\stepcounter{page}%
6504       \the\toks@
6505       \noexpand\addtocounter{page}\noexpand\m@ne
6506     }%
6507   }%
6508   \x
6509 }{}%
6510 }{}%
6511 }
6512 \</package>
6513 \<*check>
6514 \checkpackage{lastpage}[1994/06/25]
6515 \checkcommand\def\lastpage@putlabel{%
6516   \addtocounter{page}{-1}%
6517   \immediate\write\@auxout{%
6518     \string\newlabel{LastPage}{\the\Hy@temp}{\thepage}}%
6519   }%
6520   \addtocounter{page}{1}%
6521 }
6522 \</check>
6523 \<*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.

```
6524 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
6525 \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:

```
6526 \@ifpackageloaded{titlesec}{%
6527   \def\ttl@Hy@steplink#1{%
6528     \Hy@MakeCurrentHrefAuto{#1*}%
6529     \edef\ttl@Hy@saveanchor{%
6530       \noexpand\Hy@raisedlink{%
6531         \noexpand\hyper@anchorstart{\@currentHref}%
6532         \noexpand\hyper@anchorend
6533       \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6534       \noexpand\ttl@Hy@PatchSaveWrite
6535     }%
6536   }%
6537 }%
6538 \def\ttl@Hy@PatchSaveWrite{%
6539   \begingroup
6540   \toks@\expandafter{\ttl@savewrite}%
6541   \edef\x{\endgroup
6542     \def\noexpand\ttl@savewrite{%
6543       \let\noexpand\@currentHref
6544       \noexpand\ttl@Hy@SavedCurrentHref
6545     \the\toks@
6546   }%
6547 }%
6548 \x
6549 }%
6550 \def\ttl@Hy@refstepcounter#1{%
6551   \let\ttl@b\Hy@raisedlink
6552   \def\Hy@raisedlink##1{%
6553     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6554   }%
6555   \refstepcounter{#1}%
6556   \let\Hy@raisedlink\ttl@b
6557 }%
6558 }{}
```

Package titletoc support:

```
6559 \@ifpackageloaded{titletoc}{%
6560   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6561 }{}
```

32 Package varioref support

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


```

6562 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
6563 \@ifpackageloaded{varioref}{%
6564   \def\vref@pagenum#1#2{%
6565     \@ifundefined{r@#2}{%
6566       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6567     }{}%
6568     \edef#1{\getpagerefnumber{#2}}%
6569   }%
6570 }{}

```

Package varioref redefines `\refstepcounter`, thus it needs fixing, if the package is loaded *after* hyperref.

```

6571 \def\Hy@varioref@refstepcounter#1{%
6572   \stepcounter{#1}%
6573   \protected@edef\@currentlabel{%
6574     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6575   }%
6576 }
6577 \AtBeginDocument{%
6578   \ifx\refstepcounter\Hy@varioref@refstepcounter
6579     \let\H@refstepcounter\refstepcounter
6580     \let\refstepcounter\Hy@saved@refstepcounter
6581   \fi
6582 }

```

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

```

6583 \@ifpackageloaded{longtable}{%
6584   \begingroup
6585     \def\y{\LT@array}%
6586     \@ifundefined{scr@LT@array}{%
6587       \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6588     }{\def\y{\scr@LT@array}}%
6589     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6590       \expandafter\endgroup
6591       \expandafter\def\y[##1]##2{%
6592         \H@refstepcounter{#1}%
6593         \hyper@makecurrent{table}%
6594         \let\Hy@LT@currentHref\@currentHref
6595         #2\@sharp###3#4%
6596       }%
6597     }%
6598     \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6599   \begingroup
6600     \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6601       \endgroup
6602       \def\LT@start{%
6603         #1%
6604         \ifvoid\LT@foot#2\fi

```

```

6605 \let\@currentHref\Hy@LT@currentHref
6606 \Hy@raisedlink{%
6607   \hyper@anchorstart{\@currentHref}\hyper@anchorend
6608 }%
6609 #3%
6610 }%
6611 }%
6612 \expandafter\x\LT@start\@nil
6613 }{}

```

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.

```

6614 \let\new@refstepcounter\refstepcounter
6615 \let\H@equation\equation
6616 \let\H@endequation\endequation

6617 \ifpackageloaded{amsmath}{%
6618   \long\def\Hy@temp{%
6619     \incr@eqnum
6620     \mathdisplay@push
6621     \st@rredfalse \global\@eqnswtrue
6622     \mathdisplay{equation}%
6623   }%
6624   \ifx\Hy@temp\equation
6625     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6626       \csname iftrue\endcsname
6627   \else
6628     \long\def\equation{%
6629       \mathdisplay@push
6630       \st@rredfalse \global\@eqnswtrue
6631       \mathdisplay{equation}%
6632       \incr@eqnum
6633     }%
6634   \fi
6635 \fi
6636 }{%
6637 \def\equation{%
6638   \let\refstepcounter\H@refstepcounter
6639   \H@equation
6640   \@ifundefined{theHequation}{%
6641     \make@stripped@name{\theequation}%
6642     \let\theHequation\newname
6643   }{}%
6644   \hyper@makecurrent{equation}%
6645   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6646   \let\refstepcounter\new@refstepcounter
6647 }%
6648 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6649 }

```

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.

```

6650 \newif\if@eqnstar
6651 \@eqnstarfalse
6652 \let\H@eqnarray\eqnarray
6653 \let\H@endeqnarray\endeqnarray
6654 \def\eqnarray{%
6655   \let\Hy@reserved@a\relax
6656   \def\@currentHref{}%
6657   \H@eqnarray
6658   \if@eqnstar
6659   \else
6660     \ifx\\ \@currentHref\\%
6661     \else
6662       \ifundefined{theHequation}{%
6663         \make@stripped@name{\theequation}%
6664         \let\theHequation\newname
6665       }{}%
6666       \hyper@makecurrent{equation}%
6667       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
6668     \fi
6669   \fi
6670 }
6671 \def\endeqnarray{%
6672   \H@endeqnarray
6673 }

```

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.

```

6674 \@namedef{eqnarray*}{%
6675   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6676 }
6677 \@namedef{endeqnarray*}{%
6678   \nonumber\endeqnarray\@eqnstarfalse
6679 }

```

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

```

6680 \ltx@ifundefined{subeqnarray}{}{%
6681   \let\H@subeqnarray\subeqnarray
6682   \let\H@endsubeqnarray\endsubeqnarray
6683   \def\subeqnarray{%
6684     \let\Hy@reserved@a\relax
6685     \H@subeqnarray
6686     \ifundefined{theHequation}{%
6687       \make@stripped@name{\theequation}%
6688       \let\theHequation\newname
6689     }{}%
6690     \hyper@makecurrent{equation}%
6691     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
6692   }%
6693   \def\endsubeqnarray{%
6694     \H@endsubeqnarray
6695   }%
6696   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6697 }

```

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

```

6698 \def\make@stripped@name#1{%
6699   \begingroup
6700   \escapechar\m@ne
6701   \global\let\newname\@empty
6702   \protected@edef\Hy@tempa{#1}%
6703   \edef\@tempb{%
6704     \noexpand\@tfor\noexpand\Hy@tempa:=%
6705     \expandafter\strip@prefix\meaning\Hy@tempa
6706   }%
6707   \@tempb\do{%
6708     \if{\Hy@tempa\else
6709     \if}\Hy@tempa\else
6710     \xdef\newname{\newname\Hy@tempa}%
6711     \fi
6712     \fi
6713   }%
6714   \endgroup
6715 }

```

Support for amsmath's subequations:

```

6716 \begingroup\expandafter\expandafter\expandafter\endgroup
6717 \expandafter\ifx\csname subequations\endcsname\relax
6718 \else
6719   \let\HyOrg@subequations\subequations
6720   \def\subequations{%
6721     \stepcounter{equation}%
6722     \protected@edef\theHparentequation{%
6723       \@ifundefined{theHequation}\theequation\theHequation
6724     }%
6725     \addtocounter{equation}{-1}%
6726     \HyOrg@subequations
6727     \def\theHequation{\theHparentequation\alph{equation}}%
6728     \ignorespaces
6729   }%
6730   \fi

```

Support for package amsthm (Daniel Müllner):

```

6731 \ifpackageloaded{amsthm}{%
6732   \def\@thm#1#2#3{%
6733     \ifhmode
6734       \unskip\unskip\par
6735     \fi
6736     \normalfont
6737     \trivlist
6738     \let\thmheadnl\relax
6739     \let\thm@swap\@gobble
6740     \thm@notefont{\fontseries\mddefault\upshape}%
6741     \thm@headpunct{.}% add period after heading
6742     \thm@headsep 5\p@ plus\p@ minus\p@\relax
6743     \thm@space@setup
6744     #1% style overrides
6745     \@topsep \thm@preskip % used by thm head
6746     \@topsepadd \thm@postskip % used by \endparenv
6747     \def\dth@counter{#2}%
6748     \ifx\@empty\dth@counter
6749       \def\@tempa{%

```

```

6750     \@oparg{\@begintheorem{#3}{}}{}%
6751   }%
6752 \else
6753   \H@refstepcounter{#2}%
6754   \hyper@makecurrent{#2}%
6755   \let\Hy@dth@currentHref\@currentHref
6756   \def\@tempa{%
6757     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
6758   }%
6759   \fi
6760   \@tempa
6761 }%
6762 \dth@everypar={%
6763   \@minipagefalse
6764   \global\@newlistfalse
6765   \@noparitemfalse
6766   \if@inlabel
6767     \global\@inlabelfalse
6768   \begingroup
6769     \setbox\z@\lastbox
6770     \ifvoid\z@
6771       \kern-\itemindent
6772     \fi
6773   \endgroup
6774   \ifx\@empty\dth@counter
6775   \else
6776     \Hy@raisedlink{%
6777       \hyper@anchorstart{%
6778         \ltx@ifundefined{Hy@dth@currentHref}%
6779         \@currentHref\Hy@dth@currentHref
6780       }\hyper@anchorend
6781     }%
6782   \fi
6783   \unhbox\@labels
6784   \fi
6785   \if@nobreak
6786     \@nobreakfalse \clubpenalty\@M
6787   \else
6788     \clubpenalty\@clubpenalty \everypar{}%
6789   \fi
6790 }%
6791 }{}

```

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.

```

6792 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6793 \ifHy@hyperfootnotes
6794   \newcounter{Hfootnote}%
6795   \let\H@@@footnotetext\@footnotetext
6796   \let\H@@@footnotemark\@footnotemark
6797   \def\@xfootnotenext[#1]{%

```

```

6798 \begingroup
6799 \csname c@\@mpfn\endcsname #1\relax
6800 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6801 \endgroup
6802 \ifx\@footnotetext\@mpfootnotetext
6803 \expandafter\H@\@mpfootnotetext
6804 \else
6805 \expandafter\H@\@footnotetext
6806 \fi
6807 }%
6808 \def\@xfootnotemark[#1]{%
6809 \begingroup
6810 \c@footnote #1\relax
6811 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6812 \endgroup
6813 \H@\@footnotemark
6814 }%
6815 \let\H@\@mpfootnotetext\@mpfootnotetext
6816 \long\def\@mpfootnotetext#1{%
6817 \H@\@mpfootnotetext{%
6818 \ifHy@nesting
6819 \expandafter\hyper@@anchor\expandafter{%
6820 \Hy@footnote@currentHref
6821 }{#1}%
6822 \else
6823 \Hy@raisedlink{%
6824 \expandafter\hyper@@anchor\expandafter{%
6825 \Hy@footnote@currentHref
6826 }{\relax}%
6827 }#1%
6828 \fi
6829 }%
6830 }%
6831 \long\def\@footnotetext#1{%
6832 \H@\@footnotetext{%
6833 \ifHy@nesting
6834 \expandafter\hyper@@anchor\expandafter{%
6835 \Hy@footnote@currentHref
6836 }{#1}%
6837 \else
6838 \Hy@raisedlink{%
6839 \expandafter\hyper@@anchor\expandafter{%
6840 \Hy@footnote@currentHref
6841 }{\relax}%
6842 }%
6843 \let\@currentHref\Hy@footnote@currentHref
6844 \let\@currentlabelname\@empty
6845 #1%
6846 \fi
6847 }%
6848 }%

```

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.

```

6849 \def\@footnotemark{%
6850 \leavevmode

```

```

6851 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6852 \stepcounter{Hfootnote}%
6853 \global\let\Hy@saved@currentHref\@currentHref
6854 \hyper@makecurrent{Hfootnote}%
6855 \global\let\Hy@footnote@currentHref\@currentHref
6856 \global\let\@currentHref\Hy@saved@currentHref
6857 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6858 \@makefnmark
6859 \hyper@linkend
6860 \ifhmode\spacefactor\x@sf\fi
6861 \relax
6862 }%

```

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

```

6863 \@ifpackageloaded{longtable}{%
6864 \CheckCommand*{\LT@p@ftntext}[1]{%
6865 \edef\@tempa{%
6866 \the\LT@p@ftn
6867 \noexpand\footnotetext[\the\c@footnote]%
6868 }%
6869 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6870 }%
6871 \long\def\LT@p@ftntext#1{%
6872 \edef\@tempa{%
6873 \the\LT@p@ftn
6874 \begingroup
6875 \noexpand\c@footnote=\the\c@footnote\relax
6876 \noexpand\protected@xdef
6877 \noexpand\@thefnmark{\noexpand\thempfn}%
6878 \noexpand\protected@xdef\noexpand\@thefnmark{%
6879 \noexpand\thempfn
6880 }%
6881 \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6882 \expandafter{%
6883 \Hy@footnote@currentHref
6884 }%
6885 }%
6886 \global\LT@p@ftn\expandafter{%
6887 \@tempa{#1}%
6888 \endgroup
6889 }%
6890 }%
6891 \long\def\Hy@LT@footnotetext#1#2{%
6892 \H@@@footnotetext{%
6893 \ifHy@nesting
6894 \hyper@@@anchor{#1}{#2}%
6895 \else
6896 \Hy@raisedlink{%
6897 \hyper@@@anchor{#1}{\relax}%
6898 }%
6899 \def\@currentHref{#1}%
6900 \let\@currentlabelname\@empty
6901 #2%
6902 \fi
6903 }%

```

```

6904 }%
6905 }{}%

```

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

```

6906 \@ifpackageloaded{fancyvrb}{%
6907   \def\V@@footnotetext{%
6908     \insert\footins\bgroup
6909     \csname reset@font\endcsname
6910     \footnotesize
6911     \interlinepenalty\interfootnotelinepenalty
6912     \splittopskip\footnotesep
6913     \splitmaxdepth\dp\strutbox
6914     \floatingpenalty \@MM
6915     \hsize\columnwidth
6916     \@parboxrestore
6917     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6918     \@makefnrest{}%
6919     \rule{\z@}{\footnotesep}%
6920     \bgroup
6921     \aftergroup\V@@@footnotetext
6922     \Hy@raisedlink{%
6923       \expandafter\hyper@@anchor\expandafter{%
6924         \Hy@footnote@currentHref
6925       }\relax}%
6926   }%
6927   \let\@currentHref\Hy@footnote@currentHref
6928   \let\@currentlabelname\@empty
6929   \ignorespaces
6930 }%
6931 }{}%

```

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

```

6932 \def\Hy@temp#1{%
6933   \begingroup
6934   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6935   \endgroup
6936   \@footnotemark
6937 }%
6938 \ifx\Hy@temp\footref
6939   \def\footref#1{%
6940     \begingroup
6941     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6942     \endgroup
6943     \H@@@footnotemark
6944   }%
6945 \fi

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

6946 \let\HyOrg@maketitle\maketitle
6947 \def\maketitle{%
6948   \let\Hy@saved@footnotemark\@footnotemark
6949   \let\Hy@saved@footnotetext\@footnotetext
6950   \let\@footnotemark\H@@@footnotemark
6951   \let\@footnotetext\H@@@footnotetext
6952   \@ifnextchar[\Hy@maketitle@optarg{% ]
6953   \HyOrg@maketitle
6954   \Hy@maketitle@end

```



```

6955 }%
6956 }%
6957 \def\Hy@maketitle@optarg[#1]{%
6958   \HyOrg@maketitle[#1]}%
6959 \Hy@maketitle@end
6960 }%
6961 \def\Hy@maketitle@end{%
6962   \ifx\@footnotemark\H@@footnotemark
6963     \let\@footnotemark\Hy@saved@footnotemark
6964   \fi
6965   \ifx\@footnotetext\H@@footnotetext
6966     \let\@footnotetext\Hy@saved@footnotetext
6967   \fi
6968 }%

```

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

```

6969 \def\realfootnote{%
6970   \@ifnextchar[\@xfootnote{%
6971     \stepcounter{\@mpfn}%
6972     \protected@xdef\@thefnmark{\thempfn}%
6973     \H@@@footnotemark\H@@@footnotetext
6974   }%
6975 }%

6976 \fi
6977 \Hy@DisableOption{hyperfootnotes}

6978 </package>
6979 <*check>
6980 \checklatex
6981 \checkcommand\def\@xfootnotenext[#1]{%
6982   \begingroup
6983     \csname c@\@mpfn\endcsname #1\relax
6984     \unrestored@protected@xdef\@thefnmark{\thempfn}%
6985   \endgroup
6986   \@footnotetext
6987 }
6988 \checkcommand\def\@xfootnotemark[#1]{%
6989   \begingroup
6990     \c@footnote #1\relax
6991     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6992   \endgroup
6993   \@footnotemark
6994 }
6995 \checkcommand\def\@footnotemark{%
6996   \leavevmode
6997   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6998   \@makefnmark
6999   \ifhmode\spacefactor\@x@sf\fi
7000   \relax
7001 }
7002 </check>
7003 <*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.

```

7004 \def\caption{%
7005   \ifx\@capttype\@undefined
7006     \@latex@error{\noexpand\caption outside float}\@ehd
7007     \expandafter\@gobble
7008   \else
7009     \H@refstepcounter\@capttype
7010     \let\Hy@tempa\@caption
7011     \ifundefined{float@caption}{%
7012       }{%
7013         \expandafter\ifx\csname @float@c@\@capttype\endcsname
7014           \float@caption
7015           \let\Hy@tempa\Hy@float@caption
7016         \fi
7017       }%
7018     \expandafter\@firstofone
7019   \fi
7020   {\@dblarg{\Hy@tempa\@capttype}}%
7021 }
7022 \long\def\@caption#1[#2]#3{%
7023   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7024     \csname iftrue\endcsname
7025     \global\let\@currentHref\hc@currentHref
7026   \else
7027     \hyper@makecurrent{\@capttype}%
7028   \fi
7029   \@ifundefined{NR@gettitle}{%
7030     \def\@currentlabelname{#2}%
7031   }{%
7032     \NR@gettitle{#2}%
7033   }%
7034   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7035     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7036   }%
7037   \begingroup
7038     \@parboxrestore
7039     \if@minipage
7040       \@setminipage
7041     \fi
7042     \normalsize
7043     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7044       \csname iftrue\endcsname
7045       \global\@capstartfalse
7046       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7047     \else
7048       \@makecaption{\csname fnum@#1\endcsname}{%
7049         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7050     \ifHy@nesting
7051       \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
7052     \else
7053       \Hy@raisedlink{%
7054         \expandafter\hyper@@@anchor\expandafter{%
7055           \@currentHref

```

```

7056     }\relax}%
7057   }%
7058   #3%
7059   \fi
7060 }%
7061 \fi
7062 \par
7063 \endgroup
7064 }

```

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.

```

7065 \let\Hy@float@caption\@caption
7066 \ifpackageloaded{float}{%
7067   \def\Hy@float@caption{%
7068     \ifx\Hy@float@currentHref\@undefined
7069       \hyper@makecurrent{\@capttype}%
7070       \global\let\Hy@float@currentHref\@currentHref
7071     \else
7072       \let\@currentHref\Hy@float@currentHref
7073     \fi
7074     \float@caption
7075   }%
7076   \let\HyOrg@float@makebox\float@makebox
7077   \renewcommand{\float@makebox}[1]{%
7078     \HyOrg@float@makebox{%
7079       #1\relax
7080       \ifx\Hy@float@currentHref\@undefined
7081         \else
7082           \expandafter\hyper@@anchor\expandafter{%
7083             \Hy@float@currentHref
7084           }\relax}%
7085       \global\let\Hy@float@currentHref\@undefined
7086     \fi
7087   }%
7088 }%
7089 }{}

7090 \</package>
7091 \<*check>
7092 \checklatex[1999/06/01 - 2000/06/01]
7093 \checkcommand\def\caption{%
7094   \ifx\@capttype\@undefined
7095     \@latex@error{\noexpand\caption outside float}\@ehd
7096     \expandafter\@gobble
7097   \else
7098     \refstepcounter{\@capttype
7099     \expandafter\@firstofone
7100   \fi
7101   {\@dblarg{\@caption\@capttype}}}%
7102 }
7103 \checkcommand\long\def\@caption#1[#2]#3{%
7104   \par
7105   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7106     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7107   }%
7108   \begingroup
7109     \@parboxrestore

```

```

7110 \if@minipage
7111 \setminipage
7112 \fi
7113 \normalsize
7114 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7115 \endgroup
7116 }
7117 </check>
7118 <*package>

```

37 Bibliographic references

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

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

```

7119 \def\hyper@natlinkstart#1{%
7120 \Hy@backout{#1}%
7121 \hyper@linkstart{cite}{cite.#1}%
7122 \def\hyper@nat@current{#1}%
7123 }
7124 \def\hyper@natlinkend{%
7125 \hyper@linkend
7126 }
7127 \def\hyper@natlinkbreak#1#2{%
7128 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7129 }
7130 \def\hyper@natanchorstart#1{%
7131 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7132 }
7133 \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.

```

7134 \ltx@ifundefined{NAT@parse}{%
7135 \providecommand*\@extra@binfo{}%
7136 \providecommand*\@extra@b@citeb{}%
7137 \def\bibcite#1#2{%
7138 \@newlabel{b}{#1\@extra@binfo}{%
7139 \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7140 }%
7141 }%
7142 \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.”.

```

7143 \let\Hy@bibcite\bibcite
7144 \begingroup
7145 \ifundefined{bbl@cite@choice}{-}{%
7146 \g@addto@macro\bbl@cite@choice{%

```

```

7147 \let\bibcite\Hy@bibcite
7148 }%
7149 }%
7150 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
7151 \providecommand*{\@BIBLABEL}{\@biblabel}%
7152 \def\@lbibitem[#1]#2{%
7153 \@skiphyperreftrue
7154 \H@item[%
7155 \ifx\Hy@raisedlink\@empty
7156 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7157 \@BIBLABEL{#1}%
7158 \hyper@anchorend
7159 \else
7160 \Hy@raisedlink{%
7161 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7162 }%
7163 \@BIBLABEL{#1}%
7164 \fi
7165 \hfill
7166 ]%
7167 \@skiphyperreffalse
7168 \if@filesw
7169 \begingroup
7170 \let\protect\noexpand
7171 \immediate\write\@auxout{%
7172 \string\bibcite{#2}{#1}%
7173 }%
7174 \endgroup
7175 \fi
7176 \ignorespaces
7177 }%

```

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

```

7178 \def\@bibitem#1{%
7179 \@skiphyperreftrue\H@item\@skiphyperreffalse
7180 \Hy@raisedlink{%
7181 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7182 }%
7183 \if@filesw
7184 \begingroup
7185 \let\protect\noexpand
7186 \immediate\write\@auxout{%
7187 \string\bibcite{#1}{\the\value{\@listctr}}%
7188 }%
7189 \endgroup
7190 \fi
7191 \ignorespaces
7192 }%
7193 }{}
7194 \</package>
7195 \<*check>
7196 \checklatex
7197 \checkcommand\def\@lbibitem[#1]#2{%
7198 \item[\@biblabel{#1}\hfill}%
7199 \if@filesw

```

```

7200 {%
7201   \let\protect\noexpand
7202   \immediate\write\@auxout{%
7203     \string\bibcite{#2}{#1}%
7204   }%
7205 }%
7206 \fi
7207 \ignorespaces
7208 }
7209 \checkcommand\def\@bibitem#1{%
7210   \item
7211   \if@filesw
7212     \immediate\write\@auxout{%
7213       \string\bibcite{#1}{\the\value{\@listctr}}%
7214     }%
7215   \fi
7216   \ignorespaces
7217 }
7218 \</check>
7219 \<*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.

```

7220 \@ifclassloaded{revtex}{%
7221   \Hy@Info{*** compatibility with revtex **** }%
7222   \def\revtex@checking#1#2{%
7223     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7224     \expandafter\def\csname b@#1\endcsname{#2}%
7225     \@SetMaxRnhefLabel{#1}%
7226     \expandafter\let\csname b@#1\endcsname\T@temp
7227   }%

```

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

```

7228 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
7229 \providecommand*\@extra@b@citeb{}%
7230 \def\CITEX[#1]#2{%
7231   \let\@citea\@empty
7232   \leavevmode
7233   $\sim$%
7234   \scriptstyle
7235   \CITE{%
7236     \@for\@citeb:=#2\do{%
7237       \@citea
7238       \def\@citea{,\penalty\@m\ }%
7239       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7240       \if@filesw
7241         \immediate\write\@auxout{\string\citation{\@citeb}}%
7242       \fi
7243       \@ifundefined{b@\@citeb\extra@b@citeb}{%
7244         \mbox{\reset@font\bfseries ?}%
7245         \G@refundefinedtrue
7246         \@latex@warning{%
7247           Citation ‘\@citeb’ on page \thepage \space undefined%
7248         }%
7249       }%
7250     }%

```

```

7251      {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7252      }%
7253      }%
7254      }{#1}%
7255      }$%
7256      }%

```

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.

```

7257 \def\citex[#1]#2{%
7258   \let\@citea\@empty
7259   \@cite{%
7260     \@for\@citeb:=#2\do{%
7261       \@citea
7262       \def\@citea{,\penalty\@m\ }%
7263       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7264       \if@filesw
7265         \immediate\write\@auxout{\string\citation{\@citeb}}%
7266       \fi
7267       \ifundefined{b@\@citeb\@extra@b@citeb}{%
7268         \mbox{\reset@font\bfseries ?}%
7269         \G@refundefinedtrue
7270         \latex@warning{%
7271           Citation '\@citeb' on page \thepage \space undefined%
7272         }%
7273       }{%
7274         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7275       }%
7276     }%
7277   }{#1}%
7278   }%
7279 }{}

```

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.

```

7280 \ifpackageloaded{harvard}{%
7281   \Hy@AtBeginDocument{%
7282     \Hy@Info{*** compatibility with harvard **** }%
7283     \Hy@raiselinksfalse
7284     \def\harvardcite#1#2#3#4{%
7285       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
7286       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
7287       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
7288       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7289     }%
7290     \def\HAR@citetoaux#1{%
7291       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7292       \ifHy@backref
7293         \ifx\@empty\@currentlabel
7294         \else
7295           \@bspack

```

```

7296 \if@filesw
7297 \protected@write\@auxout{}\{
7298 \string\@writefile{brf}\{
7299 \string\backcite{#1}\{
7300 {\thepage}\{\@currentlabel}\{\@currentHref}%
7301 }%
7302 }%
7303 }%
7304 \fi
7305 \@esphack
7306 \fi
7307 \fi
7308 }%
7309 \def\harvarditem{%
7310 \ifnextchar[\{\@harvarditem}\{\@harvarditem[\null]}\%
7311 }%
7312 \def\@harvarditem[#1]#2#3#4#5\par{%
7313 \item[]%
7314 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7315 \if@filesw
7316 \begin{group}
7317 \def\protect##1{\string ##1\space}%
7318 \ifthenelse{\equal{#1}\{\null}}%
7319 {\def\next{{#4}{#2}{#2}{#3}}}%
7320 {\def\next{{#4}{#2}{#1}{#3}}}%
7321 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7322 \end{group}
7323 \fi
7324 \protect\hspace*{-\labelwidth}%
7325 \protect\hspace*{-\labelsep}%
7326 \ignorespaces
7327 #5%
7328 \ifHy@backref
7329 \newblock
7330 \backref{\csname br@#4\endcsname}%
7331 \fi
7332 \par
7333 }%

```

\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:

```

7334 \long\def\HAR@checkcitations#1#2#3#4{%
7335 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#2}}%
7336 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7337 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#3}}%
7338 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7339 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#4}}%
7340 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7341 \else
7342 \@tempwattrue
7343 \fi
7344 \else
7345 \@tempwattrue
7346 \fi
7347 \else
7348 \@tempwattrue

```



```

7349   \fi
7350   }%
7351   }%

7352 }{}

```

37.2 Package chicago

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

```
7353 \@ifpackageloaded{chicago}{%
```

`\citeN`

```

7354 \def\citeN{%
7355   \def\@citesep{-1000}%
7356   \def\@cite##1##2{##1}%
7357   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7358   \@citedata@opt
7359   }%

```

`\shortciteN`

```

7360 \def\shortciteN{%
7361   \def\@citesep{-1000}%
7362   \def\@cite##1##2{##1}%
7363   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7364   \@citedata@opt
7365   }%

```

`\@citedata@opt`

```

7366 \def\@citedata@opt{%
7367   \let\@cite@opt\@empty
7368   \@ifnextchar [{%
7369     \@tempwattrue
7370     \@citedatax@opt
7371   }{%
7372     \@tempwafalse
7373     \@citedatax[]%
7374   }%
7375   }%

```

`\@citedatax@opt`

```

7376 \def\@citedatax@opt[#1]{%
7377   \def\@cite@opt{, #1}%
7378   \@citedatax[{#1}]%
7379   }%

7380 }{}

```

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.

```

7381 \def\Hy@EveryPageAnchor{%
7382   \Hy@DistillerDestFix
7383   \ifHy@pageanchor
7384     \ifHy@hypertextnames
7385     \ifHy@plainpages
7386       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}}%
7387     \else
7388       \begingroup
7389         \let\@number\@firstofone
7390         \Hy@unicodfalse
7391         \pdfstringdef\@the@H@page{\thepage}%
7392       \endgroup
7393       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}}%
7394     \fi
7395   \else
7396     \Hy@GlobalStepCount\Hy@pagecounter
7397     \def\Hy@TempPageAnchor{%
7398       \hyper@@anchor{page.\the\Hy@pagecounter}%
7399     }%
7400   \fi
7401   \vbox to 0pt{%
7402     \kern\voffset
7403     \kern\topmargin
7404     \kern-1bp\relax
7405     \hbox to 0pt{%
7406       \kern\hoffset
7407       \kern\ifodd\value{page}%
7408         \oddsidemargin
7409       \else
7410         \evensidemargin
7411       \fi
7412       \kern-1bp\relax
7413       \Hy@TempPageAnchor\relax
7414       \hss
7415     }%
7416     \vss
7417   }%
7418 \fi
7419 }
7420 \g@addto@macro\Hy@EveryPageBoxHook{%
7421   \Hy@EveryPageAnchor
7422 }

```

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.

```

7423 \def\addcontentsline#1#2#3{% toc extension, type, tag
7424   \begingroup
7425     \let\label\@gobble
7426     \ifx\@currentHref\@empty
7427       \Hy@Warning{%
7428         No destination for bookmark of \string\addcontentsline,%
7429         \MessageBreak destination is added%

```

```

7430 }%
7431 \phantomsection
7432 \fi
7433 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7434 \begingroup
7435 \def\Hy@tempa{#1}%
7436 \ifx\Hy@tempa\Hy@bookmarkstype
7437 \Hy@WarningNoLine{%
7438 bookmark level for unknown #2 defaults to 0%
7439 }%
7440 \else
7441 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7442 \fi
7443 \endgroup
7444 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7445 \fi
7446 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7447 \Hy@writebookmark{\csname the#2\endcsname}%
7448 {#3}%
7449 {\@currentHref}%
7450 {\Hy@toclevel}%
7451 {#1}%
7452 \ifHy@verbose
7453 \begingroup
7454 \def\Hy@tempa{#3}%
7455 \@onelevel@sanitize\Hy@tempa
7456 \let\temp@online\on@line
7457 \let\on@line\@empty
7458 \Hy@Info{%
7459 bookmark\temp@online:\MessageBreak
7460 thecounter {\csname the#2\endcsname}\MessageBreak
7461 text {\Hy@tempa}\MessageBreak
7462 reference {\@currentHref}\MessageBreak
7463 toplevel {\Hy@toclevel}\MessageBreak
7464 type {#1}%
7465 }%
7466 \endgroup
7467 \fi
7468 \addtocontents{#1}{%
7469 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7470 }%
7471 \endgroup
7472 }
7473 \def\contentsline#1#2#3#4{%
7474 \ifx\#4\%
7475 \csname l@#1\endcsname{#2}{#3}%
7476 \else
7477 \ifcase\Hy@linktoc % none
7478 \csname l@#1\endcsname{#2}{#3}%
7479 \or % section
7480 \csname l@#1\endcsname{%
7481 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7482 }{#3}%
7483 \or % page
7484 \csname l@#1\endcsname{#2}{#3}%
7485 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7486 }%

```

```

7487 \else % all
7488 \csname l@#1\endcsname{%
7489 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7490 }{%
7491 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7492 }%
7493 \fi
7494 \fi
7495 }

7496 </package>
7497 <*check>
7498 \checklatex
7499 \checkcommand\def\addcontentsline#1#2#3{%
7500 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7501 }
7502 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7503 </check>
7504 <*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.

```

7505 \let\H@definecounter\@definecounter
7506 \def\@definecounter#1{%
7507 \H@definecounter{#1}%
7508 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7509 }

```

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.

```

7510 \let\H@newctr\@newctr
7511 \def\@newctr#1[#2]{%
7512 \H@newctr#1[{#2}]%
7513 \expandafter\def\csname theH#1\endcsname{%
7514 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7515 }%
7516 }

```

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.

```

7517 \ifpackageloaded{amsmath}{%
7518 \def\Hy@make@anchor{%
7519 \Hy@MakeCurrentHrefAuto{AMS}%
7520 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7521 }%
7522 \def\Hy@make@df@tag@@#1{%
7523 \gdef\df@tag{%

```

```

7524 \maketag@@@{\Hy@make@anchor#1}%
7525 \def\@currentlabel{#1}%
7526 }%
7527 }%
7528 \def\Hy@make@df@tag@@@#1{%
7529 \gdef\df@tag{%
7530 \tagform@{\Hy@make@anchor#1}%
7531 \toks@\@xp{\p@equation{#1}}%
7532 \edef\@currentlabel{\the\toks@}%
7533 }%
7534 }%
7535 \let\HyOrg@make@df@tag@@\make@df@tag@@
7536 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
7537 \let\make@df@tag@@\Hy@make@df@tag@@
7538 \let\make@df@tag@@@ \Hy@make@df@tag@@@
7539 }{}

```

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

```

7540 \ifpackagewith{hyperref}{pdfTeX}{%
7541 \let\H@seteqlabel\@seteqlabel
7542 \def\@seteqlabel#1{%
7543 \H@seteqlabel{#1}%
7544 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7545 \Hy@raisedlink{%
7546 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7547 }%
7548 }%
7549 }{}

```

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.

```

7550 \let\HyOrg@addtoreset\@addtoreset
7551 \def\@addtoreset#1#2{%
7552 \HyOrg@addtoreset{#1}{#2}%
7553 \expandafter\xdef\csname theH#1\endcsname{%
7554 \expandafter\noexpand
7555 \csname the\@ifundefined{theH#2}{H#2\endcsname
7556 .\noexpand\the\noexpand\value{#1}}%
7557 }%
7558 }

```

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

```

7559 \</package>

```

```

7560 <*check>
7561 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7562 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7563   \ifundefined{c@#2}{\@nocounterr{#2}}{%
7564     \ifundefined{c@#3}{\@nocnterr{#3}}{%
7565       \addtoreset{#2}{#3}%
7566       \exp\xdef\csname the#2\endcsname{%
7567         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7568       }%
7569     }%
7570   }%
7571 }%
7572 </check>
7573 <*package>
7574 \ifpackageloaded{amsmath}{%
7575   \ifpackagelater{amsmath}{1999/12/14}{%
7576     \renewcommand*{\numberwithin}[3][\arabic]{%
7577       \ifundefined{c@#2}{\@nocounterr{#2}}{%
7578         \ifundefined{c@#3}{\@nocnterr{#3}}{%
7579           \HyOrg@addtoreset{#2}{#3}%
7580           \exp\xdef\csname the#2\endcsname{%
7581             \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7582           }%
7583           \exp\xdef\csname theH#2\endcsname{%
7584             \exp\@nx
7585             \csname the\ifundefined{theH#3}{H#3\endcsname
7586             .\@nx#1{#2}%
7587           }%
7588         }%
7589       }%
7590     }%
7591   }{%
7592     \Hy@WarningNoLine{%
7593       \string\numberwithin\space of package ‘amsmath’ %
7594       only fixed\MessageBreak
7595       for version 2000/06/06 v2.12 or newer%
7596     }%
7597   }%
7598 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7599 \ifHy@figures
7600 \let\Hy@Gin@setfile\Gin@setfile
7601 \def\Gin@setfile#1#2#3{%
7602   \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7603 }%
7604 \fi
7605 \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 emboldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

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

```

7606 \ifHy@hyperindex
7607   \def\HyInd@ParenLeft{()%
7608   \def\HyInd@ParenRight{)%
7609   \def\hyperindexformat#1#2{%
7610     \let\HyOrg@hyperpage\hyperpage
7611     \let\hyperpage\@firstofone
7612     #1{\HyOrg@hyperpage{#2}}%
7613     \let\hyperpage\HyOrg@hyperpage
7614   }%
7615   \Hy@nextfalse
7616   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7617   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7618   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7619   \begingroup
7620     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7621     \lccode'\|/'\|'\relax
7622   \lowercase{\endgroup
7623   \ifHy@next
7624     \let\HyInd@org@wrindex\@wrindex
7625     \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||}%
7626     \def\HyInd@@wrindex#1#2|#3|#4\|{%
7627       \ifx\|#3\|
7628         \HyInd@org@wrindex{#1}{#2|hyperpage}%
7629       \else
7630         \HyInd@@@wrindex{#1}{#2}#3\|
7631       \fi
7632     }%
7633     \def\HyInd@@@wrindex#1#2#3#4\|{%
7634       \def\Hy@temp@A{#3}%
7635       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7636         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7637       \relax
7638       \HyInd@org@wrindex{#1}{%
7639         #2|hyperindexformat{/#3#4}%
7640       }%
7641     \else
7642       \ifx\|#4\|
7643         \ifx\Hy@temp@A\HyInd@ParenRight
7644           \HyInd@org@wrindex{#1}{#2|#3}%
7645         \else
7646           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7647         \fi
7648       \else
7649         \HyInd@org@wrindex{#1}{%
7650           #2|#3hyperindexformat{/#4}%
7651         }%
7652       \fi
7653     \fi
7654   }%

```

```

7655 \else
7656 \def\@wrindex#1{\@@wrindex#1||\}%
7657 \def\@@wrindex#1|#2|#3\{\{%
7658 \if@filesw
7659 \ifx\|#2\%\%
7660 \protected@write\@indexfile{}\{%
7661 \string\indexentry{#1|hyperpage}\the page}%
7662 \}%
7663 \else
7664 \HyInd@@@wrindex{#1}#2\%\%
7665 \fi
7666 \fi
7667 \endgroup
7668 \@esphack
7669 \}%
7670 \def\HyInd@@@wrindex#1#2#3\{\{%
7671 \def\Hy@temp@A{#2}%
7672 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7673 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7674 \relax
7675 \protected@write\@indexfile{}\{%
7676 \string\indexentry{%
7677 #1|hyperindexformat{/#2#3}%
7678 }\the page}%
7679 \}%
7680 \else
7681 \ifx\|#3\%\%
7682 \ifx\Hy@temp@A\HyInd@ParenRight
7683 \protected@write\@indexfile{}\{%
7684 \string\indexentry{#1|#2}\the page}%
7685 \}%
7686 \else
7687 \protected@write\@indexfile{}\{%
7688 \string\indexentry{#1|#2hyperpage}\the page}%
7689 \}%
7690 \fi
7691 \else
7692 \protected@write\@indexfile{}\{%
7693 \string\indexentry{%
7694 #1|#2hyperindexformat{/#3}%
7695 }\the page}%
7696 \}%
7697 \fi
7698 \fi
7699 \}%
7700 \fi
7701 \}%
7702 \fi
7703 \Hy@DisableOption{hyperindex}
7704 \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.

```
7705 \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.


```

7706 \def\hyperpage#1{%
7707   \HyInd@hyperpage#1\nohyperpage{}\@nil
7708 }
7709 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7710   \HyInd@@hyperpage{#1}%
7711   #2%
7712   \def\Hy@temp{#3}%
7713   \ifx\Hy@temp\@empty
7714     \else
7715       \Hy@ReturnAfterFi{%
7716         \HyInd@hyperpage#3\@nil
7717       }%
7718     \fi
7719 }
7720 \def\HyInd@@hyperpage#1{\@hyperpage#1---\}
7721 \def\@hyperpage#1--#2--#3\{%
7722   \ifx\#2\%
7723     \@commahyperpage{#1}%
7724   \else
7725     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7726   \fi
7727 }
7728 \def\@commahyperpage#1{\@commahyperpage#1, \}
7729 \def\@commahyperpage#1, #2,#3\{%
7730   \ifx\#2\%
7731     \HyInd@pagelink{#1}%
7732   \else
7733     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7734   \fi
7735 }

```

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

```

7736 \def\HyInd@pagelink#1{%
7737   \begingroup
7738   \toks@={}%
7739   \HyInd@removespaces#1 \@nil
7740   \endgroup
7741 }
7742 \def\HyInd@removespaces#1 #2\@nil{%
7743   \toks@=\expandafter{\the\toks@#1}%
7744   \ifx\#2\%
7745     \edef\x{\the\toks@}%
7746     \ifx\x\@empty
7747       \else
7748         \hyperlink{page.\the\toks@}{\the\toks@}%
7749       \fi
7750     \else
7751       \Hy@ReturnAfterFi{%
7752         \HyInd@removespaces#2\@nil
7753       }%
7754     \fi
7755 }

```

44 Compatibility with foiltex

```

7756 \@ifclassloaded{foils}{%

```

```

7757 \providecommand*\ext@table{lot}%
7758 \providecommand*\ext@figure{lof}%
7759 }{}

```

45 Compatibility with seminar slide package

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

```

7760 \ifclassloaded{seminar}{%
7761   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7762 }{%
7763   \Hy@seminarslidesfalse
7764 }
7765 \ifpackageloaded{slidesec}{%
7766   \newcommand\theHslidesection {\arabic{slidesection}}%
7767   \newcommand\theHslidesubsection{%
7768     \theHslidesection.\arabic{slidesubsection}%
7769   }%
7770   \def\slide@heading[#1]#2{%
7771     \H@refstepcounter{slidesection}%
7772     \@addtoreset{slidesubsection}{slidesection}%
7773     \addtocontents{los}{%
7774       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
7775       {\@SCTR}{slideheading.\theslidesection}%
7776     }%
7777     \def\Hy@tempa{#2}%
7778     \ifx\Hy@tempa\@empty
7779     \else
7780       {%
7781         \edef\@currentlabel{%
7782           \csname p@slidesection\endcsname\theslidesection
7783         }%
7784         \makeslideheading{#2}%
7785       }%
7786     \fi
7787     \gdef\theslideheading{#1}%
7788     \gdef\theslidesubheading{}%
7789     \ifHy@bookmarksnumbered
7790       \def\Hy@slidetitle{\theslidesection\space #1}%
7791     \else
7792       \def\Hy@slidetitle{#1}%
7793     \fi
7794     \ifHy@hypertextnames
7795       \ifHy@naturalnames
7796         \hyper@@anchor{slideheading.\theslidesection}{\relax}%
7797         \Hy@writebookmark
7798           {\theslidesection}%
7799           {\Hy@slidetitle}%
7800           {slideheading.\theslidesection}%
7801           {1}%
7802           {toc}%
7803       \else
7804         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7805         \Hy@writebookmark
7806           {\theslidesection}%
7807           {\Hy@slidetitle}%
7808           {slideheading.\theHslidesection}%

```

```

7809         {1}%
7810         {toc}%
7811     \fi
7812 \else
7813     \Hy@GlobalStepCount\Hy@linkcounter
7814     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7815     \Hy@writebookmark
7816         {\theslidesubsection}%
7817         {\Hy@slidetitle}%
7818         {slideheading.\the\Hy@linkcounter}%
7819         {1}%
7820         {toc}%
7821 \fi
7822 }%
7823 \def\slide@subheading[#1]#2{%
7824     \H@refstepcounter{slidesubsection}%
7825     \addtocontents{los}{%
7826         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7827         {\@SCTR}{slideheading.\theslidesubsection}%
7828     }%
7829     \def\Hy@tempa{#2}%
7830     \ifx\Hy@tempa@empty
7831     \else
7832         {%
7833             \edef\@currentlabel{%
7834                 \csname p@slidesubsection\endcsname\theslidesubsection
7835             }%
7836             \makeslidesubheading{#2}%
7837         }%
7838     \fi
7839     \gdef\theslidesubheading{#1}%
7840     \ifHy@bookmarksnumbered
7841         \def\Hy@slidetitle{\theslidesubsection\space #1}%
7842     \else
7843         \def\Hy@slidetitle{#1}%
7844     \fi
7845     \ifHy@hypertextnames
7846     \ifHy@naturalnames
7847         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7848         \Hy@writebookmark
7849             {\theslidesubsection}%
7850             {\Hy@slidetitle}%
7851             {slideheading.\theslidesubsection}%
7852             {2}%
7853             {toc}%
7854     \else
7855         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7856         \Hy@writebookmark
7857             {\theslidesubsection}%
7858             {\Hy@slidetitle}%
7859             {slideheading.\theHslidesubsection}%
7860             {2}%
7861             {toc}%
7862     \fi
7863 \else
7864     \Hy@GlobalStepCount\Hy@linkcounter
7865     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%

```

```

7866 \Hy@writebookmark
7867 {\theslidesubsection}%
7868 {\Hy@slidetitle}%
7869 {slideheading.\the\Hy@linkcounter}%
7870 {1}%
7871 {toc}%
7872 \fi
7873 }%
7874 \providecommand*{\listslidenam}{List of Slides}%
7875 \def\listofslides{%
7876 \section*{%
7877 \listslidenam
7878 \@mkboth{%
7879 \expandafter\MakeUppercase\listslidenam
7880 }{%
7881 \expandafter\MakeUppercase\listslidenam
7882 }%
7883 }%
7884 \def\l@slide##1##2##3##4{%
7885 \slide@undottedcline{%
7886 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7887 }{%
7888 }%
7889 \let\l@subslide\l@slide
7890 \@startlos
7891 }%
7892 \def\slide@contents{%
7893 \def\l@slide##1##2##3##4{%
7894 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7895 }%
7896 \let\l@subslide\@gobblefour
7897 \@startlos
7898 }%
7899 \def\Slide@contents{%
7900 \def\l@slide##1##2##3##4{%
7901 \ifcase\lslide@flag
7902 \message{##1 ** \the\c@slidesection}%
7903 \ifnum##1>\c@slidesection
7904 \def\lslide@flag{1}%
7905 {%
7906 \large
7907 \slide@ccline{%
7908 \slidenumberline{$\Rightarrow\bullet$}%
7909 {\hyperlink{##4}{##2}}}%
7910 }{##3}%
7911 }%
7912 \else
7913 {%
7914 \large
7915 \slide@ccline{%
7916 \slidenumberline{$\surd\;\bullet$}%
7917 {\hyperlink{##4}{##2}}}%
7918 }{##3}%
7919 }%
7920 \fi
7921 \or
7922 \def\lslide@flag{2}%

```

```

7923      {%
7924      \large
7925      \slide@cline{%
7926      \slidenumberline{$\bullet$}%
7927      {\hyperlink{##4}{##2}}%
7928      }{##3}%
7929      }%
7930      \or
7931      {%
7932      \large
7933      \slide@cline{%
7934      \slidenumberline{$\bullet$}%
7935      {\hyperlink{##4}{##2}}%
7936      }{##3}%
7937      }%
7938      \fi
7939      }%
7940      \def\l@subslide##1##2##3##4{%
7941      \ifnum\lslide@flag=1 %
7942      \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7943      \fi
7944      }%
7945      \def\lslide@flag{0}%
7946      \@startlos
7947      }%
7948      }{}

```

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.)

```

7949 \ifHy@texht
7950 \expandafter\endinput
7951 \fi
7952 \let\real@setref\@setref
7953 \def\@setref#1#2#3{% csname, extract group, refname
7954 \ifx#1\relax
7955 \protect\G@refundefinedtrue
7956 \nfss@text{\reset@font\bfseries ??}%
7957 \@latex@warning{%
7958 Reference ‘#3’ on page \thepage \space undefined%
7959 }%
7960 \else
7961 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7962 \fi
7963 }

```

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

```

7964 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7965 \begingroup
7966 \toks0={\hyper@@link{#5}{#4}}%
7967 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7968 \edef\x{\endgroup
7969 \the\toks0 {\the\toks1 }%
7970 }%
7971 \x
7972 }
7973 \def\@pagesetref#1#2#3{% csname, extract macro, ref

```

```

7974 \ifx#1\relax
7975   \protect\G@refundefinedtrue
7976   \nfss@text{\reset@font\bfseries ??}%
7977   \@latex@warning{%
7978     Reference '#3' on page \thepage \space undefined%
7979   }%
7980 \else
7981   \protect\hyper@@link
7982   {\expandafter\@fifthoffive#1}%
7983   {page.\expandafter\@secondoffive#1}%
7984   {\expandafter\@secondoffive#1}%
7985 \fi
7986 }

7987 </package>
7988 <*check>
7989 \checklatex
7990 \checkcommand\def\@setref#1#2#3{%
7991   \ifx#1\relax
7992     \protect\G@refundefinedtrue
7993     \nfss@text{\reset@font\bfseries ??}%
7994     \@latex@warning{%
7995       Reference '#3' on page \thepage\space undefined%
7996     }%
7997   \else
7998     \expandafter#2#1\null
7999   \fi
8000 }
8001 </check>
8002 <*package>

```

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

```

8003 \def\HyRef@StarSetRef#1{%
8004   \begingroup
8005   \Hy@safe@activetrue
8006   \edef\x{#1}%
8007   \@onelevel@sanitize\x
8008   \edef\x{\endgroup
8009     \noexpand\HyRef@@StarSetRef
8010     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8011   }%
8012   \x
8013 }
8014 \def\HyRef@@StarSetRef#1#2#3{%
8015   \ifx#1\@undefined
8016     \let#1\relax
8017   \fi
8018   \real@setref#1#3{#2}%
8019 }
8020 \def\@refstar#1{%
8021   \HyRef@StarSetRef{#1}\@firstoffive
8022 }
8023 \def\@pagerefstar#1{%
8024   \HyRef@StarSetRef{#1}\@secondoffive
8025 }
8026 \def\@namerefstar#1{%
8027   \HyRef@StarSetRef{#1}\@thirdoffive

```

```

8028 }
8029 \Hy@AtBeginDocument{%
8030   \@ifpackageloaded{varioref}{%
8031     \def\@Refstar#1{%
8032       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8033     }%
8034     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8035       \MakeUppercase#1%
8036     }%
8037     \DeclareRobustCommand*\@Ref{%
8038       \@ifstar\@Refstar\HyRef@Ref
8039     }%
8040     \def\HyRef@Ref#1{%
8041       \hyperref[{#1}]{\Ref*{#1}}%
8042     }%
8043     \def\Vr@f#1{%
8044       \leavevmode\unskip\vref@space
8045       \hyperref[{#1}]{%
8046         \Ref*{#1}%
8047         \let\vref@space\nobreakspace
8048         \@vpageref\unskip}{#1}%
8049       }%
8050     }%
8051     \def\vr@f#1{%
8052       \leavevmode\unskip\vref@space
8053       \begingroup
8054         \let\T@pageref\@pagerefstar
8055         \hyperref[{#1}]{%
8056           \ref*{#1}%
8057           \vpageref\unskip}{#1}%
8058         }%
8059       \endgroup
8060     }%
8061   }{}%
8062 }
8063 \DeclareRobustCommand*\@autopageref{%
8064   \@ifstar{%
8065     \HyRef@autopagerefname\pageref*%
8066   }\HyRef@autopageref
8067 }
8068 \def\HyRef@autopageref#1{%
8069   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8070 }
8071 \def\HyRef@autopagerefname{%
8072   \ltx@ifundefined{pageautorefname}{%
8073     \ltx@ifundefined{pagename}{%
8074       \Hy@Warning{No autoref name for 'page'}%
8075     }{%
8076       \pagename\nobreakspace
8077     }%
8078   }{%
8079     \pageautorefname\nobreakspace
8080   }%
8081 }
8082 \DeclareRobustCommand*\@autoref{%
8083   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8084 }

```

```

8085 \def\HyRef@autoref#1#2{%
8086   \begingroup
8087   \Hy@safe@activetrue
8088   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8089 \endgroup
8090 }
8091 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8092   \HyRef@ShowKeysRef{#2}%
8093   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8094   \edef\HyRef@thisref{%
8095     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8096   }%
8097   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8098   \Hy@safe@activesfalse
8099   #3{%
8100     \expandafter\@fifthoffive#1\@empty\@empty\@empty
8101   }{%
8102     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8103   }{%
8104     \HyRef@currentHtag
8105     \expandafter\@firstoffive#1\@empty\@empty\@empty
8106     \null
8107   }%
8108 \else
8109   \protect\G@refundefinedtrue
8110   \nfss@text{\reset@font\bfseries ??}%
8111   \@latex@warning{%
8112     Reference ‘#2’ on page \thepage\space undefined%
8113   }%
8114 \fi
8115 }
8116 \def\HyRef@testreftype#1.#2\.%
8117 \ltx@ifundefined{#1autorefname}{%
8118   \ltx@ifundefined{#1name}{%
8119     \HyRef@StripStar#1\*\@nil{#1}%
8120     \ltx@ifundefined{\HyRef@name autorefname}{%
8121       \ltx@ifundefined{\HyRef@name name}{%
8122         \def\HyRef@currentHtag{}%
8123         \Hy@Warning{No autoref name for ‘#1’}%
8124       }{%
8125         \edef\HyRef@currentHtag{%
8126           \expandafter\noexpand\csname\HyRef@name name\endcsname
8127           \noexpand~%
8128         }%
8129       }%
8130     }{%
8131       \edef\HyRef@currentHtag{%
8132         \expandafter\noexpand
8133         \csname\HyRef@name autorefname\endcsname
8134         \noexpand~%
8135       }%
8136     }%
8137   }{%
8138     \edef\HyRef@currentHtag{%
8139       \expandafter\noexpand\csname#1name\endcsname
8140       \noexpand~%
8141     }%

```



```

8142 }%
8143 }{%
8144 \edef\HyRef@currentHtag{%
8145 \expandafter\noexpand\csname#1autorefname\endcsname
8146 \noexpand~%
8147 }%
8148 }%
8149 }
8150 \def\HyRef@StripStar#1*\#2\@nil#3{%
8151 \def\HyRef@name{#2}%
8152 \ifx\HyRef@name\HyRef@CaseStar
8153 \def\HyRef@name{#1}%
8154 \else
8155 \def\HyRef@name{#3}%
8156 \fi
8157 }
8158 \def\HyRef@CaseStar{*\\}
8159 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8160 \let\HyRef@ShowKeysRef\@gobble
8161 \def\HyRef@ShowKeysInit{%
8162 \begingroup\expandafter\expandafter\expandafter\endgroup
8163 \expandafter\ifx\csname SK@@label\endcsname\relax
8164 \else
8165 \ifx\SK@ref\@empty
8166 \else
8167 \def\HyRef@ShowKeysRef{%
8168 \SK@\SK@@ref
8169 }%
8170 \fi
8171 \fi
8172 }
8173 \@ifpackageloaded{showkeys}{%
8174 \HyRef@ShowKeysInit
8175 }{%
8176 \Hy@AtBeginDocument{%
8177 \@ifpackageloaded{showkeys}{%
8178 \HyRef@ShowKeysInit
8179 }{}%
8180 }%
8181 }

```

Defaults for the names that \autoref uses.

```

8182 \providecommand*\AMSautorefname{\equationautorefname}
8183 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8184 \providecommand*\Itemautorefname{\itemautorefname}
8185 \providecommand*\itemautorefname{item}
8186 \providecommand*\equationautorefname{Equation}
8187 \providecommand*\footnoteautorefname{footnote}
8188 \providecommand*\itemautorefname{item}
8189 \providecommand*\figureautorefname{Figure}
8190 \providecommand*\tableautorefname{Table}
8191 \providecommand*\partautorefname{Part}
8192 \providecommand*\appendixautorefname{Appendix}
8193 \providecommand*\chapterautorefname{chapter}

```

```

8194 \providecommand*\sectionautorefname{section}
8195 \providecommand*\subsectionautorefname{subsection}
8196 \providecommand*\subsubsectionautorefname{subsubsection}
8197 \providecommand*\paragraphautorefname{paragraph}
8198 \providecommand*\subparagraphautorefname{subparagraph}
8199 \providecommand*\FancyVerbLineautorefname{line}
8200 \providecommand*\theoremautorefname{Theorem}
8201 \providecommand*\pageautorefname{page}
8202 </package>

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers `\pdfescapestring`.

```

8203 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8204 \RequirePackage{pdfTeXcmds}[2009/04/10]
8205 \begingroup\expandafter\expandafter\expandafter\endgroup
8206 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8207   \begingroup
8208     \catcode'\|0 %
8209     \@makeother\| %
8210     |@firstofone{|endgroup
8211     |def|Hy@pstringdef#1#2{%
8212       |begingroup
8213         |edef~{|string~}%
8214         |xdef|Hy@gtemp{#2}%
8215         |endgroup
8216         |let#1|Hy@gtemp
8217         |@onelevel@sanitize#1%
8218         |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8219         |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8220         |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8221       }%
8222       |def|Hy@ExchangeBackslash#1\#2|@nil{%
8223         #1%
8224         |ifx\#2\| %
8225         |else
8226           \| %
8227           |Hy@ReturnAfterFi{%
8228             |Hy@ExchangeBackslash#2|@nil
8229           }%
8230         |fi
8231       }%
8232     }%
8233     \def|Hy@ExchangeLeftParenthesis#1(#2\|@nil{%
8234       #1%
8235       \ifx\#2\| %
8236       \else
8237         \@backslashchar(%

```

```

8238 \Hy@ReturnAfterFi{%
8239 \Hy@ExchangeLeftParenthesis#2\@nil
8240 }%
8241 \fi
8242 }%
8243 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8244 #1%
8245 \ifx\#2\%
8246 \else
8247 \@backslashchar)%
8248 \Hy@ReturnAfterFi{%
8249 \Hy@ExchangeRightParenthesis#2\@nil
8250 }%
8251 \fi
8252 }%
8253 \else
8254 \def\Hy@pstringdef#1#2{%
8255 \begingroup
8256 \edef~{\string~}%
8257 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8258 \endgroup
8259 \let#1\Hy@gtemp
8260 }%
8261 \fi
8262 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8263 <*pdfTeX>
8264 \providecommand*{\XR@ext}{pdf}
8265 \Hy@setbreaklinks{true}
8266 \def\HyPat@ObjRef{%
8267 [0-9]*[1-9][0-9]* 0 R%
8268 }

```

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

Set PDF version if requested by option `pdfversion`.

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

```

8269 \let\Hy@pdfminorversion\relax
8270 \begingroup\expandafter\expandafter\expandafter\endgroup
8271 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8272 \begingroup\expandafter\expandafter\expandafter\endgroup
8273 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8274 \else
8275 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8276 \fi
8277 \else
8278 \def\Hy@pdfminorversion{\pdfminorversion}%
8279 \fi
8280 \ifundefined{Hy@pdfminorversion}{%
8281 \PackageInfo{hyperref}{%
8282 PDF version is not set, because pdfTeX is too old (<1.10a)%
8283 }%

```

```

8284 }{%
8285   \ifHy@ocgcolorlinks
8286     \ifnum\Hy@pdfminorversion<5 %
8287       \kvsetkeys{Hyp}{pdfversion=1.5}%
8288     \fi
8289   \fi
8290   \ifHy@setpdfversion
8291     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8292   \else
8293     \Hy@pdfminorversion=\Hy@pdfversion\relax
8294   \fi
8295   \PackageInfo{hyperref}{%
8296     \expandafter\string\Hy@pdfminorversion
8297     :=\number\Hy@pdfversion\space
8298   }%
8299   \fi
8300   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8301 }
8302 \Hy@DisableOption{pdfversion}%

8303 \ifHy@ocgcolorlinks
8304   \immediate\pdfobj{%
8305     <<%
8306       /Type/OCG%
8307       /Name(View)%
8308       /Usage<<%
8309         /Print<<%
8310           /PrintState/OFF%
8311         >>%
8312       /View<<%
8313         /ViewState/ON%
8314       >>%
8315     >>%
8316   >>%
8317 }%
8318 \edef\OBJ@OCG@view{\the\pdfflastobj\space 0 R}%
8319 \immediate\pdfobj{%
8320   <<%
8321     /Type/OCG%
8322     /Name(Print)%
8323     /Usage<<%
8324       /Print<<%
8325         /PrintState/ON%
8326       >>%
8327     /View<<%
8328       /ViewState/OFF%
8329     >>%
8330   >>%
8331 >>%
8332 }%
8333 \edef\OBJ@OCG@print{\the\pdfflastobj\space 0 R}%
8334 \immediate\pdfobj{%
8335   [%
8336     \OBJ@OCG@view\space\OBJ@OCG@print
8337   ]%
8338 }%
8339 \edef\OBJ@OCGs{\the\pdfflastobj\space 0 R}%
8340 \pdfcatalog{%

```

```

8341 /OCProperties<<%
8342 /OCGs \OBJ@OCGs
8343 /D<<%
8344 /OFF[\OBJ@OCG@print]%
8345 /AS[%
8346 <<%
8347 /Event/View%
8348 /OCGs \OBJ@OCGs
8349 /Category[/View]%
8350 >>%
8351 <<%
8352 /Event/Print%
8353 /OCGs \OBJ@OCGs
8354 /Category[/Print]%
8355 >>%
8356 <<%
8357 /Event/Export%
8358 /OCGs \OBJ@OCGs
8359 /Category[/Print]%
8360 >>%
8361 ]%
8362 >>%
8363 >>%
8364 }%
8365 \beginpgroup
8366 \edef\x{\endpgroup
8367 \pdfpageresources{%
8368 /Properties<<%
8369 /OCView \OBJ@OCG@view
8370 /OCPrint \OBJ@OCG@print
8371 >>%
8372 }%
8373 }%
8374 \x
8375 \Hy@AtBeginDocument{%
8376 \def\Hy@colorlink#1{%
8377 \beginpgroup
8378 \ifHy@ocgcolorlinks
8379 \def\Hy@ocgcolor{#1}%
8380 \setbox0=\hbox\bgroup\color@beginpgroup
8381 \else
8382 \HyColor@UseColor#1%
8383 \fi
8384 }%
8385 \def\Hy@endcolorlink{%
8386 \ifHy@ocgcolorlinks
8387 \color@endpgroup\egroup
8388 \mbox{%
8389 \pdfliteral page{/OC/OCPrint BDC}%
8390 \rlap{\copy0}%
8391 \pdfliteral page{EMC/OC/OCView BDC}%
8392 \beginpgroup
8393 \expandafter\HyColor@UseColor\Hy@ocgcolor
8394 \box0 %
8395 \endpgroup
8396 \pdfliteral page{EMC}%
8397 }%

```

```

8398     \fi
8399     \endgroup
8400   }%
8401 }%
8402 \else
8403   \Hy@DisableOption{ocgcolorlinks}%
8404 \fi

```

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

```

8405 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8406 \ifx\pdfstartlink\@undefined% less than version 14
8407   \let\pdfstartlink\pdfannotlink
8408   \let\pdfinkmargin\@tempdima
8409   \let\pdfxform\pdfform
8410   \let\pdfastxform\pdfastform
8411   \let\pdfrefxform\pdfrefform
8412 \else
8413   \pdfinkmargin1pt %
8414 \fi

```

First set up the default linking

```

8415 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8416 \def\new@pdfink#1{%
8417   \ifhmode
8418     \@savsf\spacefactor
8419   \fi
8420   \Hy@SaveLastskip
8421   \Hy@VerboseAnchor{#1}%
8422   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8423   \Hy@DestName\Hy@pstringDest\@pdfview
8424   \Hy@RestoreLastskip
8425   \ifhmode
8426     \spacefactor\@savsf
8427   \fi
8428 }
8429 \let\pdf@endanchor\@empty

```

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

```

8430 \def\Hy@DestName#1#2{%
8431   \pdfdest name{#1}#2\relax
8432 }

```

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.

```

8433 \providecommand*\@pdfborder{0 0 1}
8434 \providecommand*\@pdfborderstyle{}
8435 \def\Hy@undefinedname{UNDEFINED}
8436 \def\find@pdfink#1#2{%
8437   \leavevmode
8438   \protected@edef\Hy@testname{#2}%
8439   \ifx\Hy@testname\@empty
8440     \Hy@Warning{%
8441       Empty destination name,\MessageBreak

```

```

8442     using '\Hy@undefinedname'%
8443   }%
8444   \let\Hy@testname\Hy@undefinedname
8445 \else
8446   \Hy@pstringdef\Hy@testname{%
8447     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8448   }%
8449 \fi
8450 \Hy@StartlinkName{%
8451   \ifHy@pdfa /F 4\fi
8452   \Hy@setpdfborder
8453   \ifx\@pdfhighlight\@empty
8454   \else
8455     /H\@pdfhighlight
8456   \fi
8457   \ifx\CurrentBorderColor\relax
8458   \else
8459     /C[\CurrentBorderColor]%
8460   \fi
8461 } \Hy@testname
8462 \expandafter\Hy@colorlink\csname @#1color\endcsname
8463 }
8464 \def\Hy@StartlinkName#1#2{%
8465   \pdfstartlink attr{#1}goto name{#2}\relax
8466 }
8467 \def\close@pdfink{%
8468   \Hy@endcolorlink
8469   \Hy@VerboseLinkStop
8470   \pdfendlink
8471 }
8472 \def\hyper@anchor#1{%
8473   \new@pdfink{#1}\anchor@spot\pdf@endanchor
8474 }
8475 \def\hyper@anchorstart#1{%
8476   \new@pdfink{#1}%
8477   \Hy@activeanchortrue
8478 }
8479 \def\hyper@anchorend{%
8480   \pdf@endanchor
8481   \Hy@activeanchorfalse
8482 }
8483 \def\hyper@linkstart#1#2{%
8484   \Hy@VerboseLinkStart{#1}{#2}%
8485   \ltx@ifundefined{@#1bordercolor}{%
8486     \let\CurrentBorderColor\relax
8487   }{%
8488     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8489   }%
8490   \find@pdfink{#1}{#2}%
8491 }
8492 \def\hyper@linkend{\close@pdfink}
8493 \def\hyper@link#1#2#3{%
8494   \Hy@VerboseLinkStart{#1}{#2}%
8495   \ltx@ifundefined{@#1bordercolor}{%
8496     \let\CurrentBorderColor\relax
8497   }{%
8498     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```

```

8499 }%
8500 \find@pdfink{#1}{#2}#3%
8501 \close@pdfink
8502 }
8503 \let\CurrentBorderColor\@linkbordercolor
8504 \def\hyper@linkurl#1#2{%
8505 \begingroup
8506 \Hy@pstringdef\Hy@pstringURI{#2}%
8507 \hyper@chars
8508 \leavevmode
8509 \pdfstartlink
8510 attr{%
8511 \Hy@setpdfborder
8512 \ifx\@pdfhighlight\@empty
8513 \else
8514 /H\@pdfhighlight
8515 \fi
8516 \ifx\@urlbordercolor\relax
8517 \else
8518 /C[\@urlbordercolor]%
8519 \fi
8520 }%
8521 user{%
8522 /Subtype/Link%
8523 \ifHy@pdfa /F 4\fi
8524 /A<<%
8525 /Type/Action%
8526 /S/URI%
8527 /URI(\Hy@pstringURI)%
8528 \ifHy@href@ismap
8529 /IsMap true%
8530 \fi
8531 \Hy@href@nextactionraw
8532 >>%
8533 }%
8534 \relax
8535 \Hy@colorlink\@urlcolor#1%
8536 \close@pdfink
8537 \endgroup
8538 }
8539 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8540 \begingroup
8541 \def\Hy@pstringF{#2}%
8542 \Hy@CleanupFile\Hy@pstringF
8543 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8544 \Hy@pstringdef\Hy@pstringD{#3}%
8545 \Hy@MakeRemoteAction
8546 \leavevmode
8547 \pdfstartlink
8548 attr{%
8549 \Hy@setpdfborder
8550 \ifx\@pdfhighlight\@empty
8551 \else
8552 /H\@pdfhighlight
8553 \fi
8554 \ifx\@filebordercolor\relax
8555 \else

```



```

8556      /C[\@filebordercolor]%
8557      \fi
8558    }%
8559    user {%
8560      /Subtype/Link%
8561      \ifHy@pdfa /F 4\fi
8562      /A<<%
8563      /F(\Hy@pstringF)%
8564      /S/GoToR%
8565      \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}

```

```

8566      \ifx\#3\%
8567      /D[\Hy@href@page\@pdfremotestartview]%
8568    \else
8569      /D(\Hy@pstringD)%
8570    \fi
8571    \Hy@href@nextactionraw
8572    >>%
8573  }%
8574  \relax
8575  \Hy@colorlink\@filecolor#1%
8576  \close@pdfink
8577  \endgroup
8578 }
8579 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8580 \begingroup
8581   \Hy@pstringdef\Hy@pstringF{#1}%
8582   \Hy@pstringdef\Hy@pstringP{#3}%
8583   \leavevmode
8584   \pdfstartlink
8585   attr{%
8586     \Hy@setpdfborder
8587     \ifx\@pdfhighlight\@empty
8588     \else
8589       /H\@pdfhighlight
8590     \fi
8591     \ifx\@runbordercolor\relax
8592     \else
8593       /C[\@runbordercolor]%
8594     \fi
8595   }%
8596   user {%
8597     /Subtype/Link%
8598     \ifHy@pdfa /F 4\fi
8599     /A<<%
8600     /F(\Hy@pstringF)%
8601     /S/Launch%

```

```

8602 \Hy@SetNewWindow
8603 \ifx\|#3\|%
8604 \else
8605 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8606 \fi
8607 \Hy@href@nextactionraw
8608 >>%
8609 }%
8610 \relax
8611 \Hy@colorlink\@runcolor#2%
8612 \close@pdflink
8613 \endgroup
8614 }

```

\@pdfproducer

```

8615 \ifx\@pdfproducer\relax
8616 \begingroup\expandafter\expandafter\expandafter\endgroup
8617 \expandafter\ifx\csname luatexversion\endcsname\relax
8618 \def\@pdfproducer{pdfTeX}%
8619 \ifx\eTeXversion\@undefined
8620 \else
8621 \ifx\eTeXversion\relax
8622 \else
8623 \ifnum\eTeXversion>0 %
8624 \def\@pdfproducer{pdfTeX}%
8625 \fi
8626 \fi
8627 \fi
8628 \ifx\pdfTeXversion\@undefined
8629 \else
8630 \ifnum\pdfTeXversion<100 %
8631 \edef\@pdfproducer{%
8632 \@pdfproducer
8633 \the\pdfTeXversion.\pdfTeXrevision
8634 }%
8635 \else
8636 \ifnum\pdfTeXversion<130 %
8637 \edef\@pdfproducer{%
8638 \@pdfproducer-%
8639 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8640 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8641 \pdfTeXrevision
8642 }%
8643 \else
8644 \ifnum\pdfTeXversion<140 %
8645 \else
8646 \def\@pdfproducer{pdfTeX}%
8647 \fi
8648 \edef\@pdfproducer{%
8649 \@pdfproducer-%
8650 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8651 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8652 \pdfTeXrevision
8653 }%
8654 \fi
8655 \fi
8656 \fi

```

```

8657 \else
8658 \begingroup
8659 \count@=\luatexversion
8660 \divide\count@ by 100 %
8661 \edef\x{\the\count@}%
8662 \count@=-\x\relax
8663 \multiply\count@ by 100 %
8664 \advance\count@ by \luatexversion
8665 \edef\x{\endgroup
8666 \def\noexpand\@pdfproducer{%
8667 LuaTeX-\x.\the\count@.\luatexrevision
8668 }%
8669 }%
8670 \x
8671 \fi
8672 \fi

```

\PDF@SetupDox

```

8673 \def\PDF@SetupDoc{%
8674 \ifx\@pdfpagescrop\@empty
8675 \else
8676 \edef\process@me{%
8677 \pdfpagesattr={%
8678 /CropBox[\@pdfpagescrop]%
8679 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8680 \else
8681 ^^J\the\pdfpagesattr
8682 \fi
8683 }%
8684 }%
8685 \process@me
8686 \fi
8687 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8688 \pdfcatalog{%
8689 /PageMode/\@pdfpagemode
8690 \ifx\@baseurl\@empty
8691 \else
8692 /URI<</Base(\Hy@pstringB)>>%
8693 \fi
8694 }%
8695 \ifx\@pdfstartpage\@empty
8696 \else
8697 \ifx\@pdfstartview\@empty
8698 \else
8699 openaction goto page\@pdfstartpage{\@pdfstartview}%
8700 \fi
8701 \fi
8702 \edef\Hy@temp{%
8703 \ifHy@toolbar\else /HideToolbar true\fi
8704 \ifHy@menubar\else /HideMenubar true\fi
8705 \ifHy>windowui\else /HideWindowUI true\fi
8706 \ifHy@fitwindow /FitWindow true\fi
8707 \ifHy@centerwindow /CenterWindow true\fi
8708 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8709 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
8710 \Hy@UseNameKey{Direction}\@pdfdirection
8711 \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

8712 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8713 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8714 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8715 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8716 \Hy@UseNameKey{Duplex}\@pdfduplex
8717 \ifx\@pdfpicktraybypdfsize\@empty
8718 \else
8719 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8720 \fi
8721 \ifx\@pdfprintpagerange\@empty
8722 \else
8723 /PrintPageRange\@pdfprintpagerange]%
8724 \fi
8725 \ifx\@pdfnumcopies\@empty
8726 \else
8727 /NumCopies \@pdfnumcopies
8728 \fi
8729 }%
8730 \pdfcatalog{%
8731 \ifx\Hy@temp\@empty
8732 \else
8733 /ViewerPreferences<<\Hy@temp>>%
8734 \fi
8735 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8736 \ifx\@pdflang\@empty
8737 \else
8738 /Lang(\@pdflang)%
8739 \fi
8740 }%
8741 }

```

\PDF@FinishDoc

```

8742 \def\PDF@FinishDoc{%
8743 \Hy@UseMaketitleInfos
8744 \HyInfo@GenerateAddons
8745 \pdfinfo{%
8746 /Author(\@pdfauthor)%
8747 /Title(\@pdftitle)%
8748 /Subject(\@pdfsubject)%
8749 /Creator(\@pdfcreator)%
8750 \ifx\@pdfcreationdate\@empty
8751 \else
8752 /CreationDate(\@pdfcreationdate)%
8753 \fi
8754 \ifx\@pdfmoddate\@empty
8755 \else
8756 /ModDate(\@pdfmoddate)%
8757 \fi
8758 \ifx\@pdfproducer\relax
8759 \else
8760 /Producer(\@pdfproducer)%
8761 \fi
8762 /Keywords(\@pdfkeywords)%
8763 \ifx\@pdftrapped\@empty
8764 \else
8765 /Trapped/\@pdftrapped
8766 \fi

```

```

8767 \HyInfo@Addons
8768 }%
8769 \Hy@DisableOption{pdfauthor}%
8770 \Hy@DisableOption{pdftitle}%
8771 \Hy@DisableOption{pdfsubject}%
8772 \Hy@DisableOption{pdfcreator}%
8773 \Hy@DisableOption{pdfcreationdate}%
8774 \Hy@DisableOption{pdfmoddate}%
8775 \Hy@DisableOption{pdfproducer}%
8776 \Hy@DisableOption{pdfkeywords}%
8777 \Hy@DisableOption{pdftrapped}%
8778 \Hy@DisableOption{pdfinfo}%
8779 }

```

`\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`.

```

8780 \def\hyper@pagetransition{%
8781 \ifx\@pdfpagetransition\relax
8782 \else
8783 \expandafter\Hy@RemoveTransPageAttr
8784 \the\pdfpageattr^^J/Trans{>>\END
8785 \ifx\@pdfpagetransition\@empty
8786 \else
8787 \edef\@processme{%
8788 \global\pdfpageattr{%
8789 \the\pdfpageattr
8790 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8791 }%
8792 }%
8793 \@processme
8794 \fi
8795 \fi
8796 }

```

`\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.

```

8797 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8798 \ifx\#2\%
8799 \global\pdfpageattr{#1}%
8800 \else
8801 \Hy@RemoveTransPageAttr#1#4\END
8802 \fi
8803 }

```

`\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`.

```

8804 \def\hyper@pageduration{%
8805 \ifx\@pdfpageduration\relax
8806 \else
8807 \expandafter
8808 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ \END
8809 \ifx\@pdfpageduration\@empty
8810 \else

```

```

8811 \edef\@processme{%
8812 \global\pdfpageattr{%
8813 \the\pdfpageattr
8814 ^^J/Dur \@pdfpageduration\space
8815 }%
8816 }%
8817 \@processme
8818 \fi
8819 \fi
8820 }

```

`\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.

```

8821 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8822 \ifx\#2\%
8823 \global\pdfpageattr{#1}%
8824 \else
8825 \Hy@RemoveDurPageAttr#1#4\END
8826 \fi
8827 }

```

`\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).

```

8828 \def\hyper@pagehidden{%
8829 \ifHy@useHidKey
8830 \expandafter
8831 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END
8832 \ifHy@pdfpagehidden
8833 \edef\@processme{%
8834 \global\pdfpageattr{%
8835 \the\pdfpageattr
8836 ^^J/Hid true % SPACE
8837 }%
8838 }%
8839 \@processme
8840 \fi
8841 \fi
8842 }

```

`\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.

```

8843 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8844 \ifx\#2\%
8845 \global\pdfpageattr{#1}%
8846 \else
8847 \Hy@RemoveHidPageAttr#1#4\END
8848 \fi
8849 }

```

```

8850 \g@addto@macro\Hy@EveryPageHook{%
8851 \hyper@pagetransition
8852 \hyper@pageduration

```

```

8853 \hyper@pagehidden
8854 }

```

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

```

8855 </pdfTeX>
8856 <*pdfTeX | xetex>
8857 \Hy@AtBeginDocument{%
8858   \ifHy@setpagesize
8859     \expandafter\@firstofone
8860   \else
8861     \expandafter\@gobble
8862   \fi
8863   {%
8864     \@ifclassloaded{seminar}{%
8865 <*pdfTeX>
8866   \setlength{\pdfhorigin}{1truein}%
8867   \setlength{\pdfvorigin}{1truein}%
8868 </pdfTeX>
8869   \ifportrait
8870     \ifdim\paperwidth=\z@
8871     \else
8872       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8873     \fi
8874     \ifdim\paperheight=\z@
8875     \else
8876       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8877     \fi
8878   \else
8879     \ifdim\paperheight=\z@
8880     \else
8881       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8882     \fi
8883     \ifdim\paperwidth=\z@
8884     \else
8885       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8886     \fi
8887   \fi
8888 }{%
8889 \ltx@ifundefined{stockwidth}{%
8890   \ifdim\paperwidth>\z@
8891     \setlength{\pdfpagewidth}{\paperwidth}%
8892   \fi
8893   \ifdim\paperheight>\z@
8894     \setlength{\pdfpageheight}{\paperheight}%
8895   \fi
8896 }{%
8897   \ifdim\stockwidth>\z@
8898     \setlength{\pdfpagewidth}{\stockwidth}%
8899   \fi
8900   \ifdim\stockheight>\z@
8901     \setlength{\pdfpageheight}{\stockheight}%
8902   \fi
8903 }%
8904 }%
8905 }%
8906 \Hy@DisableOption{setpagesize}%
8907 }

```

```

8908 </pdfTeX | xetex>
8909 <*pdfTeX>
8910 \def\Acrobatmenu#1#2{%
8911   \Hy@Acrobatmenu{#1}{#2}{%
8912     \pdfstartlink
8913     attr{%
8914       \Hy@setpdfborder
8915       \ifx\@pdfhighlight\@empty
8916       \else
8917         /H\@pdfhighlight
8918       \fi
8919       \ifx\@menubordercolor\relax
8920       \else
8921         /C[\@menubordercolor]%
8922       \fi
8923     }%
8924     user{%
8925       /Subtype/Link%
8926       \ifHy@pdfa /F 4\fi
8927       /A<<%
8928         /S/Named%
8929         /N/#1%
8930       \Hy@href@nextactionraw
8931       >>%
8932     }%
8933     \relax
8934     \Hy@colorlink\@menucolor#2%
8935     \close@pdflink
8936   }%
8937 }

```

46.2.1 Fix for problem with different nesting levels

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

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

```

8938 \def\Hy@FixNotFirstPage{%
8939   \gdef\Hy@FixNotFirstPage{%
8940     \setbox\AtBeginShipoutBox=\hbox{%
8941       \copy\AtBeginShipoutBox
8942     }%
8943   }%
8944 }
8945 \AtBeginShipout{\Hy@FixNotFirstPage}
8946 </pdfTeX>

```

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

```
8947 \providecommand*{\XR@ext}{dvi}
8948 \def\PDF@FinishDoc{}
8949 \def\PDF@SetupDoc{%
8950   \ifx\@baseurl\@empty
8951   \else
8952     \special{html:<base href="\@baseurl">}%
8953   \fi
8954 }
8955 \def\hyper@anchor#1{%
8956   \Hy@SaveLastskip
8957   \Hy@VerboseAnchor{#1}%
8958   \begingroup
8959     \let\protect=\string
8960     \hyper@chars
8961     \special{html:<a name=%
8962       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8963   \endgroup
8964   \Hy@activeanchortrue
8965   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8966   \special{html:</a>}%
8967   \Hy@activeanchorfalse
8968   \Hy@RestoreLastskip
8969 }
8970 \def\hyper@anchorstart#1{%
8971   \Hy@SaveLastskip
8972   \Hy@VerboseAnchor{#1}%
8973   \begingroup
8974     \hyper@chars
8975     \special{html:<a name=%
8976       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8977   \endgroup
8978 }
```

```

8979 \Hy@activeanchortrue
8980 }
8981 \def\hyper@anchorend{%
8982 \special{html:</a>}%
8983 \Hy@activeanchorfalse
8984 \Hy@RestoreLastskip
8985 }
8986 \def\@urltype{url}
8987 \def\hyper@linkstart#1#2{%
8988 \Hy@VerboseLinkStart{#1}{#2}%
8989 \expandafter\Hy@colorlink\csname @#1color\endcsname
8990 \def\Hy@tempa{#1}%
8991 \ifx\Hy@tempa\@urltype
8992 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8993 \else
8994 \begingroup
8995 \hyper@chars
8996 \special{html:<a href=%
8997 \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
8998 \endgroup
8999 \fi
9000 }
9001 \def\hyper@linkend{%
9002 \special{html:</a>}%
9003 \Hy@endcolorlink
9004 }
9005 \def\hyper@linkfile#1#2#3{%
9006 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9007 }
9008 \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.

```

9009 \leavevmode
9010 \ifHy@raiselinks
9011 \Hy@SaveSpaceFactor
9012 \Hy@SaveSavedSpaceFactor
9013 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9014 \Hy@RestoreSavedSpaceFactor
9015 \@linkdim\dp\@tempboxa
9016 \lower\@linkdim\hbox{%
9017 \hyper@chars
9018 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9019 }%
9020 \Hy@colorlink\@urlcolor
9021 \Hy@RestoreSpaceFactor
9022 #1%
9023 \Hy@SaveSpaceFactor
9024 \@linkdim\ht\@tempboxa

```

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

```

9025 \advance\@linkdim by -6.5\p@
9026 \raise\@linkdim\hbox{\special{html:</a>}}%
9027 \Hy@endcolorlink
9028 \Hy@RestoreSpaceFactor
9029 \else

```

```

9030 \begingroup
9031 \hyper@chars
9032 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9033 \Hy@colorlink\@urlcolor#1%
9034 \special{html:</a>}%
9035 \Hy@endcolorlink
9036 \endgroup
9037 \fi
9038 }

```

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

```

9039 \def\hyper@link#1#2#3{%
9040 \Hy@VerboseLinkStart{#1}{#2}%
9041 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
9042 }

9043 \def\hyper@image#1#2{%
9044 \begingroup
9045 \hyper@chars
9046 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9047 \endgroup
9048 }
9049 </hypertex>
9050 <*dviwindo>

```

46.4 dviwindo

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

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

```

9051 \providecommand*{\XR@ext}{dvi}
9052 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9053 \def\hyper@anchor#1{%
9054 \Hy@SaveLastskip
9055 \Hy@VerboseAnchor{#1}%
9056 \begingroup
9057 \let\protect=\string
9058 \special{mark: #1}%
9059 \endgroup
9060 \Hy@activeanchortrue
9061 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9062 \Hy@activeanchorfalse
9063 \Hy@RestoreLastskip
9064 }
9065 \def\hyper@anchorstart#1{%
9066 \Hy@SaveLastskip
9067 \Hy@VerboseAnchor{#1}%
9068 \special{mark: #1}%
9069 \Hy@activeanchortrue
9070 }

```

```

9071 \def\hyper@anchorend{%
9072   \Hy@activeanchorfalse
9073   \Hy@RestoreLastskip
9074 }
9075 \def\hyper@linkstart#1#2{%
9076   \Hy@VerboseLinkStart{#1}{#2}%
9077   \expandafter\Hy@colorlink\csname @#1color\endcsname
9078   \special{button: %
9079     10000000 %
9080     \number\baselineskip\space
9081     #2%
9082   }%
9083 }
9084 \def\hyper@linkend{%
9085   \Hy@endcolorlink
9086 }
9087 \def\hyper@link#1#2#3{%
9088   \Hy@VerboseLinkStart{#1}{#2}%
9089   \leavevmode
9090   \ifHy@raiselinks
9091     \Hy@SaveSpaceFactor
9092     \Hy@SaveSavedSpaceFactor
9093     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9094     \Hy@RestoreSavedSpaceFactor
9095     \@linkdim\dp\@tempboxa
9096     \lower\@linkdim\hbox{%
9097       \special{button: %
9098         \number\wd\@tempboxa\space
9099         \number\ht\@tempboxa\space
9100         #2%
9101       }%
9102       \expandafter\Hy@colorlink\csname @#1color\endcsname
9103       \Hy@RestoreSpaceFactor
9104       #3%
9105       \Hy@SaveSpaceFactor
9106       \Hy@endcolorlink
9107     }%
9108     \@linkdim\ht\@tempboxa
9109     \advance\@linkdim by -6.5\p@
9110     \raise\@linkdim\hbox{}%
9111     \Hy@RestoreSpaceFactor
9112   \else
9113     \special{button: %
9114       \number\wd\@tempboxa\space
9115       \number\ht\@tempboxa\space
9116       #2%
9117     }%
9118     \expandafter\Hy@colorlink\csname @#1color\endcsname
9119     #3%
9120     \Hy@endcolorlink
9121   \fi
9122 }
9123 \def\hyper@linkurl#1#2{%
9124   \begingroup
9125   \hyper@chars
9126   \leavevmode
9127   \ifHy@raiselinks

```

```

9128 \Hy@SaveSpaceFactor
9129 \Hy@SaveSavedSpaceFactor
9130 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9131 \Hy@RestoreSavedSpaceFactor
9132 \@linkdim\dp\@tempboxa
9133 \lower\@linkdim\hbox{%
9134 \special{button: %
9135 \number\wd\@tempboxa\space
9136 \number\ht\@tempboxa\space
9137 launch: \wwwbrowser\space
9138 #2%
9139 }%
9140 \Hy@colorlink\@urlcolor
9141 \Hy@RestoreSpaceFactor
9142 #1%
9143 \Hy@SaveSpaceFactor
9144 \Hy@endcolorlink
9145 }%
9146 \@linkdim\ht\@tempboxa
9147 \advance\@linkdim by -6.5\p@
9148 \raise\@linkdim\hbox{}%
9149 \Hy@RestoreSpaceFactor
9150 \else
9151 \special{button: %
9152 \number\wd\@tempboxa\space
9153 \number\ht\@tempboxa\space
9154 launch: \wwwbrowser\space
9155 #2%
9156 }%
9157 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9158 \fi
9159 \endgroup
9160 }
9161 \def\hyper@linkfile#1#2#3{%
9162 \begingroup
9163 \hyper@chars
9164 \leavevmode
9165 \ifHy@raiselinks
9166 \Hy@SaveSpaceFactor
9167 \Hy@SaveSavedSpaceFactor
9168 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9169 \Hy@RestoreSavedSpaceFactor
9170 \@linkdim\dp\@tempboxa
9171 \lower\@linkdim\hbox{%
9172 \special{button: %
9173 \number\wd\@tempboxa\space
9174 \number\ht\@tempboxa\space
9175 #3,%
9176 file: #2%
9177 }%
9178 \Hy@colorlink\@filecolor
9179 \Hy@RestoreSpaceFactor
9180 #1%
9181 \Hy@SaveSpaceFactor
9182 \Hy@endcolorlink
9183 }%
9184 \@linkdim\ht\@tempboxa

```

```

9185 \advance\@linkdim by -6.5\p@
9186 \raise\@linkdim\hbox{}%
9187 \Hy@RestoreSpaceFactor
9188 \else
9189 \special{button: %
9190 \number\wd\@tempboxa\space
9191 \number\ht\@tempboxa\space
9192 #3,%
9193 file: #2%
9194 }%
9195 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9196 \fi
9197 \endgroup
9198 }
9199 \ifx\@pdfproducer\relax
9200 \def\@pdfproducer{dviwindo + Distiller}%
9201 \fi
9202 \HyInfo@AddonUnsupportedtrue
9203 \def\PDF@FinishDoc{%
9204 \Hy@UseMaketitleInfos
9205 \HyInfo@TrappedUnsupported
9206 \special{PDF: Keywords \@pdfkeywords}%
9207 \special{PDF: Title \@pdftitle}%
9208 \special{PDF: Creator \@pdfcreator}%
9209 \ifx\@pdfcreationdate\@empty
9210 \else
9211 \special{PDF: CreationDate \@pdfcreationdate}%
9212 \fi
9213 \ifx\@pdfmoddate\@empty
9214 \else
9215 \special{PDF: ModDate \@pdfmoddate}%
9216 \fi
9217 \special{PDF: Author \@pdfauthor}%
9218 \ifx\@pdfproducer\relax
9219 \else
9220 \special{PDF: Producer \@pdfproducer}%
9221 \fi
9222 \special{PDF: Subject \@pdfsubject}%
9223 \Hy@DisableOption{pdfauthor}%
9224 \Hy@DisableOption{pdftitle}%
9225 \Hy@DisableOption{pdfsubject}%
9226 \Hy@DisableOption{pdfcreator}%
9227 \Hy@DisableOption{pdfcreationdate}%
9228 \Hy@DisableOption{pdfmoddate}%
9229 \Hy@DisableOption{pdfproducer}%
9230 \Hy@DisableOption{pdfkeywords}%
9231 \Hy@DisableOption{pdftrapped}%
9232 \Hy@DisableOption{pdfinfo}%
9233 }
9234 \def\PDF@SetupDoc{%
9235 \ifx\@baseurl\@empty
9236 \else
9237 \special{PDF: Base \@baseurl}%
9238 \fi
9239 \ifx\@pdfpagescrop\@empty\else
9240 \special{PDF: BBox \@pdfpagescrop}%
9241 \fi

```

```

9242 \def\Hy@temp{}%
9243 \ifx\@pdfstartpage\@empty
9244 \else
9245 \ifx\@pdfstartview\@empty
9246 \else
9247 \edef\Hy@temp{%
9248 ,Page=\@pdfstartpage
9249 ,View=\@pdfstartview
9250 }%
9251 \fi
9252 \fi
9253 \edef\Hy@temp{%
9254 \noexpand\pdfmark{%
9255 pdfmark=/DOCVIEW,%
9256 PageMode=/\@pdfpagemode
9257 \Hy@temp
9258 }%
9259 }%
9260 \Hy@temp
9261 \ifx\@pdfpagescrop\@empty
9262 \else
9263 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9264 \fi
9265 \edef\Hy@temp{%
9266 \ifHy@toolbar\else /HideToolbar true\fi
9267 \ifHy@menubar\else /HideMenubar true\fi
9268 \ifHy>windowui\else /HideWindowUI true\fi
9269 \ifHy@fitwindow /FitWindow true\fi
9270 \ifHy@centerwindow /CenterWindow true\fi
9271 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9272 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9273 \Hy@UseNameKey{Direction}\@pdfdirection
9274 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9275 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9276 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9277 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9278 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9279 \Hy@UseNameKey{Duplex}\@pdfduplex
9280 \ifx\@pdfpicktraybypdfsize\@empty
9281 \else
9282 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9283 \fi
9284 \ifx\@pdfprintpagerange\@empty
9285 \else
9286 /PrintPageRange[\@pdfprintpagerange]%
9287 \fi
9288 \ifx\@pdfnumcopies\@empty
9289 \else
9290 /NumCopies \@pdfnumcopies
9291 \fi
9292 }%
9293 \pdfmark{pdfmark=/PUT,%
9294 Raw={%
9295 \string{Catalog\string}<<%
9296 \ifx\Hy@temp\@empty
9297 \else
9298 /ViewerPreferences<<\Hy@temp>>%

```

```

9299     \fi
9300     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9301     \ifx\@pdflang\@empty
9302     \else
9303         /Lang(\@pdflang)%
9304     \fi
9305     >>%
9306 }%
9307 }%
9308 }
9309 </dviwindo>
9310 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9311 \providecommand*{\XR@ext}{pdf}
9312 \Hy@setbreaklinks{true}
9313 \def\HyPat@ObjRef{%
9314   @[\~ ]+%
9315 }
9316 \newsavebox{\pdfm@box}
9317 \def\@pdfm@mark#1{\special{pdf:#1}}
9318 \def\@pdfm@dest#1{%
9319   \Hy@SaveLastskip
9320   \Hy@VerboseAnchor{#1}%
9321   \begingroup
9322     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9323     \def\x{XYZ}%
9324     \ifx\x\@pdfview
9325       \def\x{XYZ @xpos @ypos null}%
9326     \else
9327       \def\x{FitH}%
9328       \ifx\x\@pdfview
9329         \def\x{FitH @ypos}%
9330       \else
9331         \def\x{FitBH}%
9332         \ifx\x\@pdfview
9333           \def\x{FitBH @ypos}%
9334         \else
9335           \def\x{FitV}%
9336           \ifx\x\@pdfview
9337             \def\x{FitV @xpos}%
9338           \else
9339             \def\x{FitBV}%
9340             \ifx\x\@pdfview
9341               \def\x{FitBV @xpos}%
9342             \else
9343               \def\x{Fit}%
9344               \ifx\x\@pdfview
9345                 \let\x\@pdfview
9346               \else
9347                 \def\x{FitB}%
9348                 \ifx\x\@pdfview
9349                   \let\x\@pdfview
9350                 \else
9351                   \def\x{FitR}%

```



```

9352         \ifx\x\@pdfview
9353         \Hy@Warning{'pdfview=FitR' is not supported}%
9354         \def\x{XYZ @xpos @ypos null}%
9355     \else
9356         \@onelevel@sanitize\@pdfview
9357         \Hy@Warning{%
9358             Unknown value '\@pdfview' for pdfview%
9359         }%
9360         \def\x{XYZ @xpos @ypos null}%
9361     \fi
9362 \fi
9363 \fi
9364 \fi
9365 \fi
9366 \fi
9367 \fi
9368 \fi
9369 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9370 \endgroup
9371 \Hy@RestoreLastskip
9372 }
9373 \providecommand*\@pdfview{XYZ}
9374 \providecommand*\@pdfborder{0 0 1}
9375 \providecommand*\@pdfborderstyle{}
9376 \def\hyper@anchor#1{%
9377     \@pdfm@dest{#1}%
9378 }
9379 \def\hyper@anchorstart#1{%
9380     \Hy@activeanchortrue
9381     \@pdfm@dest{#1}%
9382 }
9383 \def\hyper@anchorend{%
9384     \Hy@activeanchorfalse
9385 }
9386 \newcounter{Hy@AnnotLevel}
9387 \ifHy@ocgcolorlinks
9388     \def\OBJ@OCG@view{@OCG@view}%
9389     \@pdfm@mark{%
9390         obj \OBJ@OCG@view <<%
9391         /Type/OCG%
9392         /Name(View)%
9393         /Usage<<%
9394         /Print<<%
9395         /PrintState/OFF%
9396         >>%
9397         /View<<%
9398         /ViewState/ON%
9399         >>%
9400         >>%
9401         >>%
9402     }%
9403     \@pdfm@mark{close \OBJ@OCG@view}%
9404     \def\OBJ@OCG@print{@OCG@print}%
9405     \@pdfm@mark{%
9406         obj \OBJ@OCG@print <<%
9407         /Type/OCG%
9408         /Name(Print)%

```

```

9409     /Usage<<%
9410     /Print<<%
9411     /PrintState/ON%
9412     >>%
9413     /View<<%
9414     /ViewState/OFF%
9415     >>%
9416     >>%
9417     >>%
9418 }%
9419 \@pdfm@mark{close \OBJ@OCG@print}%
9420 \def\OBJ@OCGs{@OCGs}%
9421 \@pdfm@mark{%
9422     obj \OBJ@OCGs [%
9423         \OBJ@OCG@view\space\OBJ@OCG@print
9424     ]%
9425 }%
9426 \@pdfm@mark{close \OBJ@OCGs}%
9427 \@pdfm@mark{%
9428     put @catalog <<%
9429         /OCProperties<<%
9430         /OCGs \OBJ@OCGs
9431         /D<<%
9432         /OFF[\OBJ@OCG@print]%
9433         /AS[%
9434             <<%
9435                 /Event/View%
9436                 /OCGs \OBJ@OCGs
9437                 /Category[/View]%
9438             >>%
9439             <<%
9440                 /Event/Print%
9441                 /OCGs \OBJ@OCGs
9442                 /Category[/Print]%
9443             >>%
9444             <<%
9445                 /Event/Export%
9446                 /OCGs \OBJ@OCGs
9447                 /Category[/Print]%
9448             >>%
9449         ]%
9450     >>%
9451     >>%
9452     >>%
9453 }%
9454 \AtBeginShipout{%
9455     \setbox\AtBeginShipoutBox=\hbox{%
9456         \copy\AtBeginShipoutBox
9457         \@pdfm@mark{%
9458             put @resources <<%
9459                 /Properties<<%
9460                 /OCView \OBJ@OCG@view
9461                 /OCPrint \OBJ@OCG@print
9462             >>%
9463             >>%
9464         }%
9465     }%

```

```

9466 }%
9467 \Hy@AtBeginDocument{%
9468 \def\Hy@colorlink#1{%
9469 \begingroup
9470 \ifHy@ocgcolorlinks
9471 \def\Hy@ocgcolor{#1}%
9472 \setbox0=\hbox\bgroup\color@begingroup
9473 \else
9474 \HyColor@UseColor#1%
9475 \fi
9476 }%
9477 \def\Hy@endcolorlink{%
9478 \ifHy@ocgcolorlinks
9479 \color@endgroup\egroup
9480 \mbox{%
9481 \@pdfm@mark{content /OC/OCPrint BDC}%
9482 \rlap{\copy0}%
9483 \@pdfm@mark{content EMC/OC/OCView BDC}%
9484 \begingroup
9485 \expandafter\HyColor@UseColor\Hy@ocgcolor
9486 \box0 %
9487 \endgroup
9488 \@pdfm@mark{content EMC}%
9489 }%
9490 \fi
9491 \endgroup
9492 }%
9493 }%
9494 \else
9495 \Hy@DisableOption{ocgcolorlinks}%
9496 \fi

9497 \def\Hy@BeginAnnot#1{%
9498 \stepcounter{Hy@AnnotLevel}%
9499 \ifnum\value{Hy@AnnotLevel}=\@ne
9500 #1%
9501 \fi
9502 }
9503 \def\Hy@EndAnnot{%
9504 \ifnum\value{Hy@AnnotLevel}=\@ne
9505 \Hy@endcolorlink
9506 \@pdfm@mark{eann}%
9507 \fi
9508 \addtocounter{Hy@AnnotLevel}\m@ne
9509 }

9510 \def\Hy@undefinedname{UNDEFINED}
9511 \def\hyper@linkstart#1#2{%
9512 \Hy@VerboseLinkStart{#1}{#2}%
9513 \Hy@BeginAnnot{%
9514 \protected@edef\Hy@testname{#2}%
9515 \ifx\Hy@testname\@empty
9516 \Hy@Warning{%
9517 Empty destination name,\MessageBreak
9518 using '\Hy@undefinedname'%
9519 }%
9520 \let\Hy@testname\Hy@undefinedname
9521 \else
9522 \Hy@pstringdef\Hy@testname{%

```

```

9523     \expandafter\HyperDestNameFilter\expandafter{%
9524         \Hy@testname
9525     }%
9526 }%
9527 \fi
9528 \@pdfm@mark{%
9529     bann<<%
9530     /Type/Annot%
9531     /Subtype/Link%
9532     \ifHy@pdfa /F 4\fi
9533     \Hy@setpdfborder
9534     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9535     \else
9536         /C[\csname @#1bordercolor\endcsname]%
9537     \fi
9538     /A<<%
9539     /S/GoTo%
9540     /D(\Hy@testname)%
9541     \Hy@href@nextactionraw
9542     >>%
9543     >>%
9544 }%
9545 \expandafter\Hy@colorlink\csname @#1color\endcsname
9546 }%
9547 }
9548 \def\hyper@linkend{\Hy@EndAnnot}%
9549 \def\hyper@link#1#2#3{%
9550     \hyper@linkstart{#1}{#2}#3\hyper@linkend
9551 }
9552 \def\hyper@linkfile#1#2#3{%
9553     \leavevmode
9554     \Hy@BeginAnnot{%
9555         \def\Hy@pstringF{#2}%
9556         \Hy@CleanupFile\Hy@pstringF
9557         \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9558         \Hy@pstringdef\Hy@pstringD{#3}%
9559         \Hy@MakeRemoteAction
9560         \@pdfm@mark{%
9561             bann<<%
9562             /Type/Annot%
9563             /Subtype/Link%
9564             \ifHy@pdfa /F 4\fi
9565             \Hy@setpdfborder
9566             \ifx\@filebordercolor\relax
9567             \else
9568                 /C[\@filebordercolor]%
9569             \fi
9570             /A<<%
9571             /S/GoToR%
9572             /F(\Hy@pstringF)%
9573             /D%
9574             \ifx\@#3\@%
9575                 [\Hy@href@page\@pdfremotestartview]%
9576             \else
9577                 (\Hy@pstringD)%
9578             \fi
9579             \Hy@SetNewWindow

```

```

9580      \Hy@href@nextactionraw
9581      >>%
9582      >>%
9583      }%
9584      \Hy@colorlink\@filecolor
9585      }%
9586      #1%
9587      \Hy@endAnnot
9588      }
9589      \def\hyper@linkurl#1#2{%
9590      \leavevmode
9591      \Hy@BeginAnnot{%
9592      \Hy@pstringdef\Hy@pstringURI{#2}%
9593      \@pdfm@mark{%
9594      bann<<%
9595      /Type/Annot%
9596      /Subtype/Link%
9597      \ifHy@pdfa /F 4\fi
9598      \Hy@setpdfborder
9599      \ifx\@urlbordercolor\relax
9600      \else
9601      /C[\@urlbordercolor]%
9602      \fi
9603      /A<<%
9604      /S/URI%
9605      /URI(\Hy@pstringURI)%
9606      \ifHy@href@ismap
9607      /IsMap true%
9608      \fi
9609      \Hy@href@nextactionraw
9610      >>%
9611      >>%
9612      }%
9613      \Hy@colorlink\@urlcolor
9614      }%
9615      #1%
9616      \Hy@endAnnot
9617      }
9618      \def\Acrobatmenu#1#2{%
9619      \Hy@Acrobatmenu{#1}{#2}{%
9620      \Hy@BeginAnnot{%
9621      \@pdfm@mark{%
9622      bann<<%
9623      /Type/Annot%
9624      /Subtype/Link%
9625      \ifHy@pdfa /F 4\fi
9626      /A<<%
9627      /S/Named%
9628      /N/#1%
9629      \Hy@href@nextactionraw
9630      >>%
9631      \Hy@setpdfborder
9632      \ifx\@menubordercolor\relax
9633      \relax
9634      /C[\@menubordercolor]%
9635      \fi
9636      >>%

```

```

9637 }%
9638 \Hy@colorlink\@menucolor
9639 }%
9640 #2%
9641 \Hy@EndAnnot
9642 }%
9643 }
9644 \ifx\@pdfproducer\relax
9645 \def\@pdfproducer{dvipdfm}%

```

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

```

9646 \begingroup\expandafter\expandafter\expandafter\endgroup
9647 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9648 \else
9649 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9650 \fi
9651 \fi
9652 \def\PDF@FinishDoc{%
9653 \Hy@UseMaketitleInfos
9654 \HyInfo@GenerateAddons
9655 \@pdfm@mark{%
9656 docinfo<<%
9657 /Title(\@pdftitle)%
9658 /Subject(\@pdfsubject)%
9659 /Creator(\@pdfcreator)%
9660 \ifx\@pdfcreationdate\@empty
9661 \else
9662 /CreationDate(\@pdfcreationdate)%
9663 \fi
9664 \ifx\@pdfmoddate\@empty
9665 \else
9666 /ModDate(\@pdfmoddate)%
9667 \fi
9668 /Author(\@pdfauthor)%
9669 \ifx\@pdfproducer\relax
9670 \else
9671 /Producer(\@pdfproducer)%
9672 \fi
9673 /Keywords(\@pdfkeywords)%
9674 \ifx\@pdftrapped\@empty
9675 \else
9676 /Trapped/\@pdftrapped
9677 \fi
9678 \HyInfo@Addons
9679 >>%
9680 }%
9681 \Hy@DisableOption{pdfauthor}%
9682 \Hy@DisableOption{pdftitle}%
9683 \Hy@DisableOption{pdfsubject}%
9684 \Hy@DisableOption{pdfcreator}%
9685 \Hy@DisableOption{pdfcreationdate}%
9686 \Hy@DisableOption{pdfmoddate}%
9687 \Hy@DisableOption{pdfproducer}%
9688 \Hy@DisableOption{pdfkeywords}%
9689 \Hy@DisableOption{pdftrapped}%
9690 \Hy@DisableOption{pdfinfo}%
9691 }

```

```

9692 \def\PDF@SetupDoc{%
9693   \edef\Hy@temp{%
9694     \ifHy@toolbar\else /HideToolbar true\fi
9695     \ifHy@menubar\else /HideMenubar true\fi
9696     \ifHy>windowui\else /HideWindowUI true\fi
9697     \ifHy@fitwindow /FitWindow true\fi
9698     \ifHy@centerwindow /CenterWindow true\fi
9699     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9700     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9701     \Hy@UseNameKey{Direction}\@pdfdirection
9702     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9703     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9704     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9705     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9706     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9707     \Hy@UseNameKey{Duplex}\@pdfduplex
9708     \ifx\@pdfpicktraybypdfsize\@empty
9709     \else
9710       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9711     \fi
9712     \ifx\@pdfprintpagerange\@empty
9713     \else
9714       /PrintPageRange[\@pdfprintpagerange]%
9715     \fi
9716     \ifx\@pdfnumcopies\@empty
9717     \else
9718       /NumCopies \@pdfnumcopies
9719     \fi
9720   }%
9721   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9722   \@pdfm@mark{%
9723     docview<<%
9724     \ifx\@pdfstartpage\@empty
9725     \else
9726       \ifx\@pdfstartview\@empty
9727       \else
9728         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9729       \fi
9730     \fi
9731     \ifx\@baseurl\@empty
9732     \else
9733       /URI<</Base(\Hy@pstringB)>>%
9734     \fi
9735     /PageMode/\@pdfpagemode
9736     \ifx\Hy@temp\@empty
9737     \else
9738       /ViewerPreferences<<\Hy@temp>>%
9739     \fi
9740     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9741     \ifx\@pdflang\@empty
9742     \else
9743       /Lang(\@pdflang)%
9744     \fi
9745     >>%
9746   }%
9747   \ifx\@pdfpagescrop\@empty
9748   \else

```

```

9749 \pdfmark{put @pages <</CropBox[\pdfpagescrop]>>}%
9750 \fi
9751 }
9752 </dvipdfm | xetex>

```

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

```

9753 <*dvipdfm>
9754 \AtBeginShipoutFirst{%
9755   \ifHy@setpagesize
9756     \begingroup
9757       \ifundefined{stockwidth}{%
9758         \ifdim\paperwidth>\z@
9759           \ifdim\paperheight>\z@
9760             \special{papersize=\the\paperwidth,\the\paperheight}%
9761           \fi
9762         \fi
9763       }{%
9764         \ifdim\stockwidth>\z@
9765           \ifdim\stockheight>\z@
9766             \special{papersize=\the\stockwidth,\the\stockheight}%
9767           \fi
9768         \fi
9769       }%
9770     \endgroup
9771   \fi
9772   \Hy@DisableOption{setpagesize}%
9773 }
9774 </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.

```

9775 <*vtexhtml>
9776 \providecommand*{\XR@ext}{htm}
9777 \RequirePackage{vtexhtml}
9778 \newif\if@Localurl
9779 \def\PDF@FinishDoc{}
9780 \def\PDF@SetupDoc{%
9781   \ifx\@baseurl\@empty
9782     \else
9783       \special{!direct <base href="\@baseurl">}%
9784     \fi
9785 }
9786 \def\@urltype{url}
9787 \def\hyper@link#1#2#3{%
9788   \Hy@VerboseLinkStart{#1}{#2}%
9789   \leavevmode
9790   \special{!direct <a href=%
9791     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9792   #3%
9793   \special{!direct </a>}%
9794 }
9795 \def\hyper@linkurl#1#2{%
9796   \begingroup
9797   \hyper@chars

```



```

9798 \leavevmode
9799 \MathBSuppress=1\relax
9800 \special{!direct <a href=%
9801 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9802 #1%
9803 \MathBSuppress=0\relax
9804 \special{!direct </a>}%
9805 \endgroup
9806 }
9807 \def\hyper@linkfile#1#2#3{%
9808 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9809 }
9810 \def\hyper@linkstart#1#2{%
9811 \Hy@VerboseLinkStart{#1}{#2}%
9812 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
9813 \@Localurltrue
9814 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9815 \else
9816 \@Localurlfalse
9817 \begingroup
9818 \hyper@chars
9819 \special{!aref \HyperDestNameFilter{#2}}%
9820 \endgroup
9821 \fi
9822 }
9823 \def\hyper@linkend{%
9824 \if@Localurl
9825 \special{!endaref}%
9826 \else
9827 \special{!direct </a>}%
9828 \fi
9829 }
9830 \def\hyper@anchorstart#1{%
9831 \Hy@SaveLastskip
9832 \Hy@VerboseAnchor{#1}%
9833 \begingroup
9834 \hyper@chars
9835 \special{!aname #1}%
9836 \special{!direct <a name=%
9837 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9838 \endgroup
9839 \Hy@Activeanchortrue
9840 }
9841 \def\hyper@anchorend{%
9842 \special{!direct </a>}%
9843 \Hy@Activeanchorfalse
9844 \Hy@RestoreLastskip
9845 }
9846 \def\hyper@anchor#1{%
9847 \Hy@SaveLastskip
9848 \Hy@VerboseAnchor{#1}%
9849 \begingroup
9850 \let\protect=\string
9851 \hyper@chars
9852 \leavevmode
9853 \special{!aname #1}%
9854 \special{!direct <a name=%

```

```

9855 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9856 \endgroup
9857 \Hy@activeanchortrue
9858 \bgroup\anchor@spot\egroup
9859 \special{!direct </a>}%
9860 \Hy@activeanchorfalse
9861 \Hy@RestoreLastskip
9862 }
9863 \def\@Form[#1]{%
9864 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9865 }
9866 \def\@endForm{}
9867 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9868 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
9869 }
9870 \def\@TextField[#1]#2{% parameters, label
9871 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
9872 }
9873 \def\@CheckBox[#1]#2{% parameters, label
9874 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
9875 }
9876 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9877 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
9878 }
9879 \def\@PushButton[#1]#2{% parameters, label
9880 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
9881 }
9882 \def\@Reset[#1]#2{%
9883 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9884 }
9885 \def\@Submit[#1]#2{%
9886 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9887 }
9888 </vtexhtml>
9889 <*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.

```

9890 \ifx\mediaheight\@undefined
9891 \else
9892 \ifx\mediaheight\relax
9893 \else
9894 \ifHy@setpagesize
9895 \providecommand*\VTeXInitMediaSize{%
9896 \ltx@ifundefined{stockwidth}{%
9897 \ifdim\paperheight>0pt %
9898 \setlength\mediaheight\paperheight
9899 \fi
9900 \ifdim\paperheight>0pt %
9901 \setlength\mediawidth\paperwidth
9902 \fi
9903 }{%
9904 \ifdim\stockheight>0pt %
9905 \setlength\mediaheight\stockheight
9906 \fi
9907 \ifdim\stockwidth>0pt %

```

```

9908         \setlength\mediawidth\stockwidth
9909     \fi
9910 }%
9911 }%
9912 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9913 \fi
9914 \Hy@DisableOption{setpagesize}%
9915 \fi
9916 \fi

```

Older versions of VTeX require xyz in lower case.

```

9917 \providecommand*\@pdfview{xyz}
9918 \providecommand*\@pdfborder{0 0 1}
9919 \providecommand*\@pdfborderstyle{}
9920 \let\CurrentBorderColor\@linkbordercolor
9921 \def\hyper@anchor#1{%
9922     \Hy@SaveLastskip
9923     \Hy@VerboseAnchor{#1}%
9924     \begingroup
9925         \let\protect=\string
9926         \hyper@chars
9927         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9928     \endgroup
9929     \Hy@activeanchortrue
9930     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9931     \Hy@activeanchorfalse
9932     \Hy@RestoreLastskip
9933 }
9934 \def\hyper@anchorstart#1{%
9935     \Hy@SaveLastskip
9936     \Hy@VerboseAnchor{#1}%
9937     \begingroup
9938         \hyper@chars
9939         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9940     \endgroup
9941     \Hy@activeanchortrue
9942 }
9943 \def\hyper@anchorend{%
9944     \Hy@activeanchorfalse
9945     \Hy@RestoreLastskip
9946 }
9947 \def\@urltype{url}
9948 \def\Hy@undefinedname{UNDEFINED}
9949 \def\hyper@linkstart#1#2{%
9950     \Hy@VerboseLinkStart{#1}{#2}%
9951     \Hy@pstringdef\Hy@pstringURI{#2}%
9952     \expandafter\Hy@colorlink\csname @#1color\endcsname
9953     \ltx@ifundefined{@#1bordercolor}{%
9954         \let\CurrentBorderColor\relax
9955     }{%
9956         \edef\CurrentBorderColor{%
9957             \csname @#1bordercolor\endcsname
9958         }%
9959     }%
9960     \def\Hy@tempa{#1}%
9961     \ifx\Hy@tempa\@urltype
9962         \special{!%
9963             aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%

```

```

9964 \ifHy@href@ismap
9965 /IsMap true%
9966 \fi
9967 \Hy@href@nextactionraw
9968 >,%
9969 a=<%
9970 \ifHy@pdfa /F 4\fi
9971 \Hy@setpdfborder
9972 \ifx\CurrentBorderColor\relax
9973 \else
9974 /C [\CurrentBorderColor]%
9975 \fi
9976 >%
9977 }%
9978 \else
9979 \protected@edef\Hy@testname{#2}%
9980 \ifx\Hy@testname\@empty
9981 \Hy@Warning{%
9982 Empty destination name,\MessageBreak
9983 using '\Hy@undefinedname'%
9984 }%
9985 \let\Hy@testname\Hy@undefinedname
9986 \fi
9987 \special{!%
9988 aref \expandafter\HyperDestNameFilter
9989 \expandafter{\Hy@testname};%
9990 a=<%
9991 \ifHy@pdfa /F 4\fi
9992 \Hy@setpdfborder
9993 \ifx\CurrentBorderColor\relax
9994 \else
9995 /C [\CurrentBorderColor]%
9996 \fi
9997 >%
9998 }%
9999 \fi
10000 }
10001 \def\hyper@linkend{%
10002 \special{!endaref}%
10003 \Hy@endcolorlink
10004 }
10005 \def\hyper@linkfile#1#2#3{%
10006 \leavevmode
10007 \def\Hy@pstringF{#2}%
10008 \Hy@CleanupFile\Hy@pstringF
10009 \special{!%
10010 aref <%
10011 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10012 f=\Hy@pstringF>#3;%
10013 a=<%
10014 \ifHy@pdfa /F 4\fi
10015 \Hy@setpdfborder
10016 \ifx\@filebordercolor\relax
10017 \else
10018 /C [\@filebordercolor]%
10019 \fi
10020 >%

```

```

10021 }%
10022 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
10023 \special{!endaref}%
10024 }
10025 \def\hyper@linkurl#1#2{%
10026 \begingroup
10027 \Hy@pstringdef\Hy@pstringURI{#2}%
10028 \hyper@chars
10029 \leavevmode
10030 \special{!%
10031   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10032   \ifHy@href@ismap
10033   /IsMap true%
10034   \fi
10035   \Hy@href@nextactionraw
10036   >,%
10037   a=<%
10038   \ifHy@pdfa /F 4\fi
10039   \Hy@setpdfborder
10040   \ifx\@urlbordercolor\relax
10041   \else
10042   /C [\@urlbordercolor]%
10043   \fi
10044   >%
10045   }%
10046   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10047   \special{!endaref}%
10048 \endgroup
10049 }
10050 \def\hyper@link#1#2#3{%
10051 \Hy@VerboseLinkStart{#1}{#2}%
10052 \ltx@ifundefined{@#1bordercolor}{%
10053 \let\CurrentBorderColor\relax
10054 }{%
10055 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10056 }%
10057 \leavevmode
10058 \protected@edef\Hy@testname{#2}%
10059 \ifx\Hy@testname\@empty
10060 \Hy@Warning{%
10061   Empty destination name,\MessageBreak
10062   using '\Hy@undefinedname'%
10063 }%
10064 \let\Hy@testname\Hy@undefinedname
10065 \fi
10066 \special{!%
10067   aref \expandafter\HyperDestNameFilter
10068   \expandafter{\Hy@testname};%
10069   a=<%
10070   \ifHy@pdfa /F 4\fi
10071   \Hy@setpdfborder
10072   \ifx\CurrentBorderColor\relax
10073   \else
10074   /C [\CurrentBorderColor]%
10075   \fi
10076   >%
10077   }%

```

```

10078 \expandafter
10079 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
10080 \special{!endaref}%
10081 }
10082 \def\hyper@image#1#2{%
10083 \hyper@linkurl{#2}{#1}%
10084 }
10085 \def\@hyper@launch run:#1\#2#3{%
10086 \Hy@pstringdef\Hy@pstringF{#1}%
10087 \Hy@pstringdef\Hy@pstringP{#3}%
10088 \leavevmode
10089 \special{!aref %
10090 <u=%
10091 /Type/Action%
10092 /S/Launch%
10093 /F(\Hy@pstringF)%
10094 \Hy@SetNewWindow
10095 \ifx\#3\%
10096 \else
10097 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10098 \fi
10099 \Hy@href@nextactionraw
10100 >,%
10101 a=<%
10102 \ifHy@pdfa /F 4\fi
10103 \Hy@setpdfborder
10104 \ifx\@runbordercolor\relax
10105 \else
10106 /C[\@runbordercolor]%
10107 \fi
10108 >%
10109 }%
10110 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
10111 \special{!endaref}%
10112 }
10113 \def\Acrobatmenu#1#2{%
10114 \Hy@Acrobatmenu{#1}{#2}{%
10115 \special{!%
10116 aref <u=/S /Named /N /#1>,%
10117 a=<%
10118 \ifHy@pdfa /F 4\fi
10119 \Hy@setpdfborder
10120 \ifx\@menubordercolor\relax
10121 \else
10122 /C[\@menubordercolor]%
10123 \fi
10124 >%
10125 }%
10126 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
10127 \special{!endaref}%
10128 }%
10129 }

```

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

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

Please never use $\text{\@ifundefined\TeXversion}\{..\}\{..\}$ globally.

```

10130 \ifnum\Hy@VTeXversion<702 %
10131 \else

```

```

10132 \def\hyper@pagetransition{%
10133 \ifx\@pdfpagetransition\relax
10134 \else
10135 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10136 \else
10137 \hvtex@parse@trans\@pdfpagetransition
10138 \fi
10139 \fi
10140 }%

```

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

Syntax of V_TE_X \special{!trans <transition_effect>}:

```

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

```

Transition codes:

```

10141 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10142 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10143 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10144 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10145 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10146 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10147 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10148 \def\hvtex@par@dimension{/Dm}%
10149 \def\hvtex@par@direction{/Di}%
10150 \def\hvtex@par@duration{/D}%
10151 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10152 \def\hvtex@gettoken{%
10153 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10154 }%

```

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

```

10155 \def\hvtex@gettoken@#1 #2\@nil{%
10156 \edef\hvtex@token{#1}%
10157 \edef\hvtex@buffer{#2}%
10158 }%
10159 \def\hvtex@parse@trans#1{%

```

Initializing code:

```
10160 \let\hvtex@trans@code\@empty
10161 \let\hvtex@param@dimension\@empty
10162 \let\hvtex@param@direction\@empty
10163 \let\hvtex@param@duration\@empty
10164 \let\hvtex@param@motion\@empty
10165 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10166 \hvtex@gettoken
10167 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10168 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10169 \else
10170 \hvtex@gettoken
10171 \fi
10172 \fi
10173 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10174 \hvtex@trans@params
10175 }%
```

Reentrant macro to parse optional parameters.

```
10176 \def\hvtex@trans@params{%
10177 \ifx\hvtex@buffer\@empty
10178 \else
10179 \hvtex@gettoken
10180 \let\hvtex@trans@par\hvtex@token
10181 \ifx\hvtex@buffer\@empty
10182 \else
10183 \hvtex@gettoken
10184 \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
10185 \let\hvtex@param@duration\hvtex@token
10186 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10187 \expandafter\edef\expandafter\hvtex@param@motion
10188 \expandafter{\expandafter\@gobble\hvtex@token}%
10189 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10190 \expandafter\edef\expandafter\hvtex@param@dimension
10191 \expandafter{\expandafter\@gobble\hvtex@token}%
10192 \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).

```
10193 \let\hvtex@param@direction\hvtex@token
10194 \fi\fi\fi\fi
10195 \fi
10196 \fi
10197 \ifx\hvtex@buffer\@empty
10198 \let\next\hvtex@produce@trans
10199 \else
10200 \let\next\hvtex@trans@params
```



```

10201   \fi
10202   \next
10203 }%

```

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

```

10204 \def\hvtex@produce@trans{%
10205   \let\vtex@trans@special\@empty
10206   \if S\hvtex@trans@code
10207     \edef\vtex@trans@special{\hvtex@trans@code
10208       \hvtex@param@dimension\hvtex@param@motion}%
10209   \else\if B\hvtex@trans@code
10210     \edef\vtex@trans@special{%
10211       \hvtex@trans@code\hvtex@param@dimension
10212     }%
10213   \else\if X\hvtex@trans@code
10214     \edef\vtex@trans@special{%
10215       \hvtex@trans@code\hvtex@param@motion
10216     }%
10217   \else\if W\hvtex@trans@code
10218     \edef\vtex@trans@special{%
10219       \hvtex@trans@code\hvtex@param@direction
10220     }%
10221   \else\if D\hvtex@trans@code
10222     \let\vtex@trans@special\hvtex@trans@code
10223   \else\if R\hvtex@trans@code
10224     \let\vtex@trans@special\hvtex@trans@code
10225   \else\if G\hvtex@trans@code
10226     \edef\vtex@trans@special{%
10227       \hvtex@trans@code\hvtex@param@direction
10228     }%
10229   \fi\fi\fi\fi\fi\fi
10230   \ifx\vtex@trans@special\@empty
10231     \else
10232       \ifx\hvtex@param@duration\@empty
10233         \else
10234           \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10235     \multiply\dimen@\@m
10236     \edef\vtex@trans@special{%
10237       \vtex@trans@special,\strip@pt\dimen@
10238     }%
10239   \fi

```

And all the mess is just for this.

```

10240     \special{!trans \vtex@trans@special}%
10241   \fi
10242 }%

10243 \def\hyper@pageduration{%
10244   \ifx\@pdfpageduration\relax
10245     \else
10246       \ifx\@pdfpageduration\@empty
10247         \special{!duration-}%
10248       \else
10249         \special{!duration \@pdfpageduration}%
10250     \fi
10251   \fi

```

```

10252 }%
10253 \def\hyper@pagehidden{%
10254   \ifHy@useHidKey
10255     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10256   \fi
10257 }%
10258 \g@addto@macro\Hy@EveryPageBoxHook{%
10259   \hyper@pagetransition
10260   \hyper@pageduration
10261   \hyper@pagehidden
10262 }%
10263 \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

```

10264 \ifx\@pdfproducer\relax
10265   \def\@pdfproducer{VTeX}%
10266   \ifnum\Hy@VTeXversion>\z@
10267     \count@\VTeXversion
10268     \divide\count@ 100 %
10269     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10270     \multiply\count@ -100 %
10271     \advance\count@\VTeXversion
10272     \edef\@pdfproducer{%
10273       \@pdfproducer
10274       .\ifnum\count@<10 0\fi\the\count@
10275       \ifx\VTeXOS\@undefined\else
10276         \ifnum\VTeXOS>0 %
10277           \ifnum\VTeXOS<6 %
10278             \space(%
10279             \ifcase\VTeXOS
10280               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10281             \fi
10282             )%
10283           \fi
10284         \fi
10285       \fi
10286       ,\space
10287       \ifnum\OpMode=\@ne PDF\else PS\fi
10288       \space backend%
10289       \ifx\gexmode\@undefined\else
10290         \ifnum\gexmode>\z@\space with GeX\fi
10291       \fi
10292     }%
10293   \fi
10294 \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).

```

10295 \def\PDF@SetupDoc{%
10296 \ifx\@pdfpagescrop\@empty
10297 \else
10298 \special{!pdfinfo b=<\@pdfpagescrop>}%
10299 \fi
10300 \ifx\@pdfstartpage\@empty
10301 \else
10302 \ifx\@pdfstartview\@empty
10303 \else
10304 \special{!onopen Page\@pdfstartpage}%
10305 \fi
10306 \fi
10307 \special{!pdfinfo p=</\@pdfpagemode>}%
10308 \ifx\@baseurl\@empty
10309 \else
10310 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10311 \fi
10312 \special{!pdfinfo v=<<<%
10313 \ifHy@toolbar\else /HideToolbar true\fi
10314 \ifHy@menubar\else /HideMenubar true\fi
10315 \ifHy>windowui\else /HideWindowUI true\fi
10316 \ifHy@fitwindow /FitWindow true\fi
10317 \ifHy@centerwindow /CenterWindow true\fi
10318 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10319 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10320 \Hy@UseNameKey{Direction}\@pdfdirection
10321 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10322 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10323 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10324 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10325 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10326 \Hy@UseNameKey{Duplex}\@pdfduplex
10327 \ifx\@pdfpicktraybypdfsize\@empty
10328 \else
10329 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10330 \fi
10331 \ifx\@pdfprintpagerange\@empty
10332 \else
10333 /PrintPageRange[\@pdfprintpagerange]%
10334 \fi
10335 \ifx\@pdfnumcopies\@empty
10336 \else
10337 /NumCopies \@pdfnumcopies

```

```

10338 \fi
10339 >>>}%
10340 \ifx\@pdfpagelayout\@empty
10341 \else
10342 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10343 \fi
10344 }%
10345 \HyInfo@AddonUnsupportedtrue
10346 \def\PDF@FinishDoc{%
10347 \Hy@UseMaketitleInfos
10348 \HyInfo@TrappedUnsupported
10349 \special{!pdfinfo a=<\@pdfauthor>}%
10350 \special{!pdfinfo t=<\@pdftitle>}%
10351 \special{!pdfinfo s=<\@pdfsubject>}%
10352 \special{!pdfinfo c=<\@pdfcreator>}%
10353 \ifx\@pdfproducer\relax
10354 \else
10355 \special{!pdfinfo r=<\@pdfproducer>}%
10356 \fi
10357 \special{!pdfinfo k=<\@pdfkeywords>}%
10358 \Hy@DisableOption{pdfauthor}%
10359 \Hy@DisableOption{pdftitle}%
10360 \Hy@DisableOption{pdfsubject}%
10361 \Hy@DisableOption{pdfcreator}%
10362 \Hy@DisableOption{pdfcreationdate}%
10363 \Hy@DisableOption{pdfmoddate}%
10364 \Hy@DisableOption{pdfproducer}%
10365 \Hy@DisableOption{pdfkeywords}%
10366 \Hy@DisableOption{pdftrapped}%
10367 \Hy@DisableOption{pdfinfo}%
10368 }
10369 </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.

```

10370 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10371 <package>\providecommand*{\Hy@DistillerDestFix}{%
10372 <*pdfmark | dviwindo>
10373 \def\Hy@DistillerDestFix{%
10374 \beginngroup
10375 \let\x\literalps@out

```

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

```

10376 \ifnum \@ifundefined{OpMode}{0}{%
10377 \ifundefined{gexmode}{0}{%
10378 \ifnum\gexmode>0 \OpMode\else 0\fi
10379 }}>1 %

```

```

10380 \def\x##1{%
10381 \immediate\special{!=##1}%
10382 }%
10383 \fi
10384 \x{%
10385 /product where{%
10386 pop %
10387 product(Distiller)search{%
10388 pop pop pop %
10389 version(.)search{%
10390 exch pop exch pop%
10391 (3011)eq{%
10392 gsave %
10393 newpath 0 0 moveto closepath clip%
10394 /Courier findfont 10 scalefont setfont %
10395 72 72 moveto(.)show %
10396 grestore%
10397 }if%
10398 }{pop}ifelse%
10399 }{pop}ifelse%
10400 }if%
10401 }%
10402 \endgroup
10403 }
10404 </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

```

10405 <*pdfmark>
10406 \Hy@breaklinks@unsupported
10407 \def\HyPat@ObjRef{%
10408 \{[~{}]+~\}%
10409 }
10410 \def\hyper@anchor#1{%
10411 \Hy@SaveLastskip
10412 \Hy@VerboseAnchor{#1}%
10413 \begingroup
10414 \pdfmark[\anchor@spot]{%
10415 pdfmark=/DEST,%
10416 linktype=anchor,%
10417 View=/\@pdfview \@pdfviewparams,%
10418 DestAnchor={#1}%
10419 }%
10420 \endgroup

```

```

10421 \Hy@RestoreLastskip
10422 }
10423 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10424 \def\hyper@anchorstart#1{%
10425 \Hy@SaveLastskip
10426 \Hy@VerboseAnchor{#1}%
10427 \literalps@out{H.S}%
10428 \Hy@AllowHyphens
10429 \xdef\hyper@currentanchor{#1}%
10430 \Hy@activeanchortrue
10431 }
10432 \def\hyper@anchorend{%
10433 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10434 \pdfmark{%
10435 pdfmark=/DEST,%
10436 linktype=anchor,%
10437 View=/\@pdfview \@pdfviewparams,%
10438 DestAnchor=\hyper@currentanchor,%
10439 }%
10440 \Hy@activeanchorfalse
10441 \Hy@RestoreLastskip
10442 }
10443 \def\hyper@linkstart#1#2{%
10444 \Hy@VerboseLinkStart{#1}{#2}%
10445 \ifHy@breaklinks
10446 \else
10447 \leavevmode
10448 \Hy@SaveSpaceFactor
10449 \hbox\bgroup
10450 \Hy@RestoreSpaceFactor
10451 \fi
10452 \expandafter\Hy@colorlink\csname @#1color\endcsname
10453 \literalps@out{H.S}%
10454 \Hy@AllowHyphens
10455 \xdef\hyper@currentanchor{#2}%
10456 \gdef\hyper@currentlinktype{#1}%
10457 }
10458 \def\hyper@linkend{%
10459 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10460 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10461 \let\Hy@tempcolor\relax
10462 }{%
10463 \edef\Hy@tempcolor{%
10464 \csname @\hyper@currentlinktype bordercolor\endcsname
10465 }%
10466 }%
10467 \pdfmark{%
10468 pdfmark=/ANN,%
10469 linktype=link,%
10470 Subtype=/Link,%
10471 PDFAMlags=4,%
10472 Dest=\hyper@currentanchor,%
10473 AcroHighlight=\@pdfhighlight,%
10474 Border=\@pdfborder,%
10475 BorderStyle=\@pdfborderstyle,%
10476 Color=\Hy@tempcolor,%
10477 Raw=H.B%

```

```

10478 }%
10479 \Hy@endcolorlink
10480 \ifHy@breaklinks
10481 \else
10482 \Hy@SaveSpaceFactor
10483 \egroup
10484 \Hy@RestoreSpaceFactor
10485 \fi
10486 }

```

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.

```

10487 \begingroup
10488 \catcode'P=12 %
10489 \catcode'T=12 %
10490 \lowercase{\endgroup
10491 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10492 }
10493 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

10494 \def\hyper@pagetransition{%
10495 \ifx\@pdfpagetransition\relax
10496 \else
10497 \ifx\@pdfpagetransition\@empty
10498 % 1. Does an old entry have to be deleted?
10499 % 2. If 1=yes, how to delete?
10500 \else
10501 \pdfmark{%
10502 pdfmark=/PUT,%
10503 Raw={%
10504 \string{ThisPage\string}%
10505 <</Trans << /S /\@pdfpagetransition\space >> >>%
10506 }%
10507 }%
10508 \fi
10509 \fi
10510 }

```

\hyper@pageduration

```

10511 \def\hyper@pageduration{%
10512 \ifx\@pdfpageduration\relax
10513 \else
10514 \ifx\@pdfpageduration\@empty
10515 % 1. Does an old entry have to be deleted?
10516 % 2. If 1=yes, how to delete?
10517 \else
10518 \pdfmark{%
10519 pdfmark=/PUT,%
10520 Raw={%
10521 \string{ThisPage\string}%
10522 <</Dur \@pdfpageduration>>%
10523 }%
10524 }%
10525 \fi
10526 \fi
10527 }

```

\hyper@pagehidden

```
10528 \def\hyper@pagehidden{%
10529   \ifHy@useHidKey
10530     \pdfmark{%
10531       pdfmark=/PUT,%
10532       Raw={%
10533         \string{ThisPage\string}%
10534         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10535       }%
10536     }%
10537   \fi
10538 }

10539 \g@addto@macro\Hy@EveryPageBoxHook{%
10540   \hyper@pagetransition
10541   \hyper@pageduration
10542   \hyper@pagehidden
10543 }

10544 \def\hyper@image#1#2{%
10545   \hyper@linkurl{#2}{#1}%
10546 }
10547 \def\Hy@undefinedname{UNDEFINED}
10548 \def\hyper@link#1#2#3{%
10549   \Hy@VerboseLinkStart{#1}{#2}%
10550   \ltx@ifundefined{@#1bordercolor}{%
10551     \let\Hy@tempcolor\relax
10552   }{%
10553     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10554   }%
10555   \begingroup
10556     \protected@edef\Hy@testname{#2}%
10557     \ifx\Hy@testname\@empty
10558       \Hy@Warning{%
10559         Empty destination name,\MessageBreak
10560         using '\Hy@undefinedname'%
10561       }%
10562     \let\Hy@testname\Hy@undefinedname
10563   \fi
10564   \pdfmark[{#3}]{%
10565     Color=\Hy@tempcolor,%
10566     linktype={#1},%
10567     AcroHighlight=\@pdfhighlight,%
10568     Border=\@pdfborder,%
10569     BorderStyle=\@pdfborderstyle,%
10570     pdfmark=/ANN,%
10571     Subtype=/Link,%
10572     PDFAMlags=4,%
10573     Dest=\Hy@testname
10574   }%
10575   \endgroup
10576 }

10577 \newtoks\pdf@docset
10578 \def\PDF@FinishDoc{%
10579   \Hy@UseMaketitleInfos
10580   \Hy@Info@GenerateAddons
10581   \let\Hy@temp\@empty
10582   \ifx\@pdfcreationdate\@empty
```



```

10583 \else
10584 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10585 \fi
10586 \ifx\@pdfmoddate\@empty
10587 \else
10588 \expandafter\def\expandafter\Hy@temp\expandafter{%
10589 \Hy@temp
10590 ModDate=\@pdfmoddate,%
10591 }%
10592 \fi
10593 \ifx\@pdfproducer\relax
10594 \else
10595 \expandafter\def\expandafter\Hy@temp\expandafter{%
10596 \Hy@temp
10597 Producer=\@pdfproducer,%
10598 }%
10599 \fi
10600 \expandafter
10601 \pdfmark\expandafter{%
10602 \Hy@temp
10603 pdfmark=/DOCINFO,%
10604 Title=\@pdftitle,%
10605 Subject=\@pdfsubject,%
10606 Creator=\@pdfcreator,%
10607 Author=\@pdfauthor,%
10608 Keywords=\@pdfkeywords,%
10609 Trapped=\@pdftrapped
10610 }%
10611 \ifx\HyInfo@Addons\@empty
10612 \else
10613 \pdfmark{%
10614 pdfmark=/DOCINFO,%
10615 Raw={\HyInfo@Addons}%
10616 }%
10617 \fi
10618 \Hy@DisableOption{pdfauthor}%
10619 \Hy@DisableOption{pdftitle}%
10620 \Hy@DisableOption{pdfsubject}%
10621 \Hy@DisableOption{pdfcreator}%
10622 \Hy@DisableOption{pdfcreationdate}%
10623 \Hy@DisableOption{pdfmoddate}%
10624 \Hy@DisableOption{pdfproducer}%
10625 \Hy@DisableOption{pdfkeywords}%
10626 \Hy@DisableOption{pdftrapped}%
10627 \Hy@DisableOption{pdfinfo}%
10628 }
10629 \def\PDF@SetupDoc{%
10630 \def\Hy@temp{}%
10631 \ifx\@pdfstartpage\@empty
10632 \else
10633 \ifx\@pdfstartview\@empty
10634 \else
10635 \edef\Hy@temp{%
10636 ,Page=\@pdfstartpage
10637 ,View=\@pdfstartview
10638 }%
10639 \fi

```

```

10640 \fi
10641 \edef\Hy@temp{%
10642   \noexpand\pdfmark{%
10643     pdfmark=/DOCVIEW,%
10644     PageMode=/\@pdfpagemode
10645     \Hy@temp
10646   }%
10647 }%
10648 \Hy@temp
10649 \ifx\@pdfpagescrop\@empty
10650 \else
10651   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10652 \fi
10653 \edef\Hy@temp{%
10654   \ifHy@toolbar\else /HideToolbar true\fi
10655   \ifHy@menubar\else /HideMenubar true\fi
10656   \ifHy>windowui\else /HideWindowUI true\fi
10657   \ifHy@fitwindow /FitWindow true\fi
10658   \ifHy@centerwindow /CenterWindow true\fi
10659   \ifHy@displaydoctitle /DisplayDocTitle true\fi
10660   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10661   \Hy@UseNameKey{Direction}\@pdfdirection
10662   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10663   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10664   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10665   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10666   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10667   \Hy@UseNameKey{Duplex}\@pdfduplex
10668   \ifx\@pdfpicktraybypdfsize\@empty
10669   \else
10670     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10671   \fi
10672   \ifx\@pdfprintpagerange\@empty
10673   \else
10674     /PrintPageRange\@pdfprintpagerange}%
10675 \fi
10676 \ifx\@pdfnumcopies\@empty
10677 \else
10678   /NumCopies \@pdfnumcopies
10679 \fi
10680 }%
10681 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10682 \pdfmark{%
10683   pdfmark=/PUT,%
10684   Raw={%
10685     \string{Catalog\string}<<%
10686     \ifx\Hy@temp\@empty
10687     \else
10688       /ViewerPreferences<<\Hy@temp>>%
10689     \fi
10690     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10691     \ifx\@pdflang\@empty
10692     \else
10693       /Lang(\@pdflang)%
10694     \fi
10695     \ifx\@baseurl\@empty
10696     \else

```

```

10697      /URI<</Base(\Hy@pstringB)>>%
10698      \fi
10699      >>%
10700    }%
10701  }%
10702 }
10703 </pdfmark>
10704 <*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.

```

10705 \newif\ifHy@pdfmarkerror
10706 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
10707 \def\pdfmark@[#1]#2{%
10708   \Hy@pdfmarkerrorfalse
10709   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10710   \@processme
10711   \let\pdf@type\relax
10712   \kvsetkeys{PDF}{#2}%
10713   \ifHy@pdfmarkerror
10714   \else
10715     \ifx\pdf@type\relax
10716       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10717       \ifx\#1\%
10718         \else
10719           \pdf@rect{#1}%
10720         \fi
10721       \else
10722         \ifx\#1\%
10723           \literalps@out{%
10724             [\the\pdf@toks\space\pdf@type\space pdfmark%
10725             ]%
10726           \else
10727             \ltx@ifundefined{@pdf@linktype color}{%
10728               \Hy@colorlink\@linkcolor
10729             }{%
10730               \expandafter\Hy@colorlink
10731               \csname @\pdf@linktype color\endcsname
10732             }%
10733             \pdf@rect{#1}%
10734             \literalps@out{%
10735               [\the\pdf@toks\space\pdf@type\space pdfmark%
10736               ]%
10737             \Hy@endcolorlink
10738           \fi
10739         \fi
10740       \fi
10741 }

```

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 (toby@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

10742 \newsavebox{\pdf@box}
10743 \providecommand*{\Hy@setouterhbox}{\sbox}
10744 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10745 \def\Hy@DEST{/DEST}
10746 \def\pdf@rect#1{%
10747   \begingroup
10748     \chardef\x=1 %
10749     \def\Hy@temp{#1}%
10750     \ifx\Hy@temp\ltx@empty
10751       \chardef\x=0 %
10752     \else
10753       \def\y{\anchor@spot}%
10754       \ifx\Hy@temp\y
10755         \def\y{\relax}%
10756         \ifx\anchor@spot\y
10757           \chardef\x=0 %
10758         \fi
10759       \fi
10760     \fi
10761   \expandafter\endgroup
10762   \ifcase\x
10763     \literalps@out{H.S}%
10764     \literalps@out{H.R}%
10765   \else
10766     \leavevmode
10767     \Hy@SaveSpaceFactor
10768     \ifHy@breaklinks
10769       \Hy@setouterhbox\pdf@box{%
10770         \Hy@RestoreSpaceFactor
10771         \Hy@AllowHyphens#1%
10772         \Hy@SaveSpaceFactor
10773       }%
10774     \else
10775       \sbox\pdf@box{%
10776         \Hy@RestoreSpaceFactor
10777         #1%
10778         \Hy@SaveSpaceFactor
10779       }%
10780     \fi
10781     \dimen@\ht\pdf@box
10782     \ifdim\dp\pdf@box=\z@
10783       \literalps@out{H.S}%
10784     \else
10785       \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10786     \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...).

```

10787   \ifHy@breaklinks
10788     \expandafter\Hy@breaklinksunhbox
10789   \else
10790     \expandafter\box
10791   \fi
10792   \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

10793 \ifdim\dimen@=\z@
10794 \literalps@out{H.R}%
10795 \else
10796 \raise\dimen@\hbox{\literalps@out{H.R}}}%
10797 \fi
10798 \Hy@RestoreSpaceFactor
10799 \fi
10800 \ifx\pdf@type\Hy@DEST
10801 \else
10802 \pdf@addtoksx{H.B}%
10803 \fi
10804 }

```

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.

```

10805 \newtoks\pdf@toks
10806 \newtoks\pdf@defaulttoks
10807 \pdf@defaulttoks={}%
10808 \def\pdf@addtoks#1#2{%
10809 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10810 \@processme
10811 }
10812 \def\pdf@addtoksx#1{%
10813 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10814 \@processme
10815 }
10816 \def\PDFdefaults#1{%
10817 \pdf@defaulttoks={#1}%
10818 }

```

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

```

10819 % what is the type of pdfmark?
10820 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10821 % what is the link type?
10822 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10823 \def\pdf@linktype{link}
10824 % parameter is a stream of PDF
10825 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10826 % parameter is a name
10827 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10828 % parameter is a array
10829 \define@key{PDF}{Border}{%
10830 \edef\Hy@temp{#1}%
10831 \ifx\Hy@temp\@empty
10832 \else
10833 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10834 \fi
10835 }
10836 \let\Hy@BorderArrayPatch\@empty
10837 % parameter is a dictionary
10838 \define@key{PDF}{BorderStyle}{%
10839 \edef\Hy@temp{#1}%
10840 \ifx\Hy@temp\@empty

```

```

10841 \else
10842 \pdf@addtoks{<<#1>>}{BS}%
10843 \fi
10844 }
10845 % parameter is a array
10846 \define@key{PDF}{Color}{%
10847 \ifx\relax#1\relax
10848 \else
10849 \pdf@addtoks{[#1]}{Color}% hash-ok
10850 \fi
10851 }
10852 % parameter is a string
10853 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10854 % parameter is a integer
10855 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10856 % parameter is a array
10857 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10858 % parameter is a string
10859 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10860 % parameter is a string or file
10861 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10862 % parameter is a destination
10863 \define@key{PDF}{Dest}{%
10864 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10865 \ifx\Hy@pstringDest\@empty
10866 \Hy@pdfmarkerrortrue
10867 \Hy@Warning{Destination with empty name ignored}%
10868 \else
10869 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10870 \fi
10871 }
10872 \define@key{PDF}{DestAnchor}{%
10873 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10874 \ifx\Hy@pstringDest\@empty
10875 \Hy@pdfmarkerrortrue
10876 \Hy@Warning{Destination with empty name ignored}%
10877 \else
10878 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10879 \fi
10880 }
10881 % parameter is a string
10882 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10883 % parameter is a string
10884 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10885 % parameter is a int
10886 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10887 \define@key{PDF}{PDFAFlags}{%
10888 \ifHy@pdfa
10889 \pdf@addtoks{#1}{F}%
10890 \fi
10891 }
10892 % parameter is a name
10893 \define@key{PDF}{AcroHighlight}{%
10894 \begingroup
10895 \edef\x{#1}%
10896 \expandafter\endgroup\ifx\x\@empty
10897 \else

```

```

10898 \pdf@addtoks{#1}{H}%
10899 \fi
10900 }
10901 % parameter is a string
10902 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10903 % parameter is a string
10904 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10905 % parameter is a string
10906 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10907 % parameter is a string
10908 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10909 % parameter is a Boolean
10910 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10911 % parameter is an integer or name
10912 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10913 % parameter is a name
10914 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10915 % parameter is a string
10916 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10917 % parameter is an array
10918 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10919 % parameter is an integer
10920 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10921 % parameter is a name
10922 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10923 % parameter is a string
10924 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10925 % parameter is a string
10926 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10927 % parameter is a string
10928 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10929 % parameter is an array
10930 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
10931 % parameter is a string
10932 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10933 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10934 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10935 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10936 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10937 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10938 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10939 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10940 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10941 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10942 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
10943 \define@key{PDF}{Trapped}{%
10944 \edef\Hy@temp{#1}%
10945 \ifx\Hy@temp\empty
10946 \else
10947 \pdf@addtoks{/#1}{Trapped}%
10948 \fi
10949 }
10950
10951 </pdfmarkbase>
10952 <*pdfmark>
10953 \def\Acrobatmenu#1#2{%

```

```

10954 \Hy@Acrobatmenu{#1}{#2}{%
10955 \pdfmark[{#2}]{%
10956 linktype=menu,%
10957 pdfmark=/ANN,%
10958 AcroHighlight=\@pdfhighlight,%
10959 Border=\@pdfborder,%
10960 BorderStyle=\@pdfborderstyle,%
10961 Action={<< /Subtype /Named /N /#1 >>},%
10962 Subtype=/Link,%
10963 PDFAFlags=4%
10964 }%
10965 }%
10966 }

```

And now for some useful examples:

```

10967 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10968 \def\PDFNextPage@[#1]#2{%
10969 \pdfmark[{#2}]{%
10970 #1,%
10971 Border=\@pdfborder,%
10972 BorderStyle=\@pdfborderstyle,%
10973 Color=.2 .1 .5,%
10974 pdfmark=/ANN,%
10975 Subtype=/Link,%
10976 PDFAFlags=4,%
10977 Page=/Next%
10978 }%
10979 }
10980 \def\PDFPreviousPage{%
10981 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10982 }
10983 \def\PDFPreviousPage@[#1]#2{%
10984 \pdfmark[{#2}]{%
10985 #1,%
10986 Border=\@pdfborder,%
10987 BorderStyle=\@pdfborderstyle,%
10988 Color=.4 .4 .1,%
10989 pdfmark=/ANN,%
10990 Subtype=/Link,%
10991 PDFAFlags=4,%
10992 Page=/Prev%
10993 }%
10994 }
10995 \def\PDFOpen#1{%
10996 \pdfmark{#1,pdfmark=/DOCVIEW}%
10997 }

```

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

```

10998 \def\hyper@linkurl#1#2{%
10999 \begingroup
11000 \Hy@pstringdef\Hy@pstringURI{#2}%
11001 \hyper@chars
11002 \leavevmode
11003 \pdfmark[{#1}]{%
11004 pdfmark=/ANN,%
11005 linktype=url,%
11006 AcroHighlight=\@pdfhighlight,%
11007 Border=\@pdfborder,%

```



```

11008   BorderStyle=\@pdfborderstyle,%
11009   Color=\@urlbordercolor,%
11010   Action={<<%
11011     /Subtype/URI%
11012     /URI(\Hy@pstringURI)%
11013     \ifHy@href@ismap
11014     /IsMap true%
11015     \fi
11016   >>},%
11017   Subtype=/Link,%
11018   PDFAFlags=4%
11019   }%
11020 \endgroup
11021 }
11022 \def\hyper@linkfile#1#2#3{%
11023 \begingroup
11024   \def\Hy@pstringF{#2}%
11025   \Hy@CleanupFile\Hy@pstringF
11026   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11027   \Hy@pstringdef\Hy@pstringD{#3}%
11028   \Hy@MakeRemoteAction
11029   \leavevmode
11030   \pdfmark[{#1}]{%
11031     pdfmark=/ANN,%
11032     Subtype=/Link,%
11033     PDFAFlags=4,%
11034     AcroHighlight=\@pdfhighlight,%
11035     Border=\@pdfborder,%
11036     BorderStyle=\@pdfborderstyle,%
11037     linktype=file,%
11038     Color=\@filebordercolor,%
11039     Action={%
11040       <<%
11041       /S/GoToR%
11042       \Hy@SetNewWindow
11043       /F(\Hy@pstringF)%
11044       /D%
11045       \ifx\#3\%
11046         [\Hy@href@page\@pdfremotestartview]%
11047       \else
11048         (\Hy@pstringD)cvn%
11049       \fi
11050       \Hy@href@nextactionraw
11051     >>%
11052     }%
11053   }%
11054 \endgroup
11055 }
11056 \def\@hyper@launch run:#1\#2#3{%
11057 \begingroup
11058   \Hy@pstringdef\Hy@pstringF{#1}%
11059   \Hy@pstringdef\Hy@pstringP{#3}%
11060   \leavevmode
11061   \pdfmark[{#2}]{%
11062     pdfmark=/ANN,%
11063     Subtype=/Link,%
11064     PDFAFlags=4,%

```

```

11065   AcroHighlight=\@pdfhighlight,%
11066   Border=\@pdfborder,%
11067   BorderStyle=\@pdfborderstyle,%
11068   linktype=run,%
11069   Color=\@runbordercolor,%
11070   Action={%
11071     <<%
11072       /S/Launch%
11073       \Hy@SetNewWindow
11074       /F(\Hy@pstringF)%
11075       \ifx\#3\%
11076       \else
11077         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11078       \fi
11079       \Hy@href@nextactionraw
11080     >>%
11081   }%
11082 }%
11083 \endgroup
11084 }
11085 </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.

```

11086 <*dvips>
11087 \providecommand*\XR@ext{-pdf}
11088 \def\Hy@raisedlink{}
11089 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11090 \def\headerps@out#1{\special{! #1}}%
11091 \input{pdfmark.def}%
11092 \ifx\@pdfproducer\relax
11093   \def\@pdfproducer{dvips + Distiller}%
11094 \fi
11095 \providecommand*\@pdfborder{0 0 1}
11096 \providecommand*\@pdfborderstyle{}
11097 \providecommand*\@pdfview{XYZ}
11098 \providecommand*\@pdfviewparams{ H.V}
11099 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11100 \g@addto@macro\Hy@FirstPageHook{%
11101   \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.

```
11102 /DvipsToPDF{72.27 mul Resolution div} def%
11103 /PDFToDvips{72.27 div Resolution mul} def%
11104 /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.

```
11105 /BorderArrayPatch{%
11106   [exch{%
11107     dup dup type/integertype eq exch type/realtype eq or%
11108     {BPToDvips}if%
11109   }forall]%
11110 }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.

```
11111 /HyperBorder {1 PDFToDvips} def%
11112 /H.V {pdf@hoff pdf@voff null} def%
11113 /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

```
11114 /H.S {%
11115   currentpoint %
11116   HyperBorder add /pdf@lly exch def %
11117   dup DvipsToPDF 72 add /pdf@hoff exch def %
11118   HyperBorder sub /pdf@llx exch def%
11119 } 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`

```
11120 /H.L {%
11121   2 sub dup%
11122   /HyperBasePt exch def %
11123   PDFToDvips /HyperBaseDvips exch def %
11124   currentpoint %
11125   HyperBaseDvips sub /pdf@ury exch def%
11126   /pdf@urx exch def%
11127 } def%
11128 /H.A {%
11129   H.L %
11130 % |pdf@voff| = the distance from the top of the page to a point
11131 % |\baselineskip| above the current point in PDF coordinates
11132   currentpoint exch pop %
11133   vsize 72 sub exch DvipsToPDF %
11134   HyperBasePt sub % baseline skip
11135   sub /pdf@voff exch def%
11136 } def%
11137 /H.R {%
11138   currentpoint %
11139   HyperBorder sub /pdf@ury exch def %
```

```

11140   HyperBorder add /pdf@urx exch def %
11141   % | /pdf@voff| = the distance from the top of the page to the current point, in
11142   % PDF coordinates
11143   currentpoint exch pop vsize 72 sub %
11144   exch DvipsToPDF sub /pdf@voff exch def%
11145   } def%
11146   }%
11147 }
11148 \AtBeginShipoutFirst{%
11149   \ifHy@setpagesize
11150     \begingroup
11151     \@ifundefined{stockwidth}{%
11152       \ifdim\paperwidth>\z@
11153         \ifdim\paperheight>\z@
11154           \special{papersize=\the\paperwidth,\the\paperheight}%
11155         \fi
11156       \fi
11157     }{%
11158       \ifdim\stockwidth>\z@
11159         \ifdim\stockheight>\z@
11160           \special{papersize=\the\stockwidth,\the\stockheight}%
11161         \fi
11162       \fi
11163     }%
11164   \endgroup
11165   \fi
11166   \Hy@DisableOption{setpagesize}%
11167 }
11168 </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.

```

11169 <*vtexpdfmark>
11170 \providecommand*{\XR@ext}{pdf}
11171 \def\Hy@raisedlink{}
11172 \def\literalps@out#1{\special{pS:#1}}%
11173 \def\headerps@out#1{\immediate\special{pS:#1}}%
11174 \input{pdfmark.def}%
11175 \ifx\@pdfproducer\relax
11176   \ifnum\OpMode=\@ne
11177     \def\@pdfproducer{VTeX}%
11178   \else
11179     \def\@pdfproducer{VTeX + Distiller}%
11180   \fi
11181 \fi
11182 \providecommand*\@pdfborder{0 0 1}
11183 \providecommand*\@pdfborderstyle{}
11184 \providecommand*\@pdfview{XYZ}
11185 \providecommand*\@pdfviewparams{ H.V}
11186 \g@addto@macro\Hy@FirstPageHook{%
11187   \headerps@out{%
11188     /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.

```
11189 /HyperBorder {1} def%
11190 /H.V {pdf@hoff pdf@voff null} def%
11191 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```
11192 /H.S {%
11193   currentpoint %
11194   HyperBorder sub%
11195   /pdf@lly exch def %
11196   dup 72 add /pdf@hoff exch def %
11197   HyperBorder sub%
11198   /pdf@llx exch def%
11199 } def%
```

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

```
11200 /H.L {%
11201   2 sub%
11202   /HyperBasePt exch def %
11203   currentpoint %
11204   HyperBasePt add HyperBorder add%
11205   /pdf@ury exch def %
11206   HyperBorder add%
11207   /pdf@urx exch def%
11208 } def%
11209 /H.A {%
11210   H.L %
11211   currentpoint exch pop %
11212   vsize 72 sub exch %
11213   HyperBasePt add add%
11214   /pdf@voff exch def%
11215 } def%
```

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

```
11216 /H.R {%
11217   currentpoint %
11218   HyperBorder add%
11219   /pdf@ury exch def %
11220   HyperBorder add%
11221   /pdf@urx exch def %
11222   currentpoint exch pop vsize 72 sub add%
11223   /pdf@voff exch def%
11224 } def%
11225 }%
11226 }
11227 </vtxpdfmark>
```

46.11 Textures

```
11228 <*textures>
11229 \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.

```
11230 \begingroup
11231 \obeylines %
11232 \gdef\Hy@ps@CR{\noexpand
11233 }%
11234 \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`.

```
11235 \def\literalps@out#1{%
11236   \special{postscript 0 0 transform}%
11237   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11238 }%
11239 %
```

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.

```
11240 \def\headerps@out#1{%
11241   \special{%
11242     prepostscript TeXdict begin\Hy@ps@CR
11243       #1\Hy@ps@CR
11244     end%
11245   }%
11246 }%
11247 %
```

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.

```
11248 \g@addto@macro\Hy@FirstPageHook{%
11249   \headerps@out{%
11250     /betterpdfmark {%
11251       systemdict begin %
11252       dup /BP eq%
11253       {cleartomark gsave nulldevice []}%
11254       {dup /EP eq%
11255         {cleartomark cleartomark grestore}%
11256         {cleartomark}%
11257       }ifelse%
11258     }ifelse %
11259   end%
11260 }def\Hy@ps@CR
11261 ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
```

```

11262 }% end of \headerps@out
11263 }% end of \AtBeginShipoutFirst
11264 %
11265 \input{pdfmark.def}%
11266 %
11267 \ifx\@pdfproducer\relax
11268 \def\@pdfproducer{Textures + Distiller}%
11269 \fi
11270 \providecommand*\@pdfborder{0 0 1}
11271 \providecommand*\@pdfborderstyle{}
11272 \providecommand*\@pdfview{XYZ}
11273 \providecommand*\@pdfviewparams{ H.V}
11274 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

11275 \Hy@AtBeginDocument{%
11276 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11277 /vsize {\Hy@pageheight} def%
11278 /DvipsToPDF {} def%
11279 /PDFToDvips {} def%
11280 /BPToDvips {} def%
11281 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11282 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11283 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11284 /H.S {%
11285   currentpoint %
11286   HyperBorder add /pdf@lly exch def %
11287   dup DvipsToPDF 72 add /pdf@hoff exch def %
11288   HyperBorder sub /pdf@llx exch def%
11289 } def\Hy@ps@CR
11290 /H.L {%
11291   2 sub %
11292   PDFToDvips /HyperBase exch def %
11293   currentpoint %
11294   HyperBase sub /pdf@ury exch def%
11295   /pdf@urx exch def%
11296 } def\Hy@ps@CR
11297 /H.A {%
11298   H.L %
11299   currentpoint exch pop %
11300   vsize 72 sub exch DvipsToPDF %
11301   HyperBase sub % baseline skip
11302   sub /pdf@voff exch def%
11303 } def\Hy@ps@CR
11304 /H.R {%
11305   currentpoint %
11306   HyperBorder sub /pdf@ury exch def %
11307   HyperBorder add /pdf@urx exch def %
11308   currentpoint exch pop vsize 72 sub %
11309   exch DvipsToPDF sub /pdf@voff exch def%
11310 } def\Hy@ps@CR
11311 }%

```

```

11312 }
11313 \Hy@AtBeginDocument{%
11314   \ifHy@colorlinks
11315     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11316   \fi
11317 }

```

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.

```

11318 \expandafter\let\expandafter\keepPDF@SetupDoc
11319 \csname PDF@SetupDoc\endcsname
11320 \def\PDF@SetupDoc{%
11321   \ifx\@baseurl\@empty
11322   \else
11323     \special{html:<base href="\@baseurl">}%
11324   \fi
11325   \keepPDF@SetupDoc
11326 }
11327 \def\hyper@anchor#1{%
11328   \Hy@SaveLastskip
11329   \Hy@VerboseAnchor{#1}%
11330   \begingroup
11331     \let\protect=\string
11332     \special{html:<a name=%
11333       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11334   \endgroup
11335   \Hy@activeanchortrue
11336   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11337   \special{html:</a>}%
11338   \Hy@activeanchorfalse
11339   \Hy@RestoreLastskip
11340 }
11341 \def\hyper@anchorstart#1{%
11342   \Hy@SaveLastskip
11343   \Hy@VerboseAnchor{#1}%
11344   \begingroup
11345     \hyper@chars
11346     \special{html:<a name=%
11347       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11348   \endgroup
11349   \Hy@activeanchortrue
11350 }
11351 \def\hyper@anchorend{%
11352   \special{html:</a>}%
11353   \Hy@activeanchorfalse
11354   \Hy@RestoreLastskip
11355 }
11356 \def\@urlltype{url}
11357 \def\hyper@linkstart#1#2{%
11358   \Hy@VerboseLinkStart{#1}{#2}%
11359   \expandafter\Hy@colorlink\csname @#1color\endcsname
11360   \def\Hy@tempa{#1}%
11361   \ifx\Hy@tempa\@urlltype
11362     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11363   \else
11364     \begingroup
11365     \hyper@chars

```



```

11366 \special{%
11367   html:<a href=%
11368     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11369   }%
11370 \endgroup
11371 \fi
11372 }
11373 \def\hyper@linkend{%
11374 \special{html:</a>}%
11375 \Hy@endcolorlink
11376 }
11377 \def\hyper@linkfile#1#2#3{%
11378 \hyper@linkurl{#1}{%
11379   \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
11380   }%
11381 }
11382 \def\hyper@linkurl#1#2{%
11383 \leavevmode
11384 \ifHy@raiselinks
11385   \Hy@SaveSpaceFactor
11386   \Hy@SaveSavedSpaceFactor
11387   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11388   \Hy@RestoreSavedSpaceFactor
11389   \@linkdim\dp\@tempboxa
11390   \lower\@linkdim\hbox{%
11391     \hyper@chars
11392     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11393   }%
11394   \Hy@colorlink\@urlcolor
11395   \Hy@RestoreSpaceFactor
11396   #1%
11397   \Hy@SaveSpaceFactor
11398   \@linkdim\ht\@tempboxa
11399   \advance\@linkdim by -6.5\p@
11400   \raise\@linkdim\hbox{\special{html:</a>}}%
11401   \Hy@endcolorlink
11402   \Hy@RestoreSpaceFactor
11403 \else
11404 \begingroup
11405   \hyper@chars
11406   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11407   \Hy@colorlink\@urlcolor#1%
11408   \special{html:</a>}%
11409   \Hy@endcolorlink
11410 \endgroup
11411 \fi
11412 }

```

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

```

11413 \def\hyper@link#1#2#3{%
11414 \Hy@VerboseLinkStart{#1}{#2}%
11415 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
11416 }
11417 \def\hyper@image#1#2{%
11418 \begingroup
11419 \hyper@chars
11420 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11421 \endgroup

```

```

11422 }
11423 </textures>

```

46.12 dvipsone

```

11424 % \subsection{dvipsone driver}
11425 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11426 % |\special| commands.
11427 <*dvipsone>
11428 \providecommand*{\XR@ext}{pdf}
11429 \def\Hy@raisedlink{}
11430 \providecommand*\@pdfborder{0 0 1}
11431 \providecommand*\@pdfborderstyle{}
11432 \def\literalps@out#1{\special{ps:#1}}%
11433 \def\headerps@out#1{\special{headertext=#1}}%
11434 \input{pdfmark.def}%
11435 \ifx\@pdfproducer\relax
11436   \def\@pdfproducer{dvipsone + Distiller}%
11437 \fi
11438 \HyInfo@AddonUnsupportedtrue
11439 \def\PDF@FinishDoc{%
11440   \Hy@UseMaketitleInfos
11441   \HyInfo@TrappedUnsupported
11442   \special{PDF: Keywords \@pdfkeywords}%
11443   \special{PDF: Title \@pdftitle}%
11444   \special{PDF: Creator \@pdfcreator}%
11445   \ifx\@pdfcreationdate\@empty
11446     \else
11447     \special{PDF: CreationDate \@pdfcreationdate}%
11448   \fi
11449   \ifx\@pdfmoddate\@empty
11450     \else
11451     \special{PDF: ModDate \@pdfmoddate}%
11452   \fi
11453   \special{PDF: Author \@pdfauthor}%
11454   \ifx\@pdfproducer\relax
11455     \else
11456     \special{PDF: Producer \@pdfproducer}%
11457   \fi
11458   \special{PDF: Subject \@pdfsubject}%
11459   \Hy@DisableOption{pdfauthor}%
11460   \Hy@DisableOption{pdftitle}%
11461   \Hy@DisableOption{pdfsubject}%
11462   \Hy@DisableOption{pdfcreator}%
11463   \Hy@DisableOption{pdfcreationdate}%
11464   \Hy@DisableOption{pdfmoddate}%
11465   \Hy@DisableOption{pdfproducer}%
11466   \Hy@DisableOption{pdfkeywords}%
11467   \Hy@DisableOption{pdftrapped}%
11468   \Hy@DisableOption{pdfinfo}%
11469 }
11470 \def\PDF@SetupDoc{%
11471   \def\Hy@temp{}%
11472   \ifx\@pdfstartpage\@empty
11473     \else
11474     \ifx\@pdfstartview\@empty
11475       \else

```

```

11476     \edef\Hy@tempf{%
11477         ,Page=\@pdfstartpage
11478         ,View=\@pdfstartview
11479     }%
11480 \fi
11481 \fi
11482 \edef\Hy@tempf{%
11483     \noexpand\pdfmark{%
11484         pdfmark=/DOCVIEW,%
11485         PageMode=/\@pdfpagemode
11486     }\Hy@temp
11487 }%
11488 }%
11489 \Hy@temp
11490 \ifx\@pdfpagescrop\@empty
11491 \else
11492     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11493 \fi
11494 \edef\Hy@tempf{%
11495     \ifHy@toolbar\else /HideToolbar true\fi
11496     \ifHy@menubar\else /HideMenubar true\fi
11497     \ifHy>windowui\else /HideWindowUI true\fi
11498     \ifHy@fitwindow /FitWindow true\fi
11499     \ifHy@centerwindow /CenterWindow true\fi
11500     \ifHy@displaydoctitle /DisplayDocTitle true\fi
11501     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11502     \Hy@UseNameKey{Direction}\@pdfdirection
11503     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11504     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11505     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11506     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11507     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11508     \Hy@UseNameKey{Duplex}\@pdfduplex
11509     \ifx\@pdfpicktraybypdfsize\@empty
11510     \else
11511         /PickTrayByPDFSize \@pdfpicktraybypdfsize
11512     \fi
11513     \ifx\@pdfprintpagerange\@empty
11514     \else
11515         /PrintPageRange[\@pdfprintpagerange]%
11516     \fi
11517     \ifx\@pdfnumcopies\@empty
11518     \else
11519         /NumCopies \@pdfnumcopies
11520     \fi
11521 }%
11522 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11523 \pdfmark{%
11524     pdfmark=/PUT,%
11525     Raw={%
11526         \string{Catalog}\string}<<%
11527         \ifx\Hy@temp\@empty
11528         \else
11529             /ViewerPreferences<<\Hy@temp>>%
11530         \fi
11531         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11532         \ifx\@pdflang\@empty

```

```

11533 \else
11534 /Lang(\@pdflang)%
11535 \fi
11536 \ifx\@baseurl\@empty
11537 \else
11538 /URI<</Base(\Hy@pstringB)>>%
11539 \fi
11540 >>%
11541 }%
11542 }%
11543 }
11544 \providecommand*\@pdfview{XYZ}
11545 \providecommand*\@pdfviewparams{ %
11546 gsave revscl currentpoint grestore %
11547 72 add exch pop null exch null%
11548 }
11549 \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 .

```

11550 \g@addto@macro\Hy@FirstPageHook{%
11551 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

11552 /DvipsToPDF { 65781 div } def%
11553 /PDFToDvips { 65781 mul } def%
11554 /BPToDvips{65781 mul}def%
11555 /HyperBorder { 1 PDFToDvips } def%
11556 /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.

```

11557 /BorderArrayPatch{%
11558 [exch{%
11559 dup dup type/integertype eq exch type/realtype eq or%
11560 {BPToDvips}if%
11561 }forall]%
11562 }def%
11563 /H.S {%
11564 currentpoint %
11565 HyperBorder add /pdf@lly exch def %
11566 dup DvipsToPDF 72 add /pdf@hoff exch def %
11567 HyperBorder sub /pdf@llx exch def%
11568 } def%
11569 /H.L {%
11570 2 sub %
11571 PDFToDvips /HyperBase exch def %
11572 currentpoint %
11573 HyperBase sub /pdf@ury exch def%
11574 /pdf@urx exch def%
11575 } def%
11576 /H.A {%
11577 H.L %
11578 currentpoint exch pop %
11579 HyperBase sub % baseline skip

```

```

11580   DvipsToPDF /pdf@voff exch def%
11581 } def%
11582 /H.R {%
11583   currentpoint %
11584   HyperBorder sub /pdf@ury exch def %
11585   HyperBorder add /pdf@urx exch def %
11586   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11587 } def%
11588 }%
11589 }
11590 </dvipsone>

```

46.13 TeX4ht

```

11591 <*tex4ht>
11592 \providecommand*{\XR@ext}{html}
11593 \def\Hy@raisedlink{}
11594 \ifpackageloaded{tex4ht}{%
11595   \Hy@InfoNoLine{tex4ht is already loaded}%
11596 }{%
11597   \RequirePackage[hx4ht]{tex4ht}%
11598 }
11599 \hyperlinkfileprefix{}
11600 \def\PDF@FinishDoc{}
11601 \def\PDF@SetupDoc{%
11602   \ifx\@baseurl\@empty
11603   \else
11604     \special{t4ht=<base href="\@baseurl">}%
11605   \fi
11606 }
11607 \def\hyper@anchor#1{%
11608   \Hy@SaveLastskip
11609   \Hy@VerboseAnchor{#1}%
11610   \begingroup
11611     \let\protect=\string
11612     \special{t4ht=<a name=%
11613       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11614   \endgroup
11615   \Hy@activeanchortrue
11616   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11617   \special{t4ht=</a>}%
11618   \Hy@activeanchorfalse
11619   \Hy@RestoreLastskip
11620 }
11621 \def\hyper@anchorstart#1{%
11622   \Hy@SaveLastskip
11623   \Hy@VerboseAnchor{#1}%
11624   \begingroup
11625     \hyper@chars\special{t4ht=<a name=%
11626       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11627   \endgroup
11628   \Hy@activeanchortrue
11629 }
11630 \def\hyper@anchorend{%
11631   \special{t4ht=</a>}%
11632   \Hy@activeanchorfalse
11633   \Hy@RestoreLastskip
11634 }

```

```

11635 \def\@urlltype{url}
11636 \def\hyper@linkstart#1#2{%
11637   \Hy@VerboseLinkStart{#1}{#2}%
11638   \expandafter\Hy@colorlink\csname @#1color\endcsname
11639   \def\Hy@tempa{#1}%
11640   \ifx\Hy@tempa\@urlltype
11641     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11642   \else
11643     \begingroup
11644       \hyper@chars
11645       \special{t4ht=<a href=%
11646         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
11647     \endgroup
11648   \fi
11649 }
11650 \def\hyper@linkend{%
11651   \special{t4ht=</a>}%
11652   \Hy@endcolorlink
11653 }
11654 \def\hyper@linkfile#1#2#3{%
11655   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
11656 }
11657 \def\hyper@linkurl#1#2{%
11658   \leavevmode
11659   \ifHy@raiselinks
11660     \Hy@SaveSpaceFactor
11661     \Hy@SaveSavedSpaceFactor
11662     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11663     \Hy@RestoreSavedSpaceFactor
11664     \@linkdim\dp\@tempboxa
11665     \lower\@linkdim\hbox{%
11666       \begingroup
11667         \hyper@chars
11668         \special{%
11669           t4ht=<a href=\hyper@quote#2\hyper@quote>%
11670         }%
11671       \endgroup
11672     }%
11673     \Hy@colorlink\@urlcolor
11674     \Hy@RestoreSpaceFactor
11675     #1%
11676     \Hy@SaveSpaceFactor
11677     \Hy@endcolorlink
11678     \@linkdim\ht\@tempboxa
11679     \advance\@linkdim by -6.5\p@
11680     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11681     \Hy@RestoreSpaceFactor
11682   \else
11683     \begingroup
11684       \hyper@chars
11685       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11686       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11687       \special{t4ht=</a>}%
11688     \endgroup
11689   \fi
11690 }

```

Poor implementation of \hyper@link without considering #1.

```

11691 \def\hyper@link#1#2#3{%
11692   \Hy@VerboseLinkStart{#1}{#2}%
11693   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
11694 }
11695 \def\hyper@image#1#2{%
11696   \begingroup
11697   \hyper@chars
11698   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11699   \endgroup
11700 }
11701 \let\autoref\ref
11702 \ifx \rEfLiNK \UnDef
11703   \def\rEfLiNK #1#2{#2}%
11704 \fi
11705 \def\backref#1{}

Fix for tex4ht.
11706 \AtBeginDocument{%
11707   \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
11708   \expandafter\def\csname Make:Label\endcsname#1#2{%
11709     \ifhmode
11710       \Hy@SaveSpaceFactor
11711     \else
11712       \global\Hy@SavedSpaceFactor=1000 %
11713     \fi
11714     \Hy@OrgMakeLabel{#1}{%
11715       \Hy@RestoreSpaceFactor
11716       #2%
11717     \Hy@SaveSpaceFactor
11718     }%
11719     \Hy@RestoreSpaceFactor
11720   }%
11721 }
11722 </tex4ht>
11723 <*tex4htcfg>
11724 \IfFileExists{\jobname.cfg}{\endinput}{}
11725 \Preamble{html}
11726 \begin{document}%
11727 \EndPreamble
11728 \def\TeX{\TeX}
11729 \def\OMEGA{\Omega}
11730 \def\LaTeX{\LaTeX}
11731 \def\LaTeXe{\LaTeX2e}
11732 \def\eTeX{e-TeX}
11733 \def\MF{Metafont}
11734 \def\MP{MetaPost}
11735 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

11736 <*pdfmark>
11737 \long\def\@Form[#1]{%
11738 \g@addto@macro\Hy@FirstPageHook{%
11739   \headerps@out{%
11740 [%
11741   /_objdef{pdfDocEncoding}%

```

```

11742 /type/dict%
11743 /OBJ pdfmark%
11744 [%
11745 {pdfDocEncoding}%
11746 <<%
11747 /Type/Encoding%
11748 /Differences%
11749 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11750 /tilde %
11751 39/quotesingle %
11752 96/grave %
11753 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11754 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11755 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11756 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
11757 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11758 164/currency %
11759 166/brokenbar %
11760 168/dieresis/copyright/ordfeminine %
11761 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11762 /twosuperior/threesuperior/acute/mu %
11763 183/periodcentered/cedilla/onesuperior/ordmasculine %
11764 188/onequarter/onehalf/threequarters %
11765 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11766 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11767 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11768 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11769 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11770 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11771 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11772 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11773 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11774 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11775 ]%
11776 >>%
11777 /PUT pdfmark%
11778 [%
11779 /__objdef{ZaDb}%
11780 /type/dict%
11781 /OBJ pdfmark%
11782 [%
11783 {ZaDb}%
11784 <<%
11785 /Type/Font%
11786 /Subtype/Type1%
11787 /Name/ZaDb%
11788 /BaseFont/ZapfDingbats%
11789 >>%
11790 /PUT pdfmark%
11791 [%
11792 /__objdef{Helv}%
11793 /type/dict%
11794 /OBJ pdfmark%
11795 [%
11796 {Helv}%
11797 <<%
11798 /Type/Font%

```



```

11799 /Subtype/Type1%
11800 /Name/Helv%
11801 /BaseFont/Helvetica%
11802 /Encoding{pdfDocEncoding}%
11803 >>%
11804 /PUT pdfmark%
11805 [%
11806 /_objdef{aform}%
11807 /type/dict%
11808 /OBJ pdfmark%
11809 [%
11810 /_objdef{afields}%
11811 /type/array%
11812 /OBJ pdfmark%
11813 {%
11814 [%
11815 /BBox[0 0 100 100]%
11816 /_objdef{Check}%
11817 /BP pdfmark %
11818 1 0 0 setrgbcolor%
11819 /ZapfDingbats 80 selectfont %
11820 20 20 moveto%
11821 (4)show%
11822 [/EP pdfmark%
11823 [%
11824 /BBox[0 0 100 100]%
11825 /_objdef{Cross}%
11826 /BP pdfmark %
11827 1 0 0 setrgbcolor%
11828 /ZapfDingbats 80 selectfont %
11829 20 20 moveto%
11830 (8)show%
11831 [/EP pdfmark%
11832 [%
11833 /BBox[0 0 250 100]%
11834 /_objdef{Submit}%
11835 /BP pdfmark %
11836 0.6 setgray %
11837 0 0 250 100 rectfill %
11838 1 setgray %
11839 2 2 moveto %
11840 2 98 lineto %
11841 248 98 lineto %
11842 246 96 lineto %
11843 4 96 lineto %
11844 4 4 lineto %
11845 fill %
11846 0.34 setgray %
11847 248 98 moveto %
11848 248 2 lineto %
11849 2 2 lineto %
11850 4 4 lineto %
11851 246 4 lineto %
11852 246 96 lineto %
11853 fill%
11854 /Helvetica 76 selectfont %
11855 0 setgray %

```

```

11856 8 22.5 moveto%
11857 (Submit)show%
11858 [/EP pdfmark%
11859 [%
11860 /BBox[0 0 250 100]%
11861 /__objdef{SubmitP}%
11862 /BP pdfmark %
11863 0.6 setgray %
11864 0 0 250 100 rectfill %
11865 0.34 setgray %
11866 2 2 moveto %
11867 2 98 lineto %
11868 248 98 lineto %
11869 246 96 lineto %
11870 4 96 lineto %
11871 4 4 lineto %
11872 fill %
11873 1 setgray %
11874 248 98 moveto %
11875 248 2 lineto %
11876 2 2 lineto %
11877 4 4 lineto %
11878 246 4 lineto %
11879 246 96 lineto %
11880 fill%
11881 /Helvetica 76 selectfont %
11882 0 setgray %
11883 10 20.5 moveto%
11884 (Submit)show%
11885 [/EP pdfmark%
11886 } ?pdfmark%
11887 [%
11888 {aform}%
11889 <<%
11890 /Fields{afields}%
11891 /DR<<%
11892 /Font<<%
11893 /ZaDb{ZaDb}%
11894 /Helv{Helv}%
11895 >>%
11896 >>%
11897 /DA(/Helv 10 Tf 0 g)%
11898 /CO{corder}%
11899 \ifHy@pdfa
11900 \else
11901 /NeedAppearances true%
11902 \fi
11903 >>%
11904 /PUT pdfmark%
11905 [%
11906 {Catalog}%
11907 <<%
11908 /AcroForm{aform}%
11909 >>%
11910 /PUT pdfmark%
11911 [%
11912 /__objdef{corder}%

```

```

11913 /type/array%
11914 /OBJ pdfmark% dps
11915 }}%
11916 \kvsetkeys{Form}{#1}%
11917 }
11918 \def\@endForm{}
11919 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11920 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
11921 }
11922 \def\@TextField[#1]#2{% parameters, label
11923 \def\Fld@name{#2}%
11924 \def\Fld@default{}%
11925 \let\Fld@value\@empty
11926 \def\Fld@width{\DefaultWidthofText}%
11927 \def\Fld@height{%
11928 \ifFld@multiline
11929 \DefaultHeightofTextMultiline
11930 \else
11931 \DefaultHeightofText
11932 \fi
11933 }%
11934 \begingroup
11935 \expandafter\HyField@SetKeys\expandafter{%
11936 \DefaultOptionsofText,#1%
11937 }%
11938 \HyField@FlagsText
11939 \ifFld@hidden\def\Fld@width{1sp}\fi
11940 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11941 \LayoutTextField{#2}{%
11942 \Hy@escapeform\PDFForm@Text
11943 \pdfmark[MakeTextField{\Fld@width}{\Fld@height}]{%
11944 pdfmark=/ANN,Raw={\PDFForm@Text}%
11945 }%
11946 }%
11947 \endgroup
11948 }
11949 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11950 \def\Fld@name{#2}%
11951 \let\Fld@default\relax
11952 \let\Fld@value\relax
11953 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11954 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11955 \begingroup
11956 \Fld@menulength=0 %
11957 \@tempdima\z@
11958 \@for\@curropt:=#3\do{%
11959 \expandafter\Fld@checkequals\@curropt==\%
11960 \Hy@StepCount\Fld@menulength
11961 \settowidth{\@tempdimb}{\@currDisplay}%
11962 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11963 }%
11964 \advance\@tempdima by 15\p@
11965 \begingroup
11966 \HyField@SetKeys{#1}%
11967 \edef\x{\endgroup
11968 \noexpand\expandafter
11969 \noexpand\HyField@SetKeys

```

```

11970 \noexpand\expandafter{%
11971 \expandafter\noexpand\csname DefaultOptionsof%
11972 \ifFld@radio
11973 Radio%
11974 \else
11975 \ifFld@combo
11976 \ifFld@popdown
11977 PopdownBox%
11978 \else
11979 ComboBox%
11980 \fi
11981 \else
11982 ListBox%
11983 \fi
11984 \fi
11985 \endcsname
11986 }%
11987 }\x
11988 \HyField@SetKeys{#1}%
11989 \ifFld@hidden\def\Fld@width{1sp}\fi
11990 \ifx\Fld@value\relax
11991 \let\Fld@value\Fld@default
11992 \fi
11993 \LayoutChoiceField{#2}{%
11994 \ifFld@radio
11995 \HyField@FlagsRadioButton
11996 \@@Radio{#3}%
11997 \else
11998 \begingroup
11999 \HyField@FlagsChoice
12000 \ifdim\Fld@width<\@tempdima
12001 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12002 \edef\Fld@width{\the\@tempdima}%
12003 \fi
12004 \ifFld@combo
12005 \else
12006 \@tempdima=\the\Fld@menulength\Fld@charsize
12007 \advance\@tempdima by \Fld@borderwidth bp %
12008 \advance\@tempdima by \Fld@borderwidth bp %
12009 \edef\Fld@height{\the\@tempdima}%
12010 \fi
12011 \@@Listbox{#3}%
12012 \endgroup
12013 \fi
12014 }%
12015 \endgroup
12016 }
12017 \def\@@Radio#1{%
12018 \Fld@listcount=0 %
12019 \@for\@curropt:=#1\do{%
12020 \expandafter\Fld@checkequals\@curropt==\%
12021 \Hy@StepCount\Fld@listcount
12022 \@currDisplay\space
12023 \Hy@escapeform\PDFForm@Radio
12024 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12025 pdfmark=/ANN,%
12026 Raw={%

```

```

12027      \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12028      }%
12029    } % deliberate space between radio buttons
12030  }%
12031 }
12032 \newcount\Fld@listcount
12033 \def\@@ListBox#1{%
12034   \HyField@PDFChoices{#1}%
12035   \Hy@escapeform\PDFForm@List
12036   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12037     pdfmark=/ANN,Raw={\PDFForm@List}%
12038   }%
12039 }
12040 \def\@PushButton[#1]#2{% parameters, label
12041   \def\Fld@name{#2}%
12042   \begingroup
12043     \expandafter\HyField@SetKeys\expandafter{%
12044       \DefaultOptionsofPushButton,#1%
12045     }%
12046     \ifHy@pdfa
12047       \Hy@Error{%
12048         PDF/A: Push button with JavaScript is prohibited%
12049       }\@ehc
12050       \LayoutPushButtonField{%
12051         \leavevmode
12052         \MakeButtonField{#2}%
12053       }%
12054     \else
12055       \HyField@FlagsPushButton
12056       \ifFld@hidden\def\Fld@width{1sp}\fi
12057       \LayoutPushButtonField{%
12058         \leavevmode
12059         \Hy@escapeform\PDFForm@Push
12060         \pdfmark[\MakeButtonField{#2}]{%
12061           pdfmark=/ANN,Raw={\PDFForm@Push}%
12062         }%
12063       }%
12064     \fi
12065   \endgroup
12066 }
12067 \def\@Submit[#1]#2{%
12068   \def\Fld@width{\DefaultWidthofSubmit}%
12069   \def\Fld@height{\DefaultHeightofSubmit}%
12070   \begingroup
12071     \expandafter\HyField@SetKeys\expandafter{%
12072       \DefaultOptionsofSubmit,#1%
12073     }%
12074     \HyField@FlagsPushButton
12075     \HyField@FlagsSubmit
12076     \ifFld@hidden\def\Fld@width{1sp}\fi
12077     \Hy@escapeform\PDFForm@Submit
12078     \pdfmark[\MakeButtonField{#2}]{%
12079       pdfmark=/ANN,%
12080       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12081     }%
12082   \endgroup
12083 }

```

```

12084 \def\@Reset[#1]#2{%
12085   \def\Fld@width{\DefaultWidthofReset}%
12086   \def\Fld@height{\DefaultHeightofReset}%
12087   \begingroup
12088     \expandafter\HyField@SetKeys\expandafter{%
12089       \DefaultOptionsofReset,#1%
12090     }%
12091     \leavevmode
12092     \ifHy@pdfa
12093       \Hy@Error{%
12094         PDF/A: Reset action is prohibited%
12095       }\@ehc
12096       \MakeButtonField{#2}%
12097     \else
12098       \HyField@FlagsPushButton
12099       \ifFld@hidden\def\Fld@width{1sp}\fi
12100       \Hy@escapeform\PDFForm@Reset
12101       \pdfmark[\MakeButtonField{#2}]{%
12102         pdfmark=/ANN,Raw={\PDFForm@Reset}%
12103       }%
12104     \fi
12105   \endgroup
12106 }%
12107 \def\@CheckBox[#1]#2{% parameters, label
12108   \def\Fld@name{#2}%
12109   \def\Fld@default{0}%
12110   \begingroup
12111     \def\Fld@width{\DefaultWidthofCheckBox}%
12112     \def\Fld@height{\DefaultHeightofCheckBox}%
12113     \expandafter\HyField@SetKeys\expandafter{%
12114       \DefaultOptionsofCheckBox,#1%
12115     }%
12116     \HyField@FlagsCheckBox
12117     \ifFld@hidden\def\Fld@width{1sp}\fi
12118     \LayoutCheckField{#2}{%
12119       \Hy@escapeform\PDFForm@Check
12120       \pdfmark[\MakeCheckField{Fld@width}{Fld@height}]{%
12121         pdfmark=/ANN,Raw={\PDFForm@Check}%
12122       }%
12123     }%
12124   \endgroup
12125 }
12126 \</pdfmark>

```

47.2 HyperTeX

```

12127 \<hypertex>
12128 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12129 \def\@endForm{}
12130 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12131   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12132 }
12133 \def\@TextField[#1]#2{% parameters, label
12134   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12135 }
12136 \def\@CheckBox[#1]#2{% parameters, label
12137   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12138 }

```

```

12139 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12140 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12141 }
12142 \def\@PushButton[#1]#2{% parameters, label
12143 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12144 }
12145 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12146 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12147 \</hypertex>

```

47.3 TeX4ht

```

12148 \<tex4ht>
12149 \def\@Form[#1]{%
12150 \kvsetkeys{Form}{#1}%
12151 \HCode{<form action="\Form@action" method="\Form@method">}%
12152 }
12153 \def\@endForm{\HCode{</form>}}
12154 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12155 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12156 }
12157 \def\@TextField[#1]#2{% parameters, label
12158 \let\Hy@reserved@a\@empty
12159 \def\Fld@name{#2}%
12160 \def\Fld@default{}%
12161 \bgroup
12162 \Field@toks={}%
12163 \kvsetkeys{Field}{#1}%
12164 \HCode{<label for="\Fld@name">#2</label>}%
12165 \ifFld@password
12166 \@@PasswordField
12167 \else
12168 \@@TextField
12169 \fi
12170 \egroup
12171 }
12172 \def\@@PasswordField{%
12173 \HCode{%
12174 <input type="password" %
12175 id="\Fld@name" %
12176 name="\Fld@name" %
12177 \ifFld@hidden type="hidden" \fi
12178 value="\Fld@default" %
12179 \the\Field@toks
12180 >%
12181 }%
12182 }
12183 \def\@@TextField{%
12184 \ifFld@multiline
12185 \HCode{<textarea %
12186 \ifFld@readonly \fi
12187 id="\Fld@name" %
12188 name="\Fld@name" %
12189 \ifFld@hidden type="hidden" \fi
12190 \the\Field@toks>%
12191 }%
12192 \Fld@default
12193 \HCode{</textarea>}%

```

```

12194 \else
12195 \HCode{<input type="textbox" %
12196 \ifFld@readonly readonly \fi
12197 id="\Fld@name" %
12198 name="\Fld@name" %
12199 \ifFld@hidden type="hidden" \fi
12200 value="\Fld@default" %
12201 \the\Field@toks>%
12202 }%
12203 \fi
12204 }
12205 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12206 \def\Fld@name{#2}%
12207 \def\Fld@default{#3}%
12208 \let\Hy@reserved@a\relax
12209 \begingroup
12210 \expandafter\Fld@findlength#3\\%
12211 \Field@toks={ }%
12212 \kvsetkeys{Field}{#1}%
12213 #2%
12214 \ifFld@radio
12215 \expandafter\@@Radio#3\\%
12216 \else
12217 \expandafter\@@Menu#3\\%
12218 \fi
12219 \endgroup
12220 }
12221 \def\Fld@findlength#1\\{%
12222 \Fld@menulength=0 %
12223 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12224 }
12225 \def\@@Menu#1\\{%
12226 \HCode{<select size="\the\Fld@menulength" %
12227 name="\Fld@name" %
12228 \the\Field@toks>%
12229 }%
12230 \@for\@curropt:=#1\do{%
12231 \expandafter\Fld@checkequals\@curropt==\\%
12232 \HCode{<option %
12233 \ifx\@curropt\Fld@default selected \fi
12234 value="\@currValue">\@currDisplay</option>%
12235 }%
12236 }%
12237 \HCode{</select>}%
12238 }
12239 \def\@@Radio#1\\{%
12240 \@for\@curropt:=#1\do{%
12241 \expandafter\Fld@checkequals\@curropt==\\%
12242 \HCode{<input type="radio" %
12243 \ifx\@curropt\Fld@default checked \fi
12244 name="\Fld@name" %
12245 value="\@currValue" %
12246 \the\Field@toks>%
12247 }%
12248 \@currDisplay
12249 }%
12250 }

```



```

12251 \def\@PushButton[#1]#2{% parameters, label
12252   \def\Fld@name{#2}%
12253   \bgroup
12254     \Field@toks={ }%
12255     \kvsetkeys{Field}{#1}%
12256     \HCode{<input type="button" %
12257       name="\Fld@name" %
12258       value="#2" %
12259     \the\Field@toks>%
12260   }%
12261   \HCode{</button>}%
12262   \egroup
12263 }
12264 \def\@Submit[#1]#2{%
12265   \HCode{<button type="submit">#2</button>}%
12266 }
12267 \def\@Reset[#1]#2{%
12268   \HCode{<button type="reset">#2</button>}%
12269 }
12270 \def\@CheckBox[#1]#2{% parameters, label
12271   \let\Hy@reserved@a\@empty
12272   \def\Fld@name{#2}%
12273   \def\Fld@default{0}%
12274   \bgroup
12275     \Field@toks={ }%
12276     \kvsetkeys{Field}{#1}%
12277     \HCode{<input type="checkbox" %
12278       \ifFld@checked checked \fi
12279       \ifFld@disabled disabled \fi
12280       \ifFld@readonly readonly \fi
12281       name="\Fld@name" %
12282       \ifFld@hidden type="hidden" \fi
12283       value="\Fld@default" %
12284     \the\Field@toks>%
12285     #2%
12286   }%
12287   \egroup
12288 }
12289 </tex4ht>

```

47.4 pdfTeX

```

12290 <*pdfTeX>
12291 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12292   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12293 }
12294 \def\MakeFieldObject#1#2{\sbox0{#1}%
12295   \immediate\pdfxform0 %
12296   \expandafter\edef\csname #2Object\endcsname{%
12297     \the\pdfastxform\space 0 R%
12298   }%
12299 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12300 }%
12301 \def\HyField@afields{}
12302 \begingroup\expandafter\expandafter\expandafter\endgroup
12303 \expandafter\ifx\csname pdfastlink\endcsname\relax
12304   \let\HyField@AddToFields\relax
12305   \PackageInfo{hyperref}{%

```

```

12306   You need pdfTeX 1.40.0 for setting the /Fields entry.%
12307   \MessageBreak
12308   Adobe Reader/Acrobat accepts an empty /Field array,%
12309   \MessageBreak
12310   but other PDF viewers might complain%
12311 }%
12312 \else
12313 \def\HyField@AuxAddToFields#1{%
12314 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12315 \Hy@AtBeginDocument{%
12316   \if@filesw
12317     \immediate\write\@mainaux{%
12318       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12319     }%
12320   \fi
12321   \let\HyField@AfterAuxOpen\@firstofone
12322   \def\HyField@AuxAddToFields#1{%
12323     \xdef\HyField@afields{%
12324       \ifx\HyField@afields\@empty
12325         \else
12326           \HyField@afields
12327         \space
12328       \fi
12329       #1 0 R%
12330     }%
12331   }%
12332 }%
12333 \def\HyField@AddToFields{%
12334   \expandafter\HyField@@AddToFields\expandafter{%
12335     \the\pdfastlink
12336   }%
12337 }%
12338 \def\HyField@@AddToFields#1{%
12339   \HyField@AfterAuxOpen{%
12340     \if@filesw
12341       \write\@mainaux{%
12342         \string\HyField@AuxAddToFields{#1}%
12343       }%
12344     \fi
12345   }%
12346 }%
12347 \fi
12348 \def\@Form[#1]{%
12349   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12350   \kvsetkeys{Form}{#1}%
12351   \Hy@FormObjects
12352   \ifnum\pdfTeXversion>13 %
12353     \pdfrefobj\OBJ@pdfdocencoding
12354     \pdfrefobj\OBJ@ZaDb
12355     \pdfrefobj\OBJ@Helv
12356   \fi
12357   \AtVeryEndDocument{%
12358     \immediate\pdfobj{%
12359       <<%
12360       /Fields[\HyField@afields]%
12361       /DR<<%
12362       /Font<<%

```

```

12363      /ZaDb \OBJ@ZaDb\space 0 R%
12364      /Helv \OBJ@Helv\space 0 R%
12365      >>%
12366      >>%
12367      /DA(/Helv 10 Tf 0 g)%
12368      \ifHy@pdfa
12369      \else
12370      /NeedAppearances true%
12371      \fi
12372      >>%
12373      }%
12374      \edef\OBJ@acroform{\the\pdfastobj}%
12375      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12376      }%
12377      \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12378      \begingroup
12379      \fontfamily{pzd}%
12380      \fontencoding{U}%
12381      \fontseries{m}%
12382      \fontshape{n}%
12383      \selectfont
12384      \char123 %
12385      \endgroup
12386      }{Ding}%
12387      \MakeFieldObject{%
12388      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12389      }{Submit}%
12390      \MakeFieldObject{%
12391      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12392      }{SubmitP}%
12393      }
12394      \def\@endForm{}
12395      \def\@TextField[#1]#2{% parameters, label
12396      \def\Fld@name{#2}%
12397      \def\Fld@default{}%
12398      \let\Fld@value\@empty
12399      \def\Fld@width{\DefaultWidthofText}%
12400      \def\Fld@height{%
12401      \ifFld@multiline
12402      \DefaultHeightofTextMultiline
12403      \else
12404      \DefaultHeightofText
12405      \fi
12406      }%
12407      \begingroup
12408      \expandafter\HyField@SetKeys\expandafter{%
12409      \DefaultOptionsofText,#1%
12410      }%
12411      \PDFForm@Name
12412      \HyField@FlagsText
12413      \ifFld@hidden\def\Fld@width{1sp}\fi
12414      \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12415      \LayoutTextField{#2}{%
12416      \Hy@escapeform\PDFForm@Text
12417      \pdfstartlink user {\PDFForm@Text}\relax
12418      \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink

```

```

12419 \HyField@AddToFields
12420 }%
12421 \endgroup
12422 }
12423 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12424 \def\Fld@name{#2}%
12425 \let\Fld@default\relax
12426 \let\Fld@value\relax
12427 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12428 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12429 \begingroup
12430 \Fld@menulength=0 %
12431 \@tempdima\z@
12432 \@for\@curropt:=#3\do{%
12433 \expandafter\Fld@checkequals\@curropt==\%
12434 \Hy@StepCount\Fld@menulength
12435 \settowidth{\@tempdimb}{\@currDisplay}%
12436 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12437 }%
12438 \advance\@tempdima by 15\p@
12439 \begingroup
12440 \HyField@SetKeys{#1}%
12441 \edef\x{\endgroup
12442 \noexpand\expandafter
12443 \noexpand\HyField@SetKeys
12444 \noexpand\expandafter{%
12445 \expandafter\noexpand\csname DefaultOptionsof%
12446 \ifFld@radio
12447 Radio%
12448 \else
12449 \ifFld@combo
12450 \ifFld@popdown
12451 PopdownBox%
12452 \else
12453 ComboBox%
12454 \fi
12455 \else
12456 ListBox%
12457 \fi
12458 \fi
12459 \endcsname
12460 }%
12461 }\x
12462 \HyField@SetKeys{#1}%
12463 \PDFForm@Name
12464 \ifFld@hidden\def\Fld@width{1sp}\fi
12465 \ifx\Fld@value\relax
12466 \let\Fld@value\Fld@default
12467 \fi
12468 \LayoutChoiceField{#2}{%
12469 \ifFld@radio
12470 \HyField@FlagsRadioButton
12471 \@@Radio{#3}%
12472 \else
12473 \begingroup
12474 \HyField@FlagsChoice
12475 \ifdim\Fld@width<\@tempdima

```

```

12476         \ifdim\@tempdima<1cm\@tempdima1cm\fi
12477         \edef\Fld@width{\the\@tempdima}%
12478     \fi
12479     \ifFld@combo
12480     \else
12481         \@tempdima=\the\Fld@menulength\Fld@charsize
12482         \advance\@tempdima by \Fld@borderwidth bp %
12483         \advance\@tempdima by \Fld@borderwidth bp %
12484         \edef\Fld@height{\the\@tempdima}%
12485     \fi
12486     \@@ListBox{#3}%
12487 \endgroup
12488 \fi
12489 }%
12490 \endgroup
12491 }
12492 \def\@@Radio#1{%
12493     \Fld@listcount=0 %
12494     \@for\@curropt:=#1\do{%
12495         \expandafter\Fld@checkequals\@curropt==\%
12496         \Hy@StepCount\Fld@listcount
12497         \@currDisplay\space
12498         \leavevmode
12499         \Hy@escapeform\PDFForm@Radio
12500         \pdfstartlink user {%
12501             \PDFForm@Radio
12502             /AP<<%
12503             /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.

```

12504         /\@currValue\space \DingObject
12505         >>%
12506         >>%
12507     }%
12508     \relax
12509     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12510     \ifnum\Fld@listcount=1 %
12511         \HyField@AddToFields
12512     \fi
12513     \space % deliberate space between radio buttons
12514 }%
12515 }
12516 \newcount\Fld@listcount
12517 \def\@@ListBox#1{%
12518     \HyField@PDFChoices{#1}%
12519     \leavevmode
12520     \Hy@escapeform\PDFForm@List
12521     \pdfstartlink user {\PDFForm@List}\relax
12522     \MakeChoiceField{\Fld@width}{\Fld@height}%
12523     \pdfendlink
12524     \HyField@AddToFields
12525 }
12526 \def\@PushButton[#1]#2{% parameters, label
12527     \def\Fld@name{#2}%
12528     \begingroup
12529     \expandafter\HyField@SetKeys\expandafter{%

```

```

12530     \DefaultOptionsofPushButton,#1%
12531 }%
12532 \PDFForm@Name
12533 \ifHy@pdfa
12534     \Hy@Error{%
12535         PDF/A: Push button with JavaScript is prohibited%
12536     }\@ehc
12537     \LayoutPushButtonField{%
12538         \leavevmode
12539         \MakeButtonField{#2}%
12540     }%
12541 \else
12542     \HyField@FlagsPushButton
12543     \ifFld@hidden\def\Fld@width{1sp}\fi
12544     \LayoutPushButtonField{%
12545         \leavevmode
12546         \Hy@escapeform\PDFForm@Push
12547         \pdfstartlink user {\PDFForm@Push}\relax
12548         \MakeButtonField{#2}%
12549         \pdfendlink
12550         \HyField@AddToFields
12551     }%
12552 \fi
12553 \endgroup
12554 }
12555 \def\@Submit[#1]#2{%
12556     \def\Fld@width{\DefaultWidthofSubmit}%
12557     \def\Fld@height{\DefaultHeightofSubmit}%
12558     \begingroup
12559         \expandafter\HyField@SetKeys\expandafter{%
12560             \DefaultOptionsofSubmit,#1%
12561         }%
12562         \HyField@FlagsPushButton
12563         \HyField@FlagsSubmit
12564         \ifFld@hidden\def\Fld@width{1sp}\fi
12565         \leavevmode
12566         \Hy@escapeform\PDFForm@Submit
12567         \pdfstartlink user {%
12568             \PDFForm@Submit
12569             /AP<</N \SubmitObject/D \SubmitPObject>>%
12570         }%
12571         \relax
12572         \MakeButtonField{#2}%
12573         \pdfendlink
12574         \HyField@AddToFields
12575     \endgroup
12576 }
12577 \def\@Reset[#1]#2{%
12578     \def\Fld@width{\DefaultWidthofReset}%
12579     \def\Fld@height{\DefaultHeightofReset}%
12580     \begingroup
12581         \expandafter\HyField@SetKeys\expandafter{%
12582             \DefaultOptionsofReset,#1%
12583         }%
12584         \leavevmode
12585         \ifHy@pdfa
12586             \Hy@Error{%

```

```

12587     PDF/A: Reset action is prohibited%
12588   }\@ehc
12589   \MakeButtonField{#2}%
12590 \else
12591   \HyField@FlagsPushButton
12592   \ifFld@hidden\def\Fld@width{1sp}\fi
12593   \Hy@escapeform\PDFForm@Reset
12594   \pdfstartlink user {\PDFForm@Reset}\relax
12595   \MakeButtonField{#2}%
12596   \pdfendlink
12597   \HyField@AddToFields
12598 \fi
12599 \endgroup
12600 }
12601 \def\@CheckBox[#1]#2{% parameters, label
12602 \def\Fld@name{#2}%
12603 \def\Fld@default{0}%
12604 \begingroup
12605   \def\Fld@width{\DefaultWidthofCheckBox}%
12606   \def\Fld@height{\DefaultHeightofCheckBox}%
12607   \expandafter\HyField@SetKeys\expandafter{%
12608     \DefaultOptionsofCheckBox,#1%
12609   }%
12610   \PDFForm@Name
12611   \HyField@FlagsCheckBox
12612   \ifFld@hidden\def\Fld@width{1sp}\fi
12613   \LayoutCheckField{#2}{%
12614     \Hy@escapeform\PDFForm@Check
12615     \pdfstartlink user {\PDFForm@Check}\relax
12616     \MakeCheckField{\Fld@width}{\Fld@height}%
12617     \pdfendlink
12618     \HyField@AddToFields
12619   }%
12620 \endgroup
12621 }
12622 \def\Hy@FormObjects{%
12623 \pdfobj {%
12624 <<%
12625   /Type/Encoding%
12626   /Differences[%
12627     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12628     /ring/tilde %
12629     39/quotesingle %
12630     96/grave %
12631     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12632     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12633     /quotedblbase/quotedblleft/quotedblright/quoteleft%
12634     /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12635     /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12636     164/currency %
12637     166/brokenbar %
12638     168/dieresis/copyright/ordfeminine %
12639     172/logicalnot/.notdef/registered/macron/degree/plusminus%
12640     /twosuperior/threesuperior/acute/mu %
12641     183/periodcentered/cedilla/onesuperior/ordmasculine %
12642     188/onequarter/onehalf/threequarters %
12643     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%

```

```

12644      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12645      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12646      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12647      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12648      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12649      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12650      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12651      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12652      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12653  }%
12654  >>%
12655  }%
12656  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
12657  \pdfobj{%
12658  <<%
12659      /Type/Font%
12660      /Subtype/Type1%
12661      /Name/ZaDb%
12662      /BaseFont/ZapfDingbats%
12663  >>%
12664  }%
12665  \xdef\OBJ@ZaDb{\the\pdflastobj}%
12666  \pdfobj{%
12667  <<%
12668      /Type/Font%
12669      /Subtype/Type1%
12670      /Name/Helv%
12671      /BaseFont/Helvetica%
12672      /Encoding \OBJ@pdfdocencoding\space 0 R%
12673  >>%
12674  }%
12675  \xdef\OBJ@Helv{\the\pdflastobj}%
12676  \global\let\Hy@FormObjects\relax
12677  }
12678  </pdftex>

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdf \TeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
12679 <*dvipdfm | xetex>
```

\@Gauge

```

12680 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12681   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12682 }

```

\@Form

```

12683 \def\@Form[#1]{%
12684   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12685   \kvsetkeys{Form}{#1}%
12686   \Hy@FormObjects
12687   \@pdfm@mark{obj @afields []}%
12688   \@pdfm@mark{obj @corder []}%
12689   \@pdfm@mark{%
12690     obj @aform <<%
12691     /Fields @afields%

```



```

12692 /DR<<%
12693 /Font<<%
12694 /ZaDb @OBJZaDb%
12695 /Helv @OBJHelv%
12696 >>%
12697 >>%
12698 /DA(/Helv 10 Tf 0 g)%
12699 /CO @corder%
12700 \ifHy@pdfa
12701 \else
12702 /NeedAppearances true%
12703 \fi
12704 >>%
12705 }%
12706 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12707 }

```

\@endForm

```

12708 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

12709 \def\dvipdfm@setdim{%
12710 height \the\ht\pdfm@box\space
12711 width \the\wd\pdfm@box\space
12712 depth \the\dp\pdfm@box\space
12713 }

```

\HyField@AnnotCount

```

12714 \newcount\HyField@AnnotCount
12715 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

12716 \def\HyField@AdvanceAnnotCount{%
12717 \global\advance\HyField@AnnotCount\@ne
12718 }

```

\HyField@TheAnnotCount

```

12719 \def\HyField@TheAnnotCount{%
12720 \the\HyField@AnnotCount
12721 }

```

\@TextField

```

12722 \def\@TextField[#1]#2{% parameters, label
12723 \def\Fld@name{#2}%
12724 \def\Fld@default{}%
12725 \let\Fld@value\@empty
12726 \def\Fld@width{\DefaultWidthofText}%
12727 \def\Fld@height{%
12728 \ifFld@multiline
12729 \DefaultHeightofTextMultiline
12730 \else
12731 \DefaultHeightofText
12732 \fi
12733 }%
12734 \begingroup
12735 \expandafter\HyField@SetKeys\expandafter{%

```

```

12736 \DefaultOptionsofText,#1%
12737 }%
12738 \PDFForm@Name
12739 \HyField@FlagsText
12740 \ifFld@hidden\def\Fld@width{1sp}\fi
12741 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12742 \setbox\pdfm@box=\hbox{%
12743 \MakeTextField{\Fld@width}{\Fld@height}%
12744 }%
12745 \HyField@AdvanceAnnotCount
12746 \LayoutTextField{#2}{%
12747 \Hy@escapeform\PDFForm@Text
12748 \@pdfm@mark{%
12749 ann @text\HyField@TheAnnotCount\space
12750 \dvipdfm@setdim << \PDFForm@Text >>%
12751 }%
12752 }%
12753 \unhbox\pdfm@box
12754 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12755 % record in @afields array
12756 \endgroup
12757 }

```

\@ChoiceMenu

```

12758 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12759 \def\Fld@name{#2}%
12760 \let\Fld@default\relax
12761 \let\Fld@value\relax
12762 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12763 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12764 \begingroup
12765 \Fld@menulength=0 %
12766 \@tempdima\z@
12767 \@for\@curropt:=#3\do{%
12768 \expandafter\Fld@checkequals\@curropt==\%
12769 \Hy@StepCount\Fld@menulength
12770 \settowidth{\@tempdimb}{\@currDisplay}%
12771 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12772 }%
12773 \advance\@tempdima by 15\p@
12774 \begingroup
12775 \HyField@SetKeys{#1}%
12776 \edef\x{\endgroup
12777 \noexpand\expandafter
12778 \noexpand\HyField@SetKeys
12779 \noexpand\expandafter{%
12780 \expandafter\noexpand\curname DefaultOptionsof%
12781 \ifFld@radio
12782 Radio%
12783 \else
12784 \ifFld@combo
12785 \ifFld@popdown
12786 PopdownBox%
12787 \else
12788 ComboBox%
12789 \fi
12790 \else

```

```

12791         ListBox%
12792     \fi
12793 \fi
12794 \endcsname
12795 }%
12796 }\x
12797 \HyField@SetKeys{#1}%
12798 \PDFForm@Name
12799 \ifFld@hidden\def\Fld@width{1sp}\fi
12800 \ifx\Fld@value\relax
12801     \let\Fld@value\Fld@default
12802 \fi
12803 \LayoutChoiceField{#2}{%
12804     \ifFld@radio
12805         \HyField@FlagsRadioButton
12806         \@@Radio{#3}%
12807     \else
12808         \beginngroup
12809         \HyField@FlagsChoice
12810         \ifdim\Fld@width<\@tempdima
12811             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12812             \edef\Fld@width{\the\@tempdima}%
12813         \fi
12814         \ifFld@combo
12815         \else
12816             \@tempdima=\the\Fld@menulength\Fld@charsize
12817             \advance\@tempdima by \Fld@borderwidth bp %
12818             \advance\@tempdima by \Fld@borderwidth bp %
12819             \edef\Fld@height{\the\@tempdima}%
12820         \fi
12821         \@@ListBox{#3}%
12822         \endgroup
12823     \fi
12824 }%
12825 \endgroup
12826 }

```

\@@Radio

```

12827 \def\@@Radio#1{%
12828     \Fld@listcount=0 %
12829     \setbox\pdfm@box=\hbox{%
12830         \MakeRadioField{\Fld@width}{\Fld@height}%
12831     }%
12832     \@for\@curropt:=#1\do{%
12833         \expandafter\Fld@checkequals\@curropt==\%
12834         \Hy@StepCount\Fld@listcount
12835         \@currDisplay\space
12836         \leavevmode
12837         \Hy@escapeform\PDFForm@Radio
12838         \ifnum\Fld@listcount=1 %
12839             \HyField@AdvanceAnnotCount
12840         \fi
12841         \@pdfm@mark{%
12842             ann %
12843             \ifnum\Fld@listcount=1 %
12844                 @radio\HyField@TheAnnotCount%
12845             \space

```

```

12846 \fi
12847 \dviPDFm@setdim
12848 <<%
12849 \PDFForm@Radio
12850 /AP<</N<</\@currValue /null>>>>%
12851 >>%
12852 }%
12853 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12854 \ifnum\Fld@listcount=1 %
12855 \@pdfm@mark{%
12856 put @afields @radio\HyField@TheAnnotCount
12857 }%
12858 \fi
12859 }%
12860 }

```

\Fld@listcount

```

12861 \newcount\Fld@listcount

```

\@@ListBox

```

12862 \def\@@ListBox#1{%
12863 \HyField@PDFChoices{#1}%
12864 \setbox\pdfm@box=\hbox{%
12865 \MakeChoiceField{\Fld@width}{\Fld@height}%
12866 }%
12867 \leavevmode
12868 \Hy@escapeform\PDFForm@List
12869 \HyField@AdvanceAnnotCount
12870 \@pdfm@mark{%
12871 ann @list\HyField@TheAnnotCount\space
12872 \dviPDFm@setdim
12873 <<\PDFForm@List>>%
12874 }%
12875 \unhbox\pdfm@box
12876 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12877 }

```

\@PushButton

```

12878 \def\@PushButton[#1]#2{% parameters, label
12879 \def\Fld@name{#2}%
12880 \begingroup
12881 \expandafter\HyField@SetKeys\expandafter{%
12882 \DefaultOptionsofPushButton,#1%
12883 }%
12884 \PDFForm@Name
12885 \ifHy@pdfa
12886 \Hy@Error{%
12887 PDF/A: Push button with JavaScript is prohibited%
12888 }\@ehc
12889 \LayoutPushButtonField{%
12890 \leavevmode
12891 \MakeButtonField{#2}%
12892 }%
12893 \else
12894 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12895 \HyField@FlagsPushButton
12896 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12897 \HyField@AdvanceAnnotCount
12898 \LayoutPushButtonField{%
12899 \leavevmode
12900 \Hy@escapeform\PDFForm@Push
12901 \@pdfm@mark{%
12902 ann @push\HyField@TheAnnotCount\space
12903 \dvipdfm@setdim
12904 <<\PDFForm@Push>>%
12905 }%
12906 }%
12907 \unhbox\pdfm@box
12908 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12909 \fi
12910 \endgroup
12911 }

```

\@Submit

```

12912 \def\@Submit[#1]#2{%
12913 \def\Fld@width{\DefaultWidthofSubmit}%
12914 \def\Fld@height{\DefaultHeightofSubmit}%
12915 \begingroup
12916 \expandafter\HyField@SetKeys\expandafter{%
12917 \DefaultOptionsofSubmit,#1%
12918 }%
12919 \HyField@FlagsPushButton
12920 \HyField@FlagsSubmit
12921 \ifFld@hidden\def\Fld@width{1sp}\fi
12922 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12923 \leavevmode
12924 \Hy@escapeform\PDFForm@Submit
12925 \HyField@AdvanceAnnotCount
12926 \@pdfm@mark{%
12927 ann @submit\HyField@TheAnnotCount\space
12928 \dvipdfm@setdim
12929 <<\PDFForm@Submit>>%
12930 }%
12931 \unhbox\pdfm@box%
12932 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12933 \endgroup
12934 }

```

\@Reset

```

12935 \def\@Reset[#1]#2{%
12936 \def\Fld@width{\DefaultWidthofReset}%
12937 \def\Fld@height{\DefaultHeightofReset}%
12938 \begingroup
12939 \expandafter\HyField@SetKeys\expandafter{%
12940 \DefaultOptionsofReset,#1%
12941 }%
12942 \leavevmode
12943 \ifHy@pdfa
12944 \Hy@Error{%
12945 PDF/A: Reset action is prohibited%
12946 }\@ehc
12947 \MakeButtonField{#2}%
12948 \else
12949 \HyField@FlagsPushButton

```

```

12950 \ifFld@hidden\def\Fld@width{1sp}\fi
12951 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
12952 \Hy@escapeform\PDFForm@Reset
12953 \HyField@AdvanceAnnotCount
12954 \@pdfm@mark{%
12955   ann @reset\HyField@TheAnnotCount\space
12956   \dvipdfm@setdim
12957   <<\PDFForm@Reset>>%
12958 }%
12959 \unhbox\pdfm@box
12960 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12961 \fi
12962 \endgroup
12963 }

```

\@CheckBox

```

12964 \def\@CheckBox[#1]#2{% parameters, label
12965   \def\Fld@name{#2}%
12966   \def\Fld@default{0}%
12967   \begingroup
12968     \def\Fld@width{\DefaultWidthofCheckBox}%
12969     \def\Fld@height{\DefaultHeightofCheckBox}%
12970     \expandafter\HyField@SetKeys\expandafter{%
12971       \DefaultOptionsofCheckBox,#1%
12972     }%
12973     \PDFForm@Name
12974     \HyField@FlagsCheckBox
12975     \ifFld@hidden\def\Fld@width{1sp}\fi
12976     \setbox\pdfm@box=\hbox{%
12977       \MakeCheckField{\Fld@width}{\Fld@height}%
12978     }%
12979     \HyField@AdvanceAnnotCount
12980     \LayoutCheckField{#2}{%
12981       \Hy@escapeform\PDFForm@Check
12982       \@pdfm@mark{%
12983         ann @check\HyField@TheAnnotCount\space
12984         \dvipdfm@setdim
12985         <<\PDFForm@Check>>%
12986       }%
12987       \unhbox\pdfm@box
12988       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12989     }%
12990   \endgroup
12991 }

12992 \def\Hy@FormObjects{%
12993   \@pdfm@mark{obj @OBJpdfdocencoding%
12994     <<%
12995       /Type/Encoding%
12996       /Differences%
12997       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12998       39/quotesingle %
12999       96/grave %
13000       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13001       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13002       /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13003       /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13004       /Zcaron/dotlessi/lslash/oe/scaron/zcaron %

```

```

13005      164/currency %
13006      166/brokenbar %
13007      168/dieresis/copyright/ordfeminine %
13008      172/logicalnot/.notdef/registered/macron/degree/plusminus%
13009      /twosuperior/threesuperior/acute/mu %
13010      183/periodcentered/cedilla/onesuperior/ordmasculine %
13011      188/onequarter/onehalf/threequarters %
13012      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13013      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13014      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13015      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13016      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13017      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13018      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13019      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13020      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13021      /thorn/ydieresis%
13022      ]%
13023      >>%
13024      }%
13025      \@pdfm@mark{obj @OBJZaDb%
13026      <<%
13027      /Type/Font%
13028      /Subtype/Type1%
13029      /Name/ZaDb%
13030      /BaseFont/ZapfDingbats%
13031      >>%
13032      }%
13033      \@pdfm@mark{obj @OBJHelv%
13034      <<%
13035      /Type/Font%
13036      /Subtype/Type1%
13037      /Name/Helv%
13038      /BaseFont/Helvetica%
13039      /Encoding @OBJpdfdocencoding%
13040      >>%
13041      }%
13042      \global\let\Hy@FormObjects\relax
13043      }
13044      </dvipdfm | xetex>

```

47.6 Common forms part

```

13045 <*pdfform>

```

\Hy@escapestring

```

13046 \begingroup\expandafter\expandafter\expandafter\endgroup
13047 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13048   \let\Hy@escapestring\@firstofone
13049   \def\Hy@escapeform#1{%
13050     \ifHy@escapeform
13051       \def\Hy@escapestring##1{%
13052         \noexpand\Hy@escapestring{\noexpand##1}%
13053       }%
13054       \edef\Hy@temp{#1}%
13055       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13056       \def\Hy@escapestring##1{%

```

```

13057 \ifundefined{Hy@esc@\string##1}{%
13058   ##1%
13059   \ThisShouldNotHappen
13060 }{%
13061   \csname Hy@esc@\string##1\endcsname
13062 }%
13063 }%
13064 \else
13065   \let\Hy@escapestring\@firstofone
13066 \fi
13067 }%
13068 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13069   \ifx\#3\%
13070   \else
13071     \expandafter
13072     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13073     \Hy@ReturnAfterFi{%
13074       \Hy@@escapeform#3\@nil
13075     }%
13076   \fi
13077 }%
13078 \else
13079 \def\Hy@escapeform#1{%
13080   \ifHy@escapeform
13081     \let\Hy@escapestring\pdfescapestring
13082   \else
13083     \let\Hy@escapestring\@firstofone
13084   \fi
13085 }%
13086 \Hy@escapeform{}%
13087 \fi

```

\PDFForm@Name

```

13088 \def\PDFForm@Name{%
13089   \begingroup
13090   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13091     \ifHy@unicode
13092       \Hy@unicodedefalse
13093     \fi
13094   \fi
13095   \HyPsd@XeTeXBigCharstrue
13096   \pdfstringdef\Hy@gtemp\Fld@name
13097 \endgroup
13098 \let\Fld@name\Hy@gtemp
13099 }

```

\Fld@additionalactions

```

13100 \def\Fld@@additionalactions{%
K input (keystroke) format
13101 \ifx\Fld@keystroke@code\@empty
13102 \else
13103   /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13104 \fi
F display format
13105 \ifx\Fld@format@code\@empty
13106 \else

```



```

13107 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13108 \fi

V validation
13109 \ifx\Fld@validate@code\@empty
13110 \else
13111 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13112 \fi

C calculation
13113 \ifx\Fld@calculate@code\@empty
13114 \else
13115 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13116 \fi

Fo receiving the input focus
13117 \ifx\Fld@onfocus@code\@empty
13118 \else
13119 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13120 \fi

Bl loosing the input focus (blurred)
13121 \ifx\Fld@onblur@code\@empty
13122 \else
13123 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13124 \fi

D pressing the mouse button (down)
13125 \ifx\Fld@onmousedown@code\@empty
13126 \else
13127 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13128 \fi

U releasing the mouse button (up)
13129 \ifx\Fld@onmouseup@code\@empty
13130 \else
13131 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13132 \fi

E cursor enters the annotation's active area.
13133 \ifx\Fld@onenter@code\@empty
13134 \else
13135 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13136 \fi

X cursor exits the annotation's active area.
13137 \ifx\Fld@onexit@code\@empty
13138 \else
13139 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13140 \fi
13141 }
13142 \def\Fld@additionalactions{%
13143 \if\Fld@@additionalactions-%
13144 \else
13145 \ifHy@pdfa
13146 \else
13147 /AA<<\Fld@@additionalactions>>%
13148 \fi
13149 \fi
13150 }

```

\PDFForm@Check

```
13151 \def\PDFForm@Check{%
13152 /Subtype/Widget%
13153 \Fld@annotflags
13154 /T(\Fld@name)%
13155 /FT/Btn%
13156 \Fld@flags
13157 /Q \Fld@align
13158 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13159 /MK<<%
13160 \ifnum\Fld@rotation=\z@
13161 \else
13162 /R \Fld@rotation
13163 \fi
13164 \ifx\Fld@bordercolor\relax
13165 \else
13166 /BC[\Fld@bordercolor]%
13167 \fi
13168 \ifx\Fld@bcolor\relax
13169 \else
13170 /BG[\Fld@bcolor]%
13171 \fi
13172 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13173 >>%
13174 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13175 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13176 /H/P%
13177 \ifFld@checked /V/Yes\else /V/Off\fi
13178 \Fld@additionalactions
13179 }
```

\PDFForm@Push

```
13180 \ifHy@pdfa
13181 \else
13182 \def\PDFForm@Push{%
13183 /Subtype/Widget%
13184 \Fld@annotflags
13185 /T(\Fld@name)%
13186 /FT/Btn%
13187 \Fld@flags
13188 /H/P%
13189 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13190 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13191 \ifx\Fld@bordercolor\relax\else 1\fi
13192 \space
13193 \else
13194 /MK<<%
13195 \ifnum\Fld@rotation=\z@
13196 \else
13197 /R \Fld@rotation
13198 \fi
13199 \ifx\Fld@bordercolor\relax
13200 \else
13201 /BC[\Fld@bordercolor]%
13202 \fi
13203 >>%
13204 \fi
```

```

13205 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13206 \Fld@additionalactions
13207 }%
13208 \fi

```

\PDFForm@List

```

13209 \def\PDFForm@List{%
13210 /Subtype/Widget%
13211 \Fld@annotflags
13212 /T(\Fld@name)%
13213 /FT/Ch%
13214 \Fld@flags
13215 /Q \Fld@align
13216 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13217 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13218 \ifx\Fld@bordercolor\relax\else 1\fi
13219 \ifx\Fld@bcolor\relax \else 1\fi
13220 \space
13221 \else
13222 /MK<<%
13223 \ifnum\Fld@rotation=\z@
13224 \else
13225 /R \Fld@rotation
13226 \fi
13227 \ifx\Fld@bordercolor\relax
13228 \else
13229 /BC[\Fld@bordercolor]%
13230 \fi
13231 \ifx\Fld@bcolor\relax
13232 \else
13233 /BG[\Fld@bcolor]%
13234 \fi
13235 >>%
13236 \fi
13237 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13238 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13239 \Fld@choices
13240 \Fld@additionalactions
13241 }

```

\PDFForm@Radio

```

13242 \def\PDFForm@Radio{%
13243 /Subtype/Widget%
13244 \Fld@annotflags
13245 /T(\Fld@name)%
13246 /FT/Btn%
13247 \Fld@flags
13248 /H/P%
13249 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13250 /MK<<%
13251 \ifnum\Fld@rotation=\z@
13252 \else
13253 /R \Fld@rotation
13254 \fi
13255 \ifx\Fld@bordercolor\relax
13256 \else
13257 /BC[\Fld@bordercolor]%

```

```

13258 \fi
13259 \ifx\Fld@bcolor\relax
13260 \else
13261 /BG[\Fld@bcolor]%
13262 \fi
13263 /CA(\Fld@radiosymbol)%
13264 >>%
13265 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13266 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13267 \ifx\@currValue\Fld@default
13268 /V/\Fld@default
13269 \else
13270 /V/Off%
13271 \fi
13272 \Fld@additionalactions
13273 }

```

\PDFForm@Text

```

13274 \def\PDFForm@Text{%
13275 /Subtype/Widget%
13276 \Fld@annotflags
13277 /T(\Fld@name)%
13278 /FT/Tx%
13279 \Fld@flags
13280 /Q \Fld@align
13281 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13282 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13283 \ifx\Fld@bordercolor\relax\else 1\fi
13284 \ifx\Fld@bcolor\relax \else 1\fi
13285 \space
13286 \else
13287 /MK<<%
13288 \ifnum\Fld@rotation=\z@
13289 \else
13290 /R \Fld@rotation
13291 \fi
13292 \ifx\Fld@bordercolor\relax
13293 \else
13294 /BC[\Fld@bordercolor]%
13295 \fi
13296 \ifx\Fld@bcolor\relax
13297 \else
13298 /BG[\Fld@bcolor]%
13299 \fi
13300 >>%
13301 \fi
13302 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13303 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13304 /DV(\Hy@escapestring{\Fld@default})%
13305 /V(\Hy@escapestring{\Fld@value})%
13306 \Fld@additionalactions
13307 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13308 }

```

\PDFForm@Submit

```

13309 \def\PDFForm@Submit{%
13310 /Subtype/Widget%

```

```

13311 \Fld@annotflags
13312 /T(\Fld@name)%
13313 /FT/Btn%
13314 \Fld@flags
13315 /H/P%
13316 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13317 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13318     \ifx\Fld@bordercolor\relax\else 1\fi
13319     \space
13320 \else
13321     /MK<<%
13322     \ifnum\Fld@rotation=\z@
13323     \else
13324         /R \Fld@rotation
13325     \fi
13326     \ifx\Fld@bordercolor\relax
13327     \else
13328         /BC[\Fld@bordercolor]%
13329     \fi
13330 >>%
13331 \fi
13332 /A<<%
13333 /S/SubmitForm%
13334 /F<<%
13335     /FS/URL%
13336     /F(\Hy@escapestring{\Form@action})%
13337 >>%
13338 \Fld@submitflags
13339 >>%
13340 \Fld@additionalactions
13341 }

```

\PDFForm@Reset

```

13342 \ifHy@pdfa
13343 \else
13344 \def\PDFForm@Reset{%
13345     /Subtype/Widget%
13346     \Fld@annotflags
13347     /T(\Fld@name)%
13348     /FT/Btn%
13349     \Fld@flags
13350     /H/P%
13351     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13352     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13353         \ifx\Fld@bordercolor\relax\else 1\fi
13354         \space
13355     \else
13356         /MK<<%
13357         \ifnum\Fld@rotation=\z@
13358         \else
13359             /R \Fld@rotation
13360         \fi
13361         \ifx\Fld@bordercolor\relax
13362         \else
13363             /BC[\Fld@bordercolor]%
13364         \fi
13365 %         /CA (Clear)

```

```

13366 %      /AC (Done)
13367      >>%
13368      \fi
13369      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13370      /A<</S/ResetForm>>%
13371      \Fld@additionalactions
13372      }%
13373 \fi

13374 </pdfform>
13375 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

13376 \def\phantomsection{%
13377   \Hy@MakeCurrentHrefAuto{section*}%
13378   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13379 }
13380 </package>

```

48.1 Bookmarks

```

13381 <*outlines>

```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

13382 \def\Hy@writebookmark#1#2#3#4#5{%
13383   % section number, text, label, level, file
13384   \ifx\WriteBookmarks\relax%
13385     \else
13386     \ifnum#4>\Hy@bookmarksdepth\relax
13387     \else
13388       \@writetorep{#1}{#2}{#3}{#4}{#5}%
13389     \fi
13390   \fi
13391 }

```

```

13392 \def\Hy@currentbookmarklevel{0}
13393 \def\Hy@numberline#1{#1 }
13394 \def\@writetorep#1#2#3#4#5{%
13395   \begingroup
13396     \edef\Hy@tempa{#5}%
13397     \ifx\Hy@tempa\Hy@bookmarkstype
13398       \edef\Hy@level{#4}%
13399       \ifx\Hy@levelcheck Y%
13400         \@tempcnta\Hy@level\relax
13401         \advance\@tempcnta by -1 %
13402         \ifnum\Hy@currentbookmarklevel<\@tempcnta
13403           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13404           \advance\@tempcnta by 1 %
13405           \Hy@Warning{%
13406             Difference (\the\@tempcnta) between bookmark levels is %
13407             greater \MessageBreak than one, level fixed%
13408           }%
13409           \@tempcnta\Hy@currentbookmarklevel
13410           \advance\@tempcnta by 1 %
13411           \edef\Hy@level{\the\@tempcnta}%
13412         \fi
13413       \else
13414         \global\let\Hy@levelcheck Y%
13415       \fi
13416       \global\let\Hy@currentbookmarklevel\Hy@level
13417       \@tempcnta\Hy@level\relax
13418       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13419       \advance\@tempcnta by -1 %
13420       \edef\Hy@tempa{#3}%
13421       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13422       \ifx\Hy@tempa\Hy@tempb
13423         \Hy@Warning{%
13424           The anchor of a bookmark and its parent's must not%
13425           \MessageBreak be the same. Added a new anchor%
13426         }%
13427       \phantomsection
13428     \fi
13429     \ifHy@bookmarksnumbered
13430       \let\numberline\Hy@numberline
13431       \let\booknumberline\Hy@numberline
13432       \let\partnumberline\Hy@numberline
13433       \let\chapternumberline\Hy@numberline
13434     \else
13435       \let\numberline\@gobble
13436       \let\booknumberline\@gobble
13437       \let\partnumberline\@gobble
13438       \let\chapternumberline\@gobble
13439     \fi
13440     \HyPsd@XeTeXBigCharstrue
13441     \pdfstringdef\Hy@tempa{#2}%
13442     \HyPsd@SanitizeForOutFile\Hy@tempa
13443     \if@filesw
13444       \stepcounter{bookmark@seq@number}%
13445       \ifundefined{@outlinefile}{%
13446         }{%
13447           \protected@write\@outlinefile{}{%
13448             \protect\BOOKMARK

```

```

13449      [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13450      {\Hy@tempa}{\Hy@tempb}%
13451      \@percentchar\space\thebookmark@seq@number
13452      }%
13453      }%
13454      \fi
13455      \fi
13456      \endgroup
13457 }
13458 \newcounter{bookmark@seq@number}

13459 \begingroup
13460 \lccode'('= '{%
13461 \lccode')='}%
13462 \lccode'1=\z@
13463 \lccode'2=\z@
13464 \lccode'3=\z@
13465 \lccode'5=\z@
13466 \lccode'7=\z@
13467 \lccode'\#=\z@
13468 \lccode'\='=\z@
13469 \lccode'\{=\z@
13470 \lccode'\}=\z@
13471 \lowercase{%
13472 \endgroup
13473 \def\HyPsd@SanitizeForOutFile#1{%
13474   \@onelevel@sanitize\Hy@tempa
13475   \escapechar'\%
13476   \edef\Hy@tempa{%
13477     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13478     }%
13479     \edef\Hy@tempa{%
13480       \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13481     }%
13482   }%
13483   \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13484     #1%
13485     \ifx\#2\%
13486       \expandafter\ltx@gobble
13487     \else
13488       \expandafter\ltx@firstofone
13489     \fi
13490     {%
13491       \string\173%
13492       \HyPsd@SanitizeOut@BraceLeft#2\@nil
13493     }%
13494   }%
13495   \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13496     #1%
13497     \ifx\#2\%
13498       \expandafter\ltx@gobble
13499     \else
13500       \expandafter\ltx@firstofone
13501     \fi
13502     {%
13503       \string\175%
13504       \HyPsd@SanitizeOut@BraceRight#2\@nil
13505     }%

```



```

13506 }%
13507 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

13508 \newcommand{\currentpdfbookmark}{%
13509 \pdfbookmark[\Hy@currentbookmarklevel]%
13510 }
13511 \newcommand{\subpdfbookmark}{%
13512 \@tempcnta\Hy@currentbookmarklevel
13513 \Hy@StepCount\@tempcnta
13514 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13515 }
13516 \newcommand{\belowpdfbookmark}[2]{%
13517 \@tempcnta\Hy@currentbookmarklevel
13518 \Hy@StepCount\@tempcnta
13519 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13520 \advance\@tempcnta by -1 %
13521 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13522 }

```

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.

```

13523 \renewcommand\pdfbookmark[3][0]{%
13524 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
13525 \hyper@anchorstart{#3.#1}\hyper@anchorend
13526 }
13527 \def\BOOKMARK{%
13528 \@ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%
13529 }
13530 \def\@BOOKMARK[#1]{%
13531 \@ifnextchar[\@BOOKMARK[{#1}]{\@@BOOKMARK[{#1}][-]}%
13532 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

```
\Hy@OutlineRerunCheck
```

```

13533 \RequirePackage{rerunfilecheck}[2009/12/10]
13534 \def\Hy@OutlineRerunCheck{%
13535 \RerunFileCheck{\jobname.out}{%
13536 \immediate\closeout\@outlinefile
13537 }{%
13538 Rerun to get outlines right\MessageBreak
13539 or use package 'bookmark'%
13540 }%
13541 }

```

48.1.2 Driver stuff

The `VTEX` section was written originally by `VTEX`, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that `VTEX`, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

13542 <*vtex>
13543 \newcount\@serial@counter\@serial@counter=1\relax

```

\hv@pdf@char Plain octal codes doesn't work with versions below 6.50. So for early versions hex numbers have to be used. It would be possible to program this instead of the large \ifcase, but I'm too lazy to sort that out now.

```

13544 \begingroup
13545 \catcode'\'=12 %
13546 \ifnum\Hy@TeXversion<650 %
13547 \catcode'\ "=12 %
13548 \gdef\hv@pdf@char#1#2#3{%
13549 \char
13550 \ifcase'#1#2#3 %
13551 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13552 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13553 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13554 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13555 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13556 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13557 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13558 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13559 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13560 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13561 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13562 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13563 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13564 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13565 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13566 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13567 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13568 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13569 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13570 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13571 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13572 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13573 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13574 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13575 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13576 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13577 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
13578 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13579 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13580 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13581 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13582 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
13583 \fi
13584 }%
13585 \else
13586 \gdef\hv@pdf@char{\char'}%
13587 \fi
13588 \endgroup

```

\@@BOOKMARK

```

13589 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13590 \expandafter\edef\csname @count@#3\endcsname{%
13591 \the\@serial@counter
13592 }%
13593 \edef\@mycount{\the\@serial@counter}%
13594 \Hy@StepCount\@serial@counter
13595 \edef\@parcount{%

```

```

13596 \expandafter\ifx\cscname @count@#5\endcsname\relax
13597 0%
13598 \else
13599 \cscname @count@#5\endcsname
13600 \fi
13601 }%
13602 \immediate\special{%
13603 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13604 s=\ifx#2-c\else o\fi,t=#4%
13605 }%
13606 }%

```

\ReadBookmarks

```

13607 \def\ReadBookmarks{%
13608 \begingroup
13609 \def\0{\hv@pdf@char 0}%
13610 \def\1{\hv@pdf@char 1}%
13611 \def\2{\hv@pdf@char 2}%
13612 \def\3{\hv@pdf@char 3}%
13613 \def\({}%
13614 \def\)}%
13615 \def\do##1{%
13616 \ifnum\catcode'##1=\active
13617 \@makeother##1%
13618 \else
13619 \ifnum\catcode'##1=6 %
13620 \@makeother##1%
13621 \fi
13622 \fi
13623 }%
13624 \dospecials
13625 \Hy@safe@activetrue
13626 \InputIfFileExists{\jobname.out}{\}{}%
13627 \endgroup
13628 \ifx\WriteBookmarks\relax
13629 \else
13630 \if@filesw
13631 \newwrite\@outlinefile
13632 \Hy@OutlineRerunCheck
13633 \immediate\openout\@outlinefile=\jobname.out\relax
13634 \ifHy@typexml
13635 \immediate\write\@outlinefile{<relaxxml>\relax}%
13636 \fi
13637 \fi
13638 \fi
13639 }

13640 </vtex>
13641 <!*vtex>
13642 \def\ReadBookmarks{%
13643 \begingroup
13644 \def\do##1{%
13645 \ifnum\catcode'##1=\active
13646 \@makeother##1%
13647 \else
13648 \ifnum\catcode'##1=6 %
13649 \@makeother##1%

```

```

13650     \fi
13651     \fi
13652 }%
13653 \dospecials
13654 \Hy@safe@activetrue
13655 \escapechar='\%
13656 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13657     \calc@bm@number{##5}%
13658 }%
13659 \InputIfFileExists{\jobname.out}{-}{-}%
13660 \ifx\WriteBookmarks\relax
13661     \global\let\WriteBookmarks\relax
13662 \fi
13663 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13664     \def\Hy@temp{##4}%
13665 <*pdfTex>
13666     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13667     \Hy@OutlineName{\Hy@pstringName{%
13668         ##2\check@bm@number{##3}}%
13669     }{%
13670         \expandafter\strip@prefix\meaning\Hy@temp
13671     }%
13672 </pdfTex>
13673 <*pdfmark>
13674     \pdfmark{%
13675         pdfmark=/OUT,%
13676         Count={##2\check@bm@number{##3}},%
13677         Dest={##3},%
13678         Title=\expandafter\strip@prefix\meaning\Hy@temp
13679     }%
13680 </pdfmark>
13681 <*dvipdfm | xetex>
13682     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13683     \@pdfm@mark{%
13684         outline \ifHy@DvipdfmxOutlineOpen
13685             [%
13686                 \ifnum##21>\z@
13687                 \else
13688                 -%
13689                 \fi
13690             ] %
13691             \fi
13692             ##1<<%
13693             /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13694             /A<<%
13695             /S/GoTo%
13696             /D(\Hy@pstringName)%
13697             >>%
13698             >>%
13699         }%
13700 </dvipdfm | xetex>
13701 }%
13702 {%
13703     \def\WriteBookmarks{0}%
13704     \InputIfFileExists{\jobname.out}{-}{-}%
13705 }%
13706 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%

```

```

13707 \ifx\WriteBookmarks\relax
13708 \else
13709 \if@filesw
13710 \newwrite\@outlinefile
13711 \Hy@OutlineRerunCheck
13712 \immediate\openout\@outlinefile=\jobname.out\relax
13713 \ifHy@typexml
13714 \immediate\write\@outlinefile{<relaxxml>\relax}%
13715 \fi
13716 \fi
13717 \fi
13718 \endgroup
13719 }
13720 <*pdfTex>
13721 \def\Hy@OutlineName#1#2#3#4{%
13722 \pdfoutline goto name{#2}count#3{#4}%
13723 }
13724 </pdfTex>
13725 \def\check@bm@number#1{%
13726 \expandafter\ifx\csname B_#1\endcsname\relax
13727 0%
13728 \else
13729 \csname B_#1\endcsname
13730 \fi
13731 }
13732 \def\calc@bm@number#1{%
13733 \@tempcnta=\check@bm@number{#1}\relax
13734 \advance\@tempcnta by 1 %
13735 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
13736 }
13737 </!vtex>

13738 \ifHy@implicit
13739 \else
13740 \expandafter\endinput
13741 \fi

13742 </outlines>
13743 <*outlines | hypertex>

13744 \newlength\Hy@SectionHShift
13745 \def\Hy@SectionAnchorHRef#1{%
13746 \ifx\protect\@typeset@protect
13747 \Hy@@@SectionAnchor{#1}%
13748 \fi
13749 }
13750 \DeclareRobustCommand*\Hy@@@SectionAnchor{1}{%
13751 \leavevmode
13752 \hbox to 0pt{%
13753 \kern-\Hy@SectionHShift
13754 \Hy@raisedlink{%
13755 \hyper@anchorstart{#1}\hyper@anchorend
13756 }%
13757 \hss
13758 }%
13759 }
13760 \let\H@old@ssect\@ssect
13761 \def\@ssect#1#2#3#4#5{%
13762 \Hy@MakeCurrentHRefAuto{section*}%

```

```

13763 \setlength{\Hy@SectionHShift}{#1}%
13764 \begingroup
13765 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13766 \toks\tw@\expandafter{%
13767   \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13768   #5%
13769 }%
13770 \edef\x{\endgroup
13771   \the\toks@\the\toks\tw@}%
13772 }\x
13773 }
13774 \let\H@old@schapter\@schapter
13775 \def\@schapter#1{%
13776   \begingroup
13777   \let\@mkboth\@gobbletwo
13778   \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13779   \Hy@raisedlink{%
13780     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13781   }%
13782   \endgroup
13783   \H@old@schapter{#1}%
13784 }

```

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:

```

13785 \ltx@ifundefined{@chapter}{}{%
13786   \let\Hy@org@chapter\@chapter
13787   \def\@chapter{%
13788     \def\Hy@next{%
13789       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13790       \Hy@raisedlink{%
13791         \hyper@anchorstart{\@currentHref}\hyper@anchorend
13792       }%
13793     }%
13794     \ifnum\c@secnumdepth>\m@ne
13795       \ltx@ifundefined{if@mainmatter}%
13796       \iftrue{\csname if@mainmatter\endcsname}%
13797       \let\Hy@next\relax
13798     \fi
13799     \fi
13800     \Hy@next
13801     \Hy@org@chapter
13802   }%
13803 }
13804 \let\H@old@part\@part
13805 \begingroup\expandafter\expandafter\expandafter\endgroup
13806 \expandafter\ifx\csname chapter\endcsname\relax
13807   \let\Hy@secnum@part\z@
13808 \else
13809   \let\Hy@secnum@part\m@ne
13810 \fi
13811 \def\@part{%
13812   \ifnum\Hy@secnum@part>\c@secnumdepth
13813     \phantomsection
13814   \fi
13815   \H@old@part

```

```

13816 }
13817 \let\H@old@spart\@spart
13818 \def\@spart#1{%
13819   \Hy@MakeCurrentHrefAuto{part*}%
13820   \Hy@raisedlink{%
13821     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13822   }%
13823   \H@old@spart{#1}%
13824 }
13825 \let\H@old@sect\@sect
13826 \def\@sect#1#2#3#4#5#6[#7]#8{%
13827   \ifnum #2>\c@secnumdepth
13828     \expandafter\@firstoftwo
13829   \else
13830     \expandafter\@secondoftwo
13831   \fi
13832   {%
13833     \Hy@MakeCurrentHrefAuto{section*}%
13834     \setlength{\Hy@SectionHShift}{#3}%
13835     \begingroup
13836       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13837       \toks\tw@\expandafter{%
13838         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13839         #8%
13840       }%
13841       \edef\x{\endgroup
13842         \the\toks@\the\toks\tw@}%
13843       }\x
13844     }{%
13845       \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13846     }%
13847 }
13848 </outlines | hypertex>
13849 <*outlines>
13850 \expandafter\def\csname Parent-4\endcsname{}
13851 \expandafter\def\csname Parent-3\endcsname{}
13852 \expandafter\def\csname Parent-2\endcsname{}
13853 \expandafter\def\csname Parent-1\endcsname{}
13854 \expandafter\def\csname Parent0\endcsname{}
13855 \expandafter\def\csname Parent1\endcsname{}
13856 \expandafter\def\csname Parent2\endcsname{}
13857 \expandafter\def\csname Parent3\endcsname{}
13858 \expandafter\def\csname Parent4\endcsname{}
13859 </outlines>

```

49 Compatibility with koma-script classes

```
13860 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13861 \def\Hy@tempa{%
13862   \def\@addchap[##1]##2{%

```

```

13863 \typeout{##2}%
13864 \if@twoside
13865   \@mkboth{##1}{}%
13866 \else
13867   \@mkboth{}{##1}%
13868 \fi
13869 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13870 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13871 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13872 \Hy@raisedlink{%
13873   \hyper@anchorstart{\@currentHref}\hyper@anchorend
13874 }%
13875 \if@twocolumn
13876   \@topnewpage[\@makeschapterhead{##2}]%
13877 \else
13878   \@makeschapterhead{##2}%
13879   \@afterheading
13880 \fi
13881 \addcontentsline{toc}{chapter}{##1}%
13882 }%
13883 }
13884 \ifclassloaded{scrbook}{%
13885   \ifclasslater{scrbook}{2001/01/01}{%
13886     \let\Hy@tempa\@empty
13887   }{}%
13888 }{%
13889   \ifclassloaded{scrreprt}{%
13890     \ifclasslater{scrreprt}{2001/01/01}{%
13891       \let\Hy@tempa\@empty
13892     }{}%
13893   }{%
13894     \let\Hy@tempa\@empty
13895   }%
13896 }%
13897 \Hy@tempa
13898 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

13899 <*pd1enc>
13900 \DeclareFontEncoding{PD1}{}{}

Accents
13901 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
13902 \DeclareTextAccent{\'}{PD1}{\textacute}
13903 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
13904 \DeclareTextAccent{\~}{PD1}{\texttilde}
13905 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
13906 \DeclareTextAccent{\r}{PD1}{\textring}
13907 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13908 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13909 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13910 \DeclareTextAccent{\=}{PD1}{\textasciimacron}

```



```

13911 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13912 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13913 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
13914 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13915 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
13916 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
13917 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
13918 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13919 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13920 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13921 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13922 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13923 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13924 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13925 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
13926 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13927 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
13928 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
13929 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
13930 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13931 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13932 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13933 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13934 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13935 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13936 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13937 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13938 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13939 \DeclareTextCommand{\newtie}{PD1}[1]{%
13940 \TextSymbolUnavailable{\newtie{#1}}#1%
13941 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

13942 % U+0009 (CHARACTER TABULATION)
13943 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13944 % U+000A (LINE FEED)
13945 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13946 % U+000D (CARRIAGE RETURN)
13947 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

13948 % U+02D8 BREVE; breve
13949 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13950 % U+02C7 CARON; caron
13951 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13952 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13953 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13954 % U+02D9 DOT ABOVE; dotaccent
13955 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13956 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13957 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13958 % U+02DB OGONEK; ogonek
13959 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13960 % U+02DA RING ABOVE; ring
13961 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
13962 % U+02DC SMALL TILDE; ilde, *tilde
13963 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic
 \041: U+0021 EXCLAMATION MARK; exclam
 13964 % U+0022 QUOTATION MARK; quotedbl
 13965 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 13966 % U+0023 NUMBER SIGN; numbersign
 13967 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 13968 % U+0024 DOLLAR SIGN; dollar
 13969 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 13970 % U+0025 PERCENT SIGN; percent
 13971 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 13972 % U+0026 AMPERSAND; ampersand
 13973 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 13974 % U+0028 LEFT PARENTHESIS; parenleft
 13975 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
 13976 % U+0029 RIGHT PARENTHESIS; parenright
 13977 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
 13978 % U+002E FULL STOP; period
 13979 \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
 13980 % U+003C LESS-THAN SIGN; less
 13981 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 13982 % U+003E GREATER-THAN SIGN; greater
 13983 \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
 13984 % U+005C REVERSE SOLIDUS; backslash
 13985 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 13986 % U+005E CIRCUMFLEX ACCENT; asciicircum
 13987 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 13988 % U+005F LOW LINE; underscore
 13989 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 13990 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 13991 % U+0060 GRAVE ACCENT; grave
 13992 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...

\150: U+0068 LATIN SMALL LETTER H; h
 13993 % U+0069 LATIN SMALL LETTER I; i
 13994 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 13995 % U+007B LEFT CURLY BRACKET; braceleft
 13996 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 13997 % U+007C VERTICAL LINE; *bar, verticalbar
 13998 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 13999 % U+007D RIGHT CURLY BRACKET; braceright
 14000 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14001 % U+007E TILDE; asciitilde
 14002 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14003 % U+2022 BULLET; bullet
 14004 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14005 % U+2020 DAGGER; dagger
 14006 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14007 % U+2021 DOUBLE DAGGER; daggerdbl
 14008 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14009 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14010 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14011 % U+2014 EM DASH; emdash
 14012 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14013 % U+2013 EN DASH; endash
 14014 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14015 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14016 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14017 % U+2044 FRACTION SLASH; fraction
 14018 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14019 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 14020 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14021 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
 ingright
 14022 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14023 % U+2212 MINUS SIGN; minus
 14024 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14025 % U+2030 PER MILLE SIGN; perthousand
 14026 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14027 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14028 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14029 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14030 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14031 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14032 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14033 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14034 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14035 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14036 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14037 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14038 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14039 % U+2122 TRADE MARK SIGN; trademark
 14040 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14041 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14042 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01

14043 % U+FB02 LATIN SMALL LIGATURE FL; fl
14044 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14045 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14046 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14047 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14048 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14049 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14050 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14051 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14052 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
14053 \DeclareTextCommand{\IJ}{PD1}{\230}
14054 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14055 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14056 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14057 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14058 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14059 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14060 % U+0153 LATIN SMALL LIGATURE OE; oe
14061 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14062 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14063 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14064 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14065 \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.
14066 % U+20AC EURO SIGN; *Euro, euro
14067 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14068 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14069 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14070 % U+00A2 CENT SIGN; cent
14071 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14072 % U+00A3 POUND SIGN; sterling
14073 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14074 % U+00A4 CURRENCY SIGN; currency
14075 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14076 % U+00A5 YEN SIGN; yen
14077 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14078 % U+00A6 BROKEN BAR; brokenbar
14079 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14080 % U+00A7 SECTION SIGN; section
14081 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14082 % U+00A8 DIAERESIS; dieresis
14083 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14084 % U+00A9 COPYRIGHT SIGN; copyright
14085 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14086 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14087 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14088 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14089 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14090 % U+00AC NOT SIGN; logicalnot
14091 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14092 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14093 % U+00AE REGISTERED SIGN; registered
14094 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14095 % U+00AF MACRON; *macron, overscore

14096 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14097 % U+00B0 DEGREE SIGN; degree
14098 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14099 % U+00B1 PLUS-MINUS SIGN; plusminus
14100 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14101 % U+00B2 SUPERSCRIP T TWO; twosuperior
14102 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14103 % U+00B3 SUPERSCRIP T THREE; threesuperior
14104 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14105 % U+00B4 ACUTE ACCENT; acute
14106 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14107 % U+00B5 MICRO SIGN; mu, mul
14108 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14109 % U+00B6 PILCROW SIGN; paragraph
14110 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14111 % U+00B7 MIDDLE DOT; middot, *periodcentered
14112 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14113 % U+00B8 CEDILLA; cedilla
14114 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14115 % U+00B9 SUPERSCRIP T ONE; onesuperior
14116 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14117 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14118 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14119 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
14120 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14121 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14122 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14123 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14124 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14125 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14126 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14127 % U+00BF INVERTED QUESTION MARK; questiondown
14128 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14129 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14130 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14131 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14132 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14133 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14134 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14135 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14136 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14137 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14138 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14139 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14140 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14141 % U+00C6 LATIN CAPITAL LETTER AE; AE
14142 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14143 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14144 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14145 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14146 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14147 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14148 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14149 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14150 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14151 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis

14152 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB
14153 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14154 \DeclareTextCompositeCommand{'}{PD1}{I}{\314}% U+00CC
14155 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14156 \DeclareTextCompositeCommand{'}{PD1}{I}{\315}% U+00CD
14157 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14158 \DeclareTextCompositeCommand{"}{PD1}{I}{\316}% U+00CE
14159 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14160 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF
14161 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14162 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14163 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14164 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14165 \DeclareTextCompositeCommand{"}{PD1}{N}{\321}% U+00D1
14166 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14167 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2
14168 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14169 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3
14170 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14171 \DeclareTextCompositeCommand{"}{PD1}{O}{\324}% U+00D4
14172 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14173 \DeclareTextCompositeCommand{"}{PD1}{O}{\325}% U+00D5
14174 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14175 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6
14176 % U+00D7 MULTIPLICATION SIGN; multiply
14177 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14178 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14179 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14180 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14181 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9
14182 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14183 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA
14184 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14185 \DeclareTextCompositeCommand{"}{PD1}{U}{\333}% U+00DB
14186 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14187 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14188 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14189 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD
14190 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14191 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14192 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14193 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14194 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14195 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0
14196 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14197 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1
14198 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14199 \DeclareTextCompositeCommand{"}{PD1}{a}{\342}% U+00E2
14200 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14201 \DeclareTextCompositeCommand{"}{PD1}{a}{\343}% U+00E3
14202 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14203 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14204 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14205 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14206 % U+00E6 LATIN SMALL LETTER AE; ae
14207 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14208 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla

14209 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14210 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14211 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14212 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14213 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14214 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14215 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14216 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14217 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14218 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14219 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14220 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14221 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14222 \DeclareTextCompositeCommand{\^}{PD1}{i}{\355}% U+00ED
14223 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14224 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14225 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14226 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14227 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14228 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14229 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14230 % U+00F0 LATIN SMALL LETTER ETH; eth
14231 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14232 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14233 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14234 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14235 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
14236 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14237 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14238 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14239 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
14240 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14241 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14242 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14243 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14244 % U+00F7 DIVISION SIGN; divide
14245 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14246 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14247 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14248 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14249 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
14250 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14251 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14252 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14253 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
14254 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14255 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
14256 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14257 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14258 % U+00FE LATIN SMALL LETTER THORN; thorn
14259 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14260 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14261 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
14262 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14263 \DeclareTextCommand{\SS}{PD1}{SS}
14264 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

```

14265 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14266 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14267 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14268 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14269 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14270 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14271 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14272 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

14273 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14274 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14275 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14276 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14277 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14278 \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).

```

14279 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14280 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
14281 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14282 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
14283 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
14284 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
14285 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14286 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14287 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
14288 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14289 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
14290 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
14291 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
14292 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
14293 </pdlenc>

```

50.2 PU encoding

```

14294 <*puenc>
14295 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

14296 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14297 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
14298 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14299 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
14300 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14301 \DeclareTextCommand{\`}{PU}[1]{\#1\83\002}% U+0302
14302 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
14303 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
14304 % U+0304 COMBINING MACRON; macroncmb
14305 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
14306 % U+0306 COMBINING BREVE; brevecmb
14307 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
14308 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306
14309 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14310 \DeclareTextCommand{\.}{PU}[1]{\#1\83\007}% U+0307
14311 % U+0308 COMBINING DIAERESIS; dieresiscmb

```


14312 \DeclareTextCommand{"}{PU}[1]{#1\83\010}% U+0308
 14313 % U+030A COMBINING RING ABOVE; ringcmb
 14314 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
 14315 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
 14316 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
 14317 % U+030C COMBINING CARON; caroncmb
 14318 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
 14319 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 14320 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
 14321 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
 14322 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 14323 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
 14324 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 14325 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
 14326 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 14327 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
 14328 % U+0327 COMBINING CEDILLA; cedillacmb
 14329 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
 14330 % U+0328 COMBINING OGONEK; ogonekcmb
 14331 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
 14332 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 14333 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
 14334 % U+20DD COMBINING ENCLOSING CIRCLE
 14335 \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.

14336 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciigrave}
 14337 \DeclareTextCompositeCommand{'}{PU}{\@empty}{\textacute}
 14338 \DeclareTextCompositeCommand{`}{PU}{\@empty}{\textasciicircum}
 14339 \DeclareTextCompositeCommand{~}{PU}{\@empty}{\texttilde}
 14340 \DeclareTextCompositeCommand{"}{PU}{\@empty}{\textasciidieresis}
 14341 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
 14342 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
 14343 \DeclareTextCompositeCommand{.}{PU}{\@empty}{\textdotaccent}
 14344 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
 14345 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
 14346 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
 14347 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
 14348 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
 14349 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
 14350 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
 14351 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
 14352 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
 14353 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
 14354 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
 14355 \DeclareTextCompositeCommand{'}{PU}{\ }{\textasciigrave}
 14356 \DeclareTextCompositeCommand{'}{PU}{\ }{\textacute}
 14357 \DeclareTextCompositeCommand{`}{PU}{\ }{\textasciicircum}
 14358 \DeclareTextCompositeCommand{~}{PU}{\ }{\texttilde}
 14359 \DeclareTextCompositeCommand{"}{PU}{\ }{\textasciidieresis}
 14360 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
 14361 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
 14362 \DeclareTextCompositeCommand{.}{PU}{\ }{\textdotaccent}
 14363 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
 14364 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
 14365 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
 14366 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}

```

14367 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14368 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14369 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14370 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14371 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14372 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14373 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14374 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14375 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14376 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14377 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14378 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14379 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14380 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
14381 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14382 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14383 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14384 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14385 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14386 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14387 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14388 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

14389 % U+0009 (CHARACTER TABULATION)
14390 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14391 % U+000A (LINE FEED)
14392 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14393 % U+000D (CARRIAGE RETURN)
14394 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

14395 % U+0022 QUOTATION MARK; quotedbl
14396 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14397 % U+0023 NUMBER SIGN; numbersign
14398 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14399 % U+0024 DOLLAR SIGN; dollar
14400 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14401 % U+0025 PERCENT SIGN; percent
14402 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14403 % U+0026 AMPERSAND; ampersand
14404 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14405 % U+0027 APOSTROPHE; quotesingle
14406 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14407 % U+0028 LEFT PARENTHESIS; parenleft
14408 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14409 % U+0029 RIGHT PARENTHESIS; parenright
14410 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14411 % U+002A ASTERISK; asterisk
14412 \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
 14413 % U+003C LESS-THAN SIGN; less
 14414 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 14415 % U+003E GREATER-THAN SIGN; greater
 14416 \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
 14417 % U+005C REVERSE SOLIDUS; backslash
 14418 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 14419 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14420 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14421 % U+005F LOW LINE; underscore
 14422 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14423 % U+0060 GRAVE ACCENT; grave
 14424 \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
 14425 % U+0069 LATIN SMALL LETTER I; i
 14426 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 14427 \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
 14428 % U+007B LEFT CURLY BRACKET; braceleft
 14429 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14430 % U+007C VERTICAL LINE; *bar, verticalbar
 14431 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14432 % U+007D RIGHT CURLY BRACKET; braceright
 14433 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14434 % U+007E TILDE; asciitilde
 14435 \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
 14436 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14437 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14438 % U+00A2 CENT SIGN; cent
 14439 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2

14440 % U+00A3 POUND SIGN; sterling
 14441 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14442 % U+00A4 CURRENCY SIGN; currency
 14443 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14444 % U+00A5 YEN SIGN; yen
 14445 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14446 % U+00A6 BROKEN BAR; brokenbar
 14447 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14448 % U+00A7 SECTION SIGN; section
 14449 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14450 % U+00A8 DIAERESIS; dieresis
 14451 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14452 % U+00A9 COPYRIGHT SIGN; copyright
 14453 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14454 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14455 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14456 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14457 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14458 % U+00AC NOT SIGN; logicalnot
 14459 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14460 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14461 % U+00AE REGISTERED SIGN; registered
 14462 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 14463 % U+00AF MACRON; *macron, overscore
 14464 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 14465 % U+00B0 DEGREE SIGN; degree
 14466 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 14467 % U+00B1 PLUS-MINUS SIGN; plusminus
 14468 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 14469 % U+00B2 SUPERSCRIFT TWO; twosuperior
 14470 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 14471 % U+00B3 SUPERSCRIFT THREE; threesuperior
 14472 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 14473 % U+00B4 ACUTE ACCENT; acute
 14474 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 14475 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 14476 % U+00B5 MICRO SIGN; mu, mu1
 14477 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 14478 % U+00B6 PILCROW SIGN; paragraph
 14479 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 14480 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14481 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 14482 % U+00B8 CEDILLA; cedilla
 14483 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 14484 % U+00B9 SUPERSCRIFT ONE; onesuperior
 14485 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
 14486 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 14487 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 14488 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 14489 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 14490 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 14491 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 14492 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 14493 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD

14494 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14495 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
14496 % U+00BF INVERTED QUESTION MARK; questiondown
14497 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
14498 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14499 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
14500 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14501 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
14502 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14503 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
14504 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14505 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
14506 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14507 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
14508 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14509 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
14510 % U+00C6 LATIN CAPITAL LETTER AE; AE
14511 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
14512 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14513 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
14514 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14515 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
14516 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14517 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
14518 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14519 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
14520 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14521 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
14522 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14523 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
14524 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14525 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
14526 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14527 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
14528 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14529 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
14530 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14531 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
14532 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14533 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
14534 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14535 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
14536 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14537 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
14538 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14539 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
14540 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14541 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
14542 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14543 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
14544 % U+00D7 MULTIPLICATION SIGN; multiply
14545 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14546 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14547 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
14548 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14549 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
14550 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute

14551 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
14552 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14553 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
14554 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14555 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
14556 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14557 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
14558 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14559 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
14560 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14561 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
14562 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14563 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
14564 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14565 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
14566 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14567 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
14568 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14569 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
14570 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14571 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
14572 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14573 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
14574 % U+00E6 LATIN SMALL LETTER AE; ae
14575 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
14576 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14577 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
14578 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14579 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
14580 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14581 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
14582 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14583 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
14584 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14585 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
14586 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14587 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
14588 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
14589 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14590 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
14591 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
14592 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14593 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14594 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14595 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14596 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
14597 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
14598 % U+00F0 LATIN SMALL LETTER ETH; eth
14599 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
14600 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14601 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
14602 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14603 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
14604 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14605 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
14606 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14607 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4

14608 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 14609 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 14610 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 14611 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 14612 % U+00F7 DIVISION SIGN; divide
 14613 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 14614 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 14615 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 14616 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 14617 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 14618 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 14619 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 14620 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 14621 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 14622 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 14623 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 14624 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 14625 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 14626 % U+00FE LATIN SMALL LETTER THORN; thorn
 14627 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 14628 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 14629 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

14630 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 14631 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 14632 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 14633 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 14634 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 14635 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 14636 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 14637 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 14638 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 14639 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 14640 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 14641 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 14642 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 14643 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 14644 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 14645 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 14646 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 14647 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 14648 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 14649 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 14650 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 14651 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 14652 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 14653 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 14654 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 14655 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 14656 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 14657 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 14658 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 14659 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 14660 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 14661 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F

14662 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
14663 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
14664 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
14665 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
14666 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
14667 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
14668 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
14669 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
14670 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
14671 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
14672 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
14673 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
14674 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
14675 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
14676 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
14677 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
14678 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
14679 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
14680 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
14681 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
14682 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
14683 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
14684 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
14685 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
14686 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
14687 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
14688 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
14689 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
14690 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
14691 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
14692 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
14693 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
14694 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
14695 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
14696 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
14697 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
14698 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
14699 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
14700 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
14701 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
14702 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
14703 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
14704 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
14705 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
14706 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
14707 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
14708 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
14709 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
14710 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
14711 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
14712 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
14713 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14714 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14715 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
14716 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
14717 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron

14718 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14719 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14720 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
14721 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
14722 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
14723 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14724 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14725 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
14726 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
14727 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
14728 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14729 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14730 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
14731 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
14732 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14733 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
14734 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
14735 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
14736 % U+0133 LATIN SMALL LIGATURE IJ; ij
14737 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
14738 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
14739 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
14740 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
14741 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14742 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14743 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
14744 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
14745 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
14746 \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`.

14747 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
14748 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
14749 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
14750 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
14751 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
14752 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
14753 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
14754 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
14755 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
14756 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
14757 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
14758 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
14759 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
14760 \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`.

14761 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
14762 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
14763 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
14764 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
14765 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14766 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141

14767 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14768 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 14769 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 14770 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 14771 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 14772 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 14773 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
 14774 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 14775 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 14776 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 14777 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 14778 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 14779 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 14780 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 14781 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
 14782 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 14783 % U+014A LATIN CAPITAL LETTER ENG; Eng
 14784 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 14785 % U+014B LATIN SMALL LETTER ENG; eng
 14786 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 14787 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 14788 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
 14789 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 14790 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
 14791 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 14792 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 14793 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 14794 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 14795 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
 14796 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 14797 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
 14798 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 14799 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14800 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 14801 % U+0153 LATIN SMALL LIGATURE OE; oe
 14802 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
 14803 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 14804 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 14805 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 14806 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 14807 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
 14808 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 14809 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 14810 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 14811 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 14812 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 14813 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 14814 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 14815 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 14816 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 14817 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 14818 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B

14819 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
14820 \DeclareTextCompositeCommand{\~}{PU}{S}{\81\134}% U+015C
14821 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
14822 \DeclareTextCompositeCommand{\~}{PU}{s}{\81\135}% U+015D
14823 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
14824 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
14825 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
14826 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
14827 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14828 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
14829 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14830 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
14831 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
14832 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
14833 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
14834 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
14835 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
14836 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
14837 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
14838 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
14839 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
14840 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
14841 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
14842 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
14843 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
14844 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
14845 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
14846 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
14847 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
14848 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
14849 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
14850 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
14851 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
14852 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
14853 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
14854 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
14855 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
14856 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
14857 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
14858 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
14859 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-
cute, Uhungarumlaut
14860 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
14861 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-
garumlaut
14862 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
14863 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
14864 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
14865 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
14866 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
14867 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
14868 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
14869 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
14870 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
14871 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
14872 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176

14873 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 14874 \DeclareTextCompositeCommand{\~}{PU}{y}{\81\167}% U+0177
 14875 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14876 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 14877 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 14878 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 14879 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 14880 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 14881 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 14882 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 14883 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 14884 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 14885 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14886 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 14887 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14888 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 14889 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 14890 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

14891 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14892 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 14893 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 14894 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 14895 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 14896 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 14897 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 14898 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 14899 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 14900 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 14901 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 14902 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 14903 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 14904 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 14905 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 14906 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 14907 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 14908 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 14909 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 14910 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 14911 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 14912 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 14913 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 14914 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 14915 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 14916 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 14917 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 14918 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 14919 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 14920 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 14921 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 14922 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 14923 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 14924 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 14925 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 14926 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 14927 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

14928 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
14929 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
14930 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
14931 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
14932 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
14933 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
14934 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
14935 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
14936 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
14937 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
14938 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
14939 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
14940 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
14941 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
14942 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
14943 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
14944 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
14945 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
14946 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
14947 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
14948 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
14949 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
14950 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
14951 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
14952 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
14953 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
14954 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
14955 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
14956 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
14957 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
14958 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
14959 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
14960 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
14961 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
14962 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
14963 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
14964 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
14965 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
14966 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
14967 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
14968 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
14969 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
14970 % U+021E LATIN CAPITAL LETTER H WITH CARON
14971 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
14972 % U+021F LATIN SMALL LETTER H WITH CARON
14973 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
14974 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
14975 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
14976 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
14977 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
14978 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
14979 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
14980 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
14981 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
14982 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE

14983 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 14984 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 14985 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 14986 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 14987 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 14988 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 14989 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 14990 % U+0237 LATIN SMALL LETTER DOTLESS J
 14991 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

14992 % U+02C7 CARON; caron
 14993 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 14994 % U+02D8 BREVE; breve
 14995 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 14996 % U+02D9 DOT ABOVE; dotaccent
 14997 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 14998 % U+02DA RING ABOVE; ring
 14999 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15000 % U+02DB OGONEK; ogonek
 15001 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15002 % U+02DC SMALL TILDE; ilde, *tilde
 15003 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15004 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15005 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15006 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15007 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15008 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15009 % U+02F7 MODIFIER LETTER LOW TILDE
 15010 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15011 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15012 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15013 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15014 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15015 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15016 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15017 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15018 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15019 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15020 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15021 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15022 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15023 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15024 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15025 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 15026 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15027 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15028 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15029 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15030 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15031 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15032 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A

15033 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 15034 \DeclareTextCompositeCommand{'}{PU}{\textOmicron}{\83\214}% U+038C
 15035 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos
 15036 \DeclareTextCompositeCommand{'}{PU}{\textUpsilon}{\83\216}% U+038E
 15037 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15038 \DeclareTextCompositeCommand{'}{PU}{\textOmega}{\83\217}% U+038F
 15039 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadiesistonos
 15040 \DeclareTextCompositeCommand{'}{PU}{\textIotadiesis}{\83\220}% U+0390
 15041 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15042 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15043 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15044 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15045 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15046 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15047 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15048 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15049 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15050 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15051 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15052 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15053 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15054 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15055 % U+0398 GREEK CAPITAL LETTER THETA; Theta
 15056 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
 15057 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 15058 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 15059 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 15060 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 15061 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
 15062 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
 15063 % U+039C GREEK CAPITAL LETTER MU; Mu
 15064 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
 15065 % U+039D GREEK CAPITAL LETTER NU; Nu
 15066 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
 15067 % U+039E GREEK CAPITAL LETTER XI; Xi
 15068 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
 15069 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
 15070 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
 15071 % U+03A0 GREEK CAPITAL LETTER PI; Pi
 15072 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
 15073 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
 15074 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
 15075 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
 15076 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
 15077 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
 15078 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
 15079 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
 15080 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
 15081 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
 15082 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
 15083 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
 15084 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
 15085 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
 15086 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
 15087 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega

15088 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15089 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15090 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15091 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15092 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silondieresis
15093 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15094 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15095 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15096 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
15097 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15098 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos
15099 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15100 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos
15101 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15102 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silondieresis
15103 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
15104 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15105 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15106 % U+03B2 GREEK SMALL LETTER BETA; beta
15107 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15108 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15109 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15110 % U+03B4 GREEK SMALL LETTER DELTA; delta
15111 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15112 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15113 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15114 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15115 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15116 % U+03B7 GREEK SMALL LETTER ETA; eta
15117 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15118 % U+03B8 GREEK SMALL LETTER THETA; theta
15119 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15120 % U+03B9 GREEK SMALL LETTER IOTA; iota
15121 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15122 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15123 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15124 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15125 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15126 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15127 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15128 % U+03BD GREEK SMALL LETTER NU; nu
15129 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15130 % U+03BE GREEK SMALL LETTER XI; xi
15131 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15132 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15133 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15134 % U+03C0 GREEK SMALL LETTER PI; pi
15135 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15136 % U+03C1 GREEK SMALL LETTER RHO; rho
15137 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15138 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15139 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15140 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15141 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15142 % U+03C4 GREEK SMALL LETTER TAU; tau

15143 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 15144 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 15145 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 15146 % U+03C6 GREEK SMALL LETTER PHI; phi
 15147 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 15148 % U+03C7 GREEK SMALL LETTER CHI; chi
 15149 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 15150 % U+03C8 GREEK SMALL LETTER PSI; psi
 15151 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 15152 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 15153 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 15154 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 15155 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 15156 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 15157 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 15158 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 15159 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 15160 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 15161 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 15162 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 15163 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 15164 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 15165 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 15166 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 15167 % U+03DB GREEK SMALL LETTER STIGMA
 15168 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15169 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15170 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15171 % U+03DD GREEK SMALL LETTER DIGAMMA
 15172 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15173 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15174 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15175 % U+03DF GREEK SMALL LETTER KOPPA
 15176 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15177 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15178 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15179 % U+03E1 GREEK SMALL LETTER SAMPI
 15180 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

15181 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15182 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 15183 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 15184 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 15185 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
 15186 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 15187 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 15188 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 15189 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
 15190 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 15191 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 15192 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 15193 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405

15194 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
15195 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15196 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
15197 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15198 \DeclareTextCompositeCommand{\'}{PU}{\CYRII}{\84\007}% U+0407
15199 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15200 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15201 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15202 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15203 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15204 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15205 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15206 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15207 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15208 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15209 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15210 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
15211 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
15212 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15213 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15214 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15215 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15216 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15217 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15218 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15219 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15220 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15221 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15222 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15223 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15224 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15225 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15226 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15227 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15228 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15229 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15230 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15231 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15232 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15233 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15234 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15235 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15236 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15237 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15238 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15239 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15240 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15241 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15242 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15243 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15244 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15245 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15246 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15247 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15248 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15249 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034

15250 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15251 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15252 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15253 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15254 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15255 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15256 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15257 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15258 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15259 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15260 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15261 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15262 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15263 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15264 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15265 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15266 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15267 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15268 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15269 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15270 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15271 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15272 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15273 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15274 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15275 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15276 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15277 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15278 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15279 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15280 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15281 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15282 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15283 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15284 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15285 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15286 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15287 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15288 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15289 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15290 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15291 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15292 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15293 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
15294 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15295 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15296 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15297 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15298 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15299 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15300 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15301 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15302 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15303 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15304 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15305 \DeclareTextCommand{\cyrll}{PU}{\84\073}% U+043B
15306 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic

15307 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15308 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15309 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15310 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15311 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15312 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15313 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15314 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15315 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15316 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15317 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441
15318 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15319 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15320 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15321 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443
15322 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15323 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15324 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15325 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15326 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15327 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15328 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15329 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15330 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15331 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15332 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15333 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15334 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15335 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A
15336 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15337 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15338 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15339 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C
15340 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15341 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
15342 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15343 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E
15344 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15345 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
15346 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15347 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450
15348 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15349 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
15350 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
15351 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15352 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
15353 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15354 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
15355 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
15356 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
15357 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
15358 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
15359 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
lic
15360 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
15361 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
15362 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457

15363 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
15364 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15365 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
15366 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15367 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
15368 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15369 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
15370 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15371 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
15372 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15373 \DeclareTextCompositeCommand{'}{PU}{\cyrk}{\84\134}% U+045C
15374 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15375 \DeclareTextCompositeCommand{'}{PU}{\cyri}{\84\135}% U+045D
15376 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
15377 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
15378 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
15379 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15380 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
15381 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
15382 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15383 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
15384 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15385 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
15386 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15387 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
15388 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463
15389 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
15390 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
15391 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
15392 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
15393 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
15394 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
15395 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
15396 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
15397 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
tifiedcyrillic
15398 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
15399 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
fiedcyrillic
15400 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
15401 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
15402 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
15403 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
15404 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
15405 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
15406 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
15407 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
15408 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
15409 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
15410 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
15411 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
15412 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
15413 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
15414 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
15415 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic

15416 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15417 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15418 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15419 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15420 \DeclareTextCommand{\cyrfta}{PU}{\84\163}% U+0473
 15421 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15422 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15423 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15424 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15425 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 15426 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15427 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 15428 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15429 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15430 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15431 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15432 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15433 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 15434 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15435 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15436 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15437 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 15438 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15439 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 15440 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15441 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15442 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15443 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15444 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15445 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15446 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15447 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15448 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15449 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 15450 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
 licmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
 cyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
 licmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 15451 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15452 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15453 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15454 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15455 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15456 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C

15457 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15458 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15459 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15460 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15461 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15462 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15463 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 15464 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15465 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 15466 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15467 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 15468 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15469 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15470 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15471 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 15472 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15473 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 15474 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15475 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 15476 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 15477 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 15478 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 15479 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 15480 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 15481 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 15482 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 15483 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 15484 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 15485 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 15486 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 15487 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-
 cyrillic
 15488 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 15489 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
 ticalstrokecyrillic
 15490 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 15491 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
 ticalstrokecyrillic
 15492 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 15493 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 15494 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 15495 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 15496 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 15497 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 15498 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 15499 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 15500 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1

15501 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 15502 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 15503 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 15504 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 15505 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 15506 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 15507 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 15508 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 15509 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 15510 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 15511 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 15512 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 15513 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 15514 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 15515 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 15516 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 15517 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 15518 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 15519 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 15520 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 15521 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 15522 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
 15523 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 15524 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 15525 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 15526 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
 15527 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 15528 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 15529 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 15530 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
 15531 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 15532 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 15533 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 15534 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 15535 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
 15536 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 15537 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 15538 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 15539 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 15540 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 15541 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 15542 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 15543 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic

15544 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
15545 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
15546 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
15547 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
erticalstrokecyrillic
15548 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
15549 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
erticalstrokecyrillic
15550 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
15551 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
15552 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
15553 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
15554 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
15555 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
15556 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
15557 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
lic
15558 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
15559 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
15560 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
15561 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
15562 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
15563 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
15564 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
15565 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
15566 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
15567 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
15568 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
15569 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
15570 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
15571 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
15572 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
15573 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
15574 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
15575 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
15576 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
15577 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
15578 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
15579 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
15580 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
15581 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
15582 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
15583 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
cyrillic
15584 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
15585 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
15586 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
15587 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
15588 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
15589 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
15590 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

15591 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic
15592 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
15593 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic
15594 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
15595 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
15596 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
15597 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
15598 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
15599 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
15600 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
15601 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
15602 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
15603 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic
15604 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
15605 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic
15606 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
15607 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
15608 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
15609 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
15610 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
15611 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic
15612 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
15613 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic
15614 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
15615 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic
15616 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
15617 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic
15618 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
15619 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic
15620 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
15621 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic
15622 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
15623 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
15624 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
15625 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
15626 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
15627 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
15628 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
15629 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
15630 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
15631 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
15632 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
15633 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
15634 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
15635 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
15636 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
15637 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
15638 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
15639 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic

15640 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 15641 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 15642 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 15643 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
 SIS; Obarreddieresiscyrillic
 15644 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 15645 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
 dieresiscyrillic
 15646 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 15647 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 15648 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 15649 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 15650 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 15651 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 15652 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE
 15653 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 15654 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 15655 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 15656 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 15657 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 15658 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 15659 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
 garumlautcyrillic
 15660 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 15661 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
 garumlautcyrillic
 15662 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 15663 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
 siscyrillic
 15664 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 15665 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-
 cyrillic
 15666 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 15667 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 15668 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 15669 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 15670 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 15671 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 15672 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 15673 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 15674 \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
 15675 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 15676 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 15677 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 15678 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

15679 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 15680 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

15681 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
15682 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
15683 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
15684 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
15685 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
15686 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
15687 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
15688 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
15689 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
15690 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
15691 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
15692 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
15693 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
15694 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
15695 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
15696 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
15697 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
15698 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
15699 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
15700 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
15701 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
15702 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
15703 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
15704 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
15705 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
15706 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
15707 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
15708 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
15709 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
15710 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
15711 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
15712 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
15713 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
15714 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
15715 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
15716 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
15717 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
15718 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
15719 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
15720 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
15721 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
15722 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
15723 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
15724 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
15725 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
15726 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
15727 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
15728 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
15729 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
15730 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
15731 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
15732 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
15733 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
15734 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
15735 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
15736 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F

15737 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
 15738 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
 15739 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
 15740 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
 15741 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
 15742 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
 15743 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
 15744 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
 15745 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
 15746 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
 15747 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
 15748 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
 15749 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
 15750 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
 15751 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
 15752 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
 15753 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
 15754 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
 15755 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
 15756 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
 15757 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
 15758 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
 15759 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
 15760 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
 15761 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
 15762 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
 15763 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
 15764 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
 15765 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
 15766 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
 15767 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
 15768 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
 15769 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
 15770 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
 15771 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
 15772 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
 15773 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
 15774 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
 15775 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
 15776 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
 15777 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
 15778 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
 15779 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
 15780 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
 15781 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
 15782 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
 15783 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
 15784 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
 15785 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
 15786 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
 15787 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
 15788 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
 15789 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
 15790 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
 15791 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
 15792 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
 15793 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent

15794 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
 15795 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
 15796 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
 15797 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
 15798 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
 15799 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 15800 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
 15801 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 15802 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
 15803 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 15804 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
 15805 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 15806 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
 15807 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 15808 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
 15809 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 15810 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 15811 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 15812 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 15813 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 15814 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 15815 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 15816 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
 15817 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 15818 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 15819 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 15820 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 15821 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 15822 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 15823 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 15824 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 15825 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 15826 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 15827 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 15828 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 15829 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 15830 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 15831 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 15832 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 15833 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 15834 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

15835 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
 15836 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 15837 % U+2013 EN DASH; endash
 15838 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 15839 % U+2014 EM DASH; emdash
 15840 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 15841 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 15842 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 15843 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 15844 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 15845 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 15846 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 15847 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase

15848 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 15849 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 15850 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 15851 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 15852 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 15853 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 15854 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 15855 % U+2020 DAGGER; dagger
 15856 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 15857 % U+2021 DOUBLE DAGGER; daggerdbl
 15858 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 15859 % U+2022 BULLET; bullet
 15860 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 15861 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 15862 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 15863 % U+2030 PER MILLE SIGN; perthousand
 15864 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 15865 % U+2031 PER TEN THOUSAND SIGN
 15866 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 15867 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 15868 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 15869 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singright
 15870 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 15871 % U+203B REFERENCE MARK; referencemark
 15872 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 15873 % U+203D INTERROBANG
 15874 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 15875 % U+2044 FRACTION SLASH; fraction
 15876 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 15877 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 15878 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 15879 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 15880 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 15881 % U+2052 COMMERCIAL MINUS SIGN
 15882 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

15883 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 15884 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 15885 % U+2074 SUPERSCRIPT FOUR; foursuperior
 15886 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 15887 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 15888 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 15889 % U+2076 SUPERSCRIPT SIX; sixsuperior
 15890 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 15891 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 15892 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 15893 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 15894 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 15895 % U+2079 SUPERSCRIPT NINE; ninesuperior
 15896 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 15897 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 15898 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 15899 % U+207B SUPERSCRIPT MINUS
 15900 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}

15901 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 15902 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 15903 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 15904 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 15905 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 15906 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 15907 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 15908 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 15909 % U+2080 SUBSCRIPT ZERO; zeroinferior
 15910 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 15911 % U+2081 SUBSCRIPT ONE; oneinferior
 15912 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 15913 % U+2082 SUBSCRIPT TWO; twoinferior
 15914 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 15915 % U+2083 SUBSCRIPT THREE; threeinferior
 15916 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}% U+2083
 15917 % U+2084 SUBSCRIPT FOUR; fourinferior
 15918 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 15919 % U+2085 SUBSCRIPT FIVE; fiveinferior
 15920 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 15921 % U+2086 SUBSCRIPT SIX; sixinferior
 15922 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 15923 % U+2087 SUBSCRIPT SEVEN; seveninferior
 15924 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 15925 % U+2088 SUBSCRIPT EIGHT; eightinferior
 15926 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 15927 % U+2089 SUBSCRIPT NINE; nineinferior
 15928 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 15929 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 15930 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 15931 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 15932 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

15933 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 15934 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 15935 % U+20A4 LIRA SIGN; afii08941, *lira
 15936 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 15937 % U+20A6 NAIRA SIGN
 15938 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 15939 % U+20A7 PESETA SIGN; peseta
 15940 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 15941 % U+20A9 WON SIGN; won
 15942 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 15943 % U+20AB DONG SIGN; dong
 15944 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 15945 % U+20AC EURO SIGN; *Euro, euro
 15946 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 15947 % U+20B1 PESO SIGN
 15948 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 15949 % U+20B2 GUARANI SIGN
 15950 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

15951 % U+2103 DEGREE CELSIUS; centigrade
 15952 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 15953 % U+2116 NUMERO SIGN; *afii61352, numero

15954 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 15955 % U+2117 SOUND RECORDING COPYRIGHT
 15956 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 15957 % U+211E PRESCRIPTION TAKE; prescription
 15958 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 15959 % U+2120 SERVICE MARK
 15960 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 15961 % U+2122 TRADE MARK SIGN; trademark
 15962 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 15963 % U+2126 OHM SIGN; Ohm, Omega
 15964 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 15965 % U+2127 INVERTED OHM SIGN
 15966 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 15967 % U+212B ANGSTROM SIGN; angstrom
 15968 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 15969 % U+212E ESTIMATED SYMBOL; estimated
 15970 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 15971 % U+2135 ALEF SYMBOL; aleph
 15972 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

15973 % U+2190 LEFTWARDS ARROW; arrowleft
 15974 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 15975 % U+2191 UPWARDS ARROW; arrowup
 15976 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 15977 % U+2192 RIGHTWARDS ARROW; arrowright
 15978 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 15979 % U+2193 DOWNWARDS ARROW; arrowdown
 15980 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

15981 % U+2212 MINUS SIGN; minus
 15982 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 15983 % U+221A SQUARE ROOT; radical
 15984 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

15985 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 15986 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 15987 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 15988 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

15989 % U+2422 BLANK SYMBOL
 15990 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 15991 % U+2423 OPEN BOX; blank
 15992 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

15993 % U+2460 CIRCLED DIGIT ONE; onecircle
 15994 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 15995 % U+2461 CIRCLED DIGIT TWO; twocircle
 15996 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 15997 % U+2462 CIRCLED DIGIT THREE; threecircle
 15998 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 15999 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16000 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463

16001 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16002 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16003 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16004 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16005 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 16006 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16007 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16008 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16009 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16010 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16011 % U+2469 CIRCLED NUMBER TEN; tencircle
 16012 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16013 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16014 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16015 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16016 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16017 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16018 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16019 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16020 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16021 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16022 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 16023 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16024 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16025 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16026 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16027 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16028 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16029 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16030 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16031 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16032 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16033 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 16034 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 16035 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 16036 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 16037 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16038 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16039 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16040 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16041 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16042 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16043 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16044 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16045 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16046 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16047 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16048 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16049 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16050 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16051 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16052 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16053 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16054 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16055 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16056 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16057 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle

16058 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16059 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16060 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16061 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16062 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16063 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16064 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16065 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16066 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16067 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16068 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16069 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16070 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16071 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16072 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16073 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16074 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16075 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16076 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16077 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16078 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16079 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 16080 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 16081 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 16082 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 16083 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 16084 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 16085 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 16086 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 16087 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 16088 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 16089 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 16090 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 16091 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 16092 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 16093 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 16094 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 16095 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 16096 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 16097 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 16098 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 16099 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 16100 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 16101 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 16102 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 16103 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 16104 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 16105 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 16106 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 16107 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 16108 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 16109 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 16110 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 16111 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 16112 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 16113 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 16114 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE

16115 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 16116 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 16117 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 16118 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 16119 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 16120 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 16121 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 16122 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 16123 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 16124 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 16125 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 16126 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 16127 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 16128 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 16129 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 16130 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 16131 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 16132 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 16133 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 16134 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 16135 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 16136 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 16137 % U+24EA CIRCLED DIGIT ZERO
 16138 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16139 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16140 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16141 % U+25EF LARGE CIRCLE; largecircle
 16142 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16143 % U+266A EIGHTH NOTE; musicalnote
 16144 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16145 % U+26AD MARRIAGE SYMBOL
 16146 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 16147 % U+26AE DIVORCE SYMBOL
 16148 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16149 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16150 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16151 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16152 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16153 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16154 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16155 % U+FB02 LATIN SMALL LIGATURE FL; fl
 16156 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16157 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

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16158 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16159 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16160 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16161 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16162 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16163 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16164 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16165 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16166 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16167 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16168 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16169 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16170 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

16171 </puenc>

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50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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16172 <*puvnenc>

16173 \DeclareTextCommand{\abreve}{PU}{\81\003}
16174 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16175 \DeclareTextCommand{\dj}{PU}{\81\021}
16176 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16177 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16178 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16179 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16180 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16181 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16182 \DeclareTextCommand{\DJ}{PU}{\81\020}
16183 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16184 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16185 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16186 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16187 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16188 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16189 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16190 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16191 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16192 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16193 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16194 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16195 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16196 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16197 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16198 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16199 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16200 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16201 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16202 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16203 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16204 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16205 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16206 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16207 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}

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16208 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16209 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16210 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16211 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16212 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16213 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16214 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16215 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16216 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16217 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16218 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16219 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16220 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16221 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16222 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16223 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16224 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16225 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16226 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16227 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16228 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16229 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
16230 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16231 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16232 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16233 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16234 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16235 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16236 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16237 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16238 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16239 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16240 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16241 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16242 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16243 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16244 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16245 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16246 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16247 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16248 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16249 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16250 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16251 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16252 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16253 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16254 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16255 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16256 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
16257 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16258 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16259 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16260 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16261 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
16262 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
16263 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16264 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}

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16265 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16266 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
16267 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
16268 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16269 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
16270 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16271 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
16272 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
16273 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16274 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
16275 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16276 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
16277 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
16278 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16279 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
16280 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16281 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
16282 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
16283 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16284 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
16285 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16286 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
16287 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
16288 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
16289 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
16290 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
16291 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
16292 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
16293 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
16294 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
16295 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
16296 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
16297 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
16298 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
16299 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
16300 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
16301 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
16302 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
16303 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16304 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
16305 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16306 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
16307 </puvnenc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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16308 <*puarenc>
16309 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16310 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16311 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16312 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE

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16313 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LETTER ALEF WITH HAMZA BELOW

16314 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LETTER YEH WITH HAMZA ABOVE

16315 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF

16316 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH

16317 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA

16318 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH

16319 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LETTER THEH

16320 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LETTER JEEM

16321 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH

16322 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH

16323 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL

16324 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL

16325 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH

16326 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN

16327 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN

16328 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LETTER SHEEN

16329 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD

16330 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD

16331 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH

16332 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH

16333 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN

16334 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LETTER GHAIN

16335 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL

16336 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH

16337 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF

16338 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF

16339 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM

16340 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LETTER MEEM

16341 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON

16342 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH

16343 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW

16344 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LETTER ALEF MAKSURA

16345 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH

16346 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN

16347 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN

16348 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN

16349 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA

16350 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA

16351 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA

16352 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA

16353 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi

16354 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH

16355 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LETTER TCHEH

16356 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH

16357 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LETTER KAF


```

16358 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16359 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
      TER YEH

16360 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16361 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

16362 \</puarenc>

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51 End of file hyccheck.tex

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16363 \<*check>
16364 \typeout{}
16365 \begin{document}
16366 \end{document}
16367 \</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, 2000	
\"	202, 227, 3098, 13547, 13905, 13917, 13929, 14052, 14138, 14152, 14160, 14175, 14187, 14203, 14217, 14228, 14229, 14243, 14255, 14261, 14312, 14340, 14359, 14380, 14507, 14521, 14529, 14543, 14555, 14571, 14585, 14596, 14597, 14611, 14623, 14629, 14876, 15091, 15093, 15103, 15155, 15157, 15185, 15198, 15350, 15363, 15596, 15598, 15612, 15614, 15616, 15618, 15620, 15622, 15632, 15634, 15636, 15638, 15644, 15646, 15648, 15650, 15656, 15658, 15664, 15666, 15672, 15674, 15714, 15716, 15786, 15788, 15798, 15800, 15816	15026, 15028, 15030, 15032, 15034, 15036, 15038, 15040, 15095, 15097, 15099, 15101, 15159, 15162, 15164, 15189, 15208, 15354, 15373, 15722, 15724, 15734, 15736, 15750, 15752, 15782, 15784, 16187, 16192, 16197, 16202, 16207, 16212, 16217, 16222, 16227, 16232, 16237, 16242, 16247, 16252, 16257, 16262, 16267, 16272, 16277, 16282, 16287, 16292, 16297, 16302
\#	486, 2085, 2086, 4429, 4440, 4442, 4458, 4490, 4550, 8222, 8224, 8997, 9006, 9041, 9808, 11368, 11379, 11415, 11646, 11655, 11693, 13467	\(190, 215, 263, 692, 695, 697, 2002, 13613, 13975
\\$	184, 209, 262, 487, 4431, 4549	\) 191, 216, 264, 664, 670, 673, 2003, 13614, 13977
\%	488, 2000, 2060, 2061, 4428, 4437, 4439, 4491, 8224	* 266
\&	185, 210, 489, 4432, 4443, 4445, 11425	\+ 200, 225, 267
\'	203, 228, 3038, 3052, 3093, 3095, 3096, 3097, 3098, 3103, 3104, 3106, 3111, 3117, 3121, 3122, 3125, 3168, 3169, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3183, 3187, 3200, 13545, 13902, 13914, 13926, 14132, 14148, 14156, 14169, 14183, 14189, 14197, 14213, 14222, 14223, 14237, 14251, 14257, 14280, 14282, 14283, 14284, 14287, 14289, 14290, 14291, 14299, 14337, 14356, 14377, 14501, 14517, 14525, 14537, 14551, 14557, 14565, 14581, 14590, 14591, 14605, 14619, 14625, 14643, 14645, 14750, 14752, 14770, 14772, 14804, 14806, 14816, 14818, 14878, 14880, 14930, 14932, 14938, 14940, 14942, 14944,	\- 201, 226
		\. 198, 223, 260, 1161, 3422, 3804, 13908, 13920, 13932, 13994, 14285, 14292, 14310, 14343, 14362, 14386, 14426, 14427, 14651, 14653, 14675, 14677, 14695, 14697, 14731, 14762, 14764, 14882, 14884, 14975, 14977, 14983, 14985, 15682, 15684, 15690, 15692, 15702, 15704, 15710, 15712, 15738, 15740, 15742, 15744, 15754, 15756, 15758, 15760, 15766, 15768, 15790, 15792, 15794, 15796, 15802, 15804, 15822
		\/ 194, 219, 606, 607, 608, 675, 1785, 7621
		\: 189, 214
		\; 199, 224, 7916
		\< 196, 221
		\= 167, 173, 180, 183, 13910, 13922, 13934, 14305, 14347, 14366, 14385, 14631, 14633, 14667, 14669, 14716, 14718, 14719, 14788, 14790, 14848, 14850, 14987, 14989, 15628, 15630, 15652, 15654, 15706, 15708
		\> 197, 222
		\? 268
		\@ 3089
		\@@@ 2316
		\@@@BOOKMARK 13528, 13531, 13589, 13656, 13663
		\@@ListBox 12011, 12033, 12486, 12517, 12821, 12862
		\@@Menu 12217, 12225
		\@@PasswordField 12166, 12172
		\@@Radio 11996, 12017, 12215, 12239, 12471, 12492, 12806, 12827
		\@@TextField 12168, 12183
		\@@commahyperpage 7728, 7729
		\@@hyper@readexternallink 4739, 4741
		\@@hyperref 4652, 4653
		\@@latextohtmlX 2917, 4887
		\@@windex 7656, 7657
		\@@writetorep 13388, 13394
		\@Alph 6404, 6406
		\@BIBLABEL 7151, 7157, 7163
		\@BOOKMARK 13528, 13530
		\@CITE 7228, 7236
		\@CITEX 7230
		\@CheckBox 5605, 9873, 12107, 12136, 12270, 12601, 12964
		\@ChoiceMenu 5602, 9876, 11949, 12139, 12205, 12423, 12758
		\@Form 5345, 9863, 11737, 12128, 12149, 12348, 12683
		\@Gauge 5611, 9867, 11919, 12130, 12154, 12291, 12680
		\@Localurfalse 9816
		\@Localurtrue 9813
		\@M 1067, 2373, 4536, 6786
		\@MM 6914
		\@PackageError 242
		\@PackageInfo 245
		\@PackageInfoNoLine 246
		\@PackageWarning 243
		\@PackageWarningNoLine 244
		\@PushButton 5608, 9879, 12040, 12142, 12251, 12526, 12878
		\@Refstar 8031, 8038
		\@Reset 5617, 9882, 12084, 12145, 12267, 12577, 12935
		\@Roman 568
		\@SCTR 7775, 7827
		\@SetMaxRnhefLabel 7225
		\@Submit 5614, 9885, 12067, 12146, 12264, 12555, 12912
		\@TextField 5599, 9870, 11922, 12133, 12157, 12395, 12722
		\@addchap 13862
		\@addtoreset 7550, 7551, 7565, 7772

<code>\@afterheading</code>	13879	<code>\@currValue</code>	5411, 5413, 12027, 12234, 12245, 12504, 12850, 13267	1147, 1151, 1155, 1493, 3782, 4253, 5311, 5317, 5504, 6268, 6398, 6409, 6476, 7018, 7099, 7240, 7263, 7389, 7611, 8859, 12321, 13048, 13065, 13083
<code>\@alph</code>	6400, 6402	<code>\@currentHlabel</code>	6450	<code>\@firstoftwo</code>
<code>\@anchorcolor</code>	8966, 9061, 9930, 11336, 11616	<code>\@currentHref</code>	2318, 5707, 6353, 6430, 6432, 6441, 6443, 6450, 6531, 6533, 6543, 6594, 6605, 6607, 6645, 6656, 6660, 6667, 6691, 6755, 6779, 6843, 6853, 6855, 6856, 6899, 6927, 7025, 7051, 7055, 7070, 7072, 7300, 7426, 7449, 7462, 7469, 7520, 7544, 7546, 13378, 13767, 13780, 13791, 13821, 13838, 13873	<code>\@fnsymbol</code>
<code>\@arabic</code>	1037, 1042, 1046	<code>\@currentlabel</code>	6573, 6917, 7293, 7300, 7525, 7532, 7781, 7833	<code>\@footnotemark</code>
<code>\@auxout</code>	2310, 4697, 5827, 5829, 6489, 6517, 7171, 7186, 7202, 7212, 7242, 7265, 7291, 7297, 7321	<code>\@currentlabelname</code>	2308, 6844, 6900, 6928, 7030	<code>\@footnotetext</code>
<code>\@backslashchar</code>	788, 791, 794, 1291, 1962, 1966, 1969, 2107, 2124, 2130, 2134, 2142, 4453, 8237, 8247	<code>\@currentlabstr</code>	2307, 2315	<code>\@for</code>
<code>\@baseurl</code>	3408, 3410, 4797, 8687, 8690, 8951, 8953, 9235, 9237, 9721, 9731, 9781, 9783, 10308, 10310, 10681, 10695, 11321, 11323, 11522, 11536, 11602, 11604	<code>\@curropt</code>	11958, 11959, 12019, 12020, 12223, 12230, 12231, 12233, 12240, 12241, 12243, 12432, 12433, 12494, 12495, 12767, 12768, 12832, 12833	<code>\@fourthoffive</code>
<code>\@begintheorem</code>	6750, 6757	<code>\@dblarg</code>	2435, 7020, 7101	<code>\@gobble</code>
<code>\@bibitem</code>	7178, 7209	<code>\@definecounter</code>	7505, 7506	49, 56, 117, 510, 511, 512, 513, 550, 551, 552, 553, 580, 581, 582, 591, 593, 752, 865, 901, 912, 1053, 1057, 1060, 1430, 1491, 1510, 1523, 1527, 1590, 1653, 1654, 1661, 1666, 1680, 1685, 2288, 2345, 2604, 2616, 3770, 3955, 3957, 4009, 4419, 5296, 5494, 5761, 5765, 5783, 5785, 5801, 5802, 5805, 5806, 5808, 6247, 6262, 6266, 6739, 7007, 7096, 7425, 8160, 8861, 10188, 10191, 12349, 12684, 13435, 13436, 13437, 13438
<code>\@biblabel</code>	7151, 7198	<code>\@ehc</code>	2664, 2775, 2800, 2833, 2871, 2878, 2889, 2895, 4007, 4598, 4761, 5057, 5181, 5377, 5541, 5590, 12049, 12095, 12536, 12588, 12888, 12946	<code>\@gobblefour</code>
<code>\@bookmarkopenstatus</code>	4251, 4268, 13449	<code>\@ehd</code>	63, 7006, 7095	516, 616, 1187, 1188, 1189, 3589, 7896
<code>\@bookmarksopenlevel</code>	3371, 3373, 4254	<code>\@endForm</code>	5346, 9866, 11918, 12129, 12153, 12394, 12708	<code>\@gobbleopt</code>
<code>\@bsphack</code>	2303, 4690, 7295	<code>\@endparentv</code>	6746	5808, 5810
<code>\@capstartfalse</code>	7045	<code>\@eqnocr</code>	6675	<code>\@gobbletwo</code>
<code>\@caption</code>	7010, 7022, 7065, 7101, 7103	<code>\@eqnstarfalse</code>	6651, 6678	514, 584, 609, 617, 618, 765, 1186, 1608, 1685, 1689, 2489, 3587, 3588, 3959, 5242, 5787, 5796, 5804, 5808, 8083, 13777
<code>\@capytype</code>	2312, 7005, 7009, 7013, 7020, 7027, 7069, 7094, 7098, 7101	<code>\@eqnstartrue</code>	6675	<code>\@harvarditem</code>
<code>\@car</code>	1573, 1589, 1607, 1627, 3350, 4963, 8639, 8650	<code>\@eqnswtrue</code>	6621, 6630	7310, 7312
<code>\@cdr</code>	8640, 8651	<code>\@esphack</code>	2324, 4701, 7305, 7668	<code>\@hyper@anchor</code>
<code>\@chapter</code>	13786, 13787	<code>\@extra@b@citeb</code>	7136, 7139, 7156, 7161, 7181, 7229, 7251, 7267, 7274	4847, 4848
<code>\@cite</code>	7228, 7259, 7356, 7362	<code>\@extra@b@info</code>	7135, 7138, 7142	<code>\@hyper@itemfalse</code>
<code>\@cite@opt</code>	7357, 7363, 7367, 7377	<code>\@fifthoffive</code>	3967, 4366, 4684, 7982, 8100	6298, 6314, 6328
<code>\@citea</code>	7231, 7238, 7239, 7258, 7261, 7262	<code>\@filebordercolor</code>	3893, 8554, 8556, 9566, 9568, 10016, 10018, 11038	<code>\@hyper@itemtrue</code>
<code>\@citeb</code>	7237, 7240, 7242, 7244, 7248, 7251, 7260, 7263, 7265, 7267, 7271, 7274	<code>\@filecolor</code>	3400, 8575, 9178, 9195, 9584, 10022	6299
<code>\@citebordercolor</code>	3895	<code>\@firstoffive</code>	4362, 4371, 8021, 8105	<code>\@hyper@launch</code>
<code>\@citedata@opt</code>	7358, 7364, 7366	<code>\@firstofone</code>	517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 557, 748, 903, 914,	4767, 4776, 8579, 10085, 11056
<code>\@citedatax</code>	7373, 7378			<code>\@hyper@linkfile</code>
<code>\@citedatax@opt</code>	7370, 7376			4748, 4751, 4755, 4787
<code>\@citeseppen</code>	7355, 7361			<code>\@hyper@readexternallink</code>
<code>\@citex</code>	7257			4742, 4746
<code>\@clubpenalty</code>	6788			<code>\@hyperdef</code>
<code>\@commahyperpage</code>	7723, 7728			4660, 4661
<code>\@ctrerr</code>	6379, 6388			<code>\@hyperpage</code>
<code>\@currDisplay</code>	5409, 11961, 12022, 12234, 12248, 12435, 12497, 12770, 12835			7720, 7721

<code>\@ifclassloaded</code> . 2295, 4393, 6461, 6498, 7220, 7756, 7760, 8864, 13884, 13889	<code>\@m</code> 1050, 7239, 7262, 10235	<code>\@number</code> 6398, 6476, 7389
<code>\@ifnextchar</code> . . . 12, 88, 103, 123, 610, 4543, 4641, 4660, 4709, 5345, 5599, 5602, 5605, 5608, 5611, 5614, 5617, 5808, 5880, 5889, 6952, 6970, 7310, 7368, 10706, 10967, 10981, 13528, 13531	<code>\@mainaux</code> 5825, 5826, 6230, 6238, 12317, 12341	<code>\@nx</code> 7567, 7581, 7584, 7586
<code>\@ifpackagelater</code> . 923, 2326, 6452, 7575	<code>\@makecaption</code> . 7046, 7048, 7114	<code>\@onelevel@sanitize</code> . . 2482, 2486, 2698, 3349, 3984, 4014, 4509, 4809, 4812, 4825, 4839, 5053, 5289, 5373, 6097, 6099, 6437, 7455, 8007, 9356, 13474
<code>\@ifpackageloaded</code> . 439, 818, 922, 2298, 2716, 3327, 3331, 3946, 4089, 6337, 6451, 6464, 6526, 6559, 6563, 6583, 6617, 6731, 6792, 6863, 6906, 7066, 7280, 7353, 7517, 7574, 7616, 7617, 7618, 7765, 8030, 8173, 8177, 11594	<code>\@makefnmark</code> 6858, 6998	<code>\@oparg</code> 6750, 6757
<code>\@ifpackagewith</code> . 3218, 3947, 7540	<code>\@makefnmark</code> 6858, 6998	<code>\@outlinefile</code> . 13447, 13536, 13631, 13633, 13635, 13710, 13712, 13714
<code>\@ifstar</code> 66, 4388, 4391, 4400, 4404, 5742, 5746, 5814, 5818, 8038, 8064, 8083	<code>\@makefnmark</code> 6858, 6998	<code>\@pagerefstar</code> . . . 4391, 8023, 8054
<code>\@ifundefined</code> . . 34, 301, 837, 845, 861, 864, 2466, 2578, 2646, 2730, 3236, 3272, 3280, 3287, 3300, 3348, 3919, 5052, 5372, 6200, 6341, 6346, 6565, 6586, 6587, 6640, 6662, 6686, 6723, 7011, 7029, 7145, 7228, 7244, 7267, 7514, 7555, 7563, 7564, 7577, 7578, 7585, 8280, 9757, 10376, 10377, 11151, 12349, 12684, 13057, 13445	<code>\@makefnmark</code> 6858, 6998	<code>\@pagesetref</code> 7973
<code>\@indexfile</code> 7660, 7675, 7683, 7687, 7692	<code>\@makefnmark</code> 6858, 6998	<code>\@parboxrestore</code> . 6916, 7038, 7109
<code>\@inlabelfalse</code> 6767	<code>\@makefnmark</code> 6858, 6998	<code>\@parcount</code> 13595, 13603
<code>\@inmathwarn</code> 480, 481	<code>\@makefnmark</code> 6858, 6998	<code>\@part</code> 13804, 13811
<code>\@inpenc@undefined@</code> 2162	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfauthor</code> 3605, 3898, 8746, 9217, 9668, 10349, 10607, 11453
<code>\@labels</code> 6783	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfborder</code> 3468, 3469, 3470, 3477, 3481, 3486, 3488, 4334, 8433, 9374, 9918, 10474, 10568, 10959, 10971, 10986, 11007, 11035, 11066, 11095, 11182, 11270, 11430
<code>\@latex@</code> 5911, 5912	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfborderstyle</code> 3484, 3490, 3492, 4335, 8434, 9375, 9919, 10475, 10569, 10960, 10972, 10987, 11008, 11036, 11067, 11096, 11183, 11271, 11431
<code>\@latex@error</code> 7006, 7095	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfcreationdate</code> 3622, 3901, 8750, 8752, 9209, 9211, 9660, 9662, 10582, 10584, 11445, 11447
<code>\@latex@warning</code> 4679, 7247, 7270, 7957, 7977, 7994, 8111	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfcreator</code> 3617, 3900, 8749, 9208, 9659, 10352, 10606, 11444
<code>\@lbibitem</code> 7152, 7197	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfdirection</code> . 8710, 9273, 9701, 10320, 10661, 11502
<code>\@linkbordercolor</code> 3890, 8503, 9920	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfduplex</code> . . 8716, 9279, 9707, 10326, 10667, 11508
<code>\@linkcolor</code> 10728	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfhighlight</code> 3460, 3896, 8453, 8455, 8514, 8550, 8552, 8587, 8589, 8915, 8917, 10473, 10567, 10958, 11006, 11034, 11065
<code>\@linkdim</code> 406, 9015, 9016, 9024, 9025, 9026, 9095, 9096, 9108, 9109, 9110, 9132, 9133, 9146, 9147, 9148, 9170, 9171, 9184, 9185, 9186, 11389, 11390, 11398, 11399, 11400, 11664, 11665, 11678, 11679, 11680	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfhightlight</code> 8512
<code>\@listctr</code> 7187, 7213	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfkeywords</code> 3641, 3904, 8762, 9206, 9673, 10357, 10608, 11442
	<code>\@makefnmark</code> 6858, 6998	<code>\@pdflang</code> 3882, 3911, 8736, 8738, 9301, 9303, 9741, 9743, 10691, 10693, 11532, 11534
	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfm@dest</code> . . . 9318, 9377, 9381
	<code>\@makefnmark</code> 6858, 6998	<code>\@pdfm@mark</code> 6218, 9317, 9369, 9389, 9403, 9405, 9419, 9421, 9426, 9427, 9457, 9481, 9483, 9488, 9506, 9528, 9560
	<code>\@makefnmark</code> 6858, 6998	
	<code>\@makefnmark</code> 6858, 6998	
	<code>\@makefnmark</code> 6858, 6998	
	<code>\@makefnmark</code> 6858, 6	

9593, 9621, 9655, 9722, 9749,
 12687, 12688, 12689, 12706,
 12748, 12754, 12841, 12855,
 12870, 12876, 12901, 12908,
 12926, 12932, 12954, 12960,
 12982, 12988, 12993, 13025,
 13033, 13683
 \@pdfmoddate . 3628, 3902, 8754,
 8756, 9213, 9215, 9664, 9666,
 10586, 10590, 11449, 11451
 \@pdfnonfullscreenpagemode . . .
 . . . 8709, 9272, 9700, 10319,
 10660, 11501
 \@pdfnumcopies 8725,
 8727, 9288, 9290, 9716, 9718,
 10335, 10337, 10676, 10678,
 11517, 11519
 \@pdfpageduration
 3418, 8805, 8809, 8814,
 10244, 10246, 10249, 10512,
 10514, 10522
 \@pdfpagelayout 8735, 9300, 9740,
 10340, 10342, 10690, 11531
 \@pdfpagemode 4077, 4078, 4264,
 4265, 4274, 4275, 8689, 9256,
 9735, 10307, 10644, 11485
 \@pdfpagescrop
 3836, 3906, 8674, 8678, 9239,
 9240, 9261, 9263, 9747, 9749,
 10296, 10298, 10649, 10651,
 11490, 11492
 \@pdfpagetransition
 3414, 8781, 8785, 8790,
 10133, 10135, 10137, 10495,
 10497, 10505
 \@pdfpicktraybypdfsize . . . 8717,
 8719, 9280, 9282, 9708, 9710,
 10327, 10329, 10668, 10670,
 11509, 11511
 \@pdfprintarea . 8713, 9276, 9704,
 10323, 10664, 11505
 \@pdfprintclip . 8714, 9277, 9705,
 10324, 10665, 11506
 \@pdfprintpagerange
 3557, 3910, 8721,
 8723, 9284, 9286, 9712, 9714,
 10331, 10333, 10672, 10674,
 11513, 11515
 \@pdfprintscaling 8715, 9278, 9706,
 10325, 10666, 11507
 \@pdfproducer
 3611, 3899, 8615, 8758,
 8760, 9199, 9200, 9218, 9220,
 9644, 9645, 9649, 9669, 9671,
 10264, 10265, 10269, 10272,
 10273, 10353, 10355, 10593,
 10597, 11092, 11093, 11175,
 11177, 11179, 11267, 11268,
 11435, 11436, 11454, 11456
 \@pdfremotestartview 3808, 3810,
 3811, 3812, 3823, 3827, 3829,
 3830, 3832, 3908, 8567, 9575,
 11046
 \@pdfstartpage
 3791, 3793, 3909, 8695,
 8699, 9243, 9248, 9724, 9728,
 10300, 10304, 10631, 10636,
 11472, 11477
 \@pdfstartview
 3798, 3800, 3907, 8697,
 8699, 9245, 9249, 9726, 9728,
 10302, 10633, 10637, 11474,
 11478
 \@pdfsubject
 3635, 3903, 8748, 9222, 9658,
 10351, 10605, 11458
 \@pdftempa 4753, 4754, 4757
 \@pdftempwordfile . . . 4744, 4754
 \@pdftempwordrun . . 4745, 4757
 \@pdftitle 3599, 3897, 8747, 9207,
 9657, 10350, 10604, 11443
 \@pdftrapped . . 3646, 3649, 3652,
 3661, 3670, 3905, 8763, 8765,
 9674, 9676, 10609
 \@pdfview 3772, 8415, 8423, 9324,
 9328, 9332, 9336, 9340, 9344,
 9345, 9348, 9349, 9352, 9356,
 9358, 9373, 9917, 9927, 9939,
 10417, 10437, 11097, 11184,
 11272, 11544
 \@pdfviewarea . 8711, 9274, 9702,
 10321, 10662, 11503
 \@pdfviewclip . 8712, 9275, 9703,
 10322, 10663, 11504
 \@pdfviewparams 3774, 3776,
 10417, 10437, 11098, 11185,
 11273, 11545
 \@percentchar . 4438, 4439, 4491,
 13451
 \@processme . . 5397, 5398, 8787,
 8793, 8811, 8817, 8833, 8839,
 10709, 10710, 10809, 10810,
 10813, 10814
 \@protected@testopt 613
 \@protected@testopt@xargs . 614
 \@refstar 4388, 8020
 \@runbordercolor 3894, 8591, 8593,
 10104, 10106, 11069
 \@runcolor 8611, 10110
 \@safe@activesfalse 566, 4368
 \@safe@activestrue 565, 4367
 \@savsf 8418, 8426
 \@schapter 13774, 13775
 \@secondoffive . 3968, 4363, 4376,
 7983, 7984, 8024
 \@secondoftwo . . . 554, 856, 1032,
 1559, 1699, 3967, 3968, 13830
 \@sect 13825, 13826
 \@seqncr 6675
 \@serial@counter . . 13543, 13591,
 13593, 13594
 \@seteqlabel 7541, 7542
 \@setminipage 7040, 7111
 \@setref . . 4371, 4376, 7952, 7953,
 7990
 \@sharp 6589, 6595
 \@skiphyperreffalse . . 6315, 7167,
 7179
 \@skiphyperreftrue . . . 7153, 7179
 \@spaces 249
 \@spart 13817, 13818
 \@ssect 13760, 13761
 \@startlos 7890, 7897, 7946
 \@starttoc 5859
 \@tempa . 6749, 6756, 6760, 6865,
 6869, 6872, 6887
 \@tempb 6703, 6707
 \@tempboxa 9013, 9015, 9024, 9093,
 9095, 9098, 9099, 9108, 9114,
 9115, 9130, 9132, 9135, 9136,
 9146, 9152, 9153, 9168, 9170,
 9173, 9174, 9184, 9190, 9191,
 11387, 11389, 11398, 11662,
 11664, 11678
 \@tempcnta . 13400, 13401, 13402,
 13403, 13404, 13406, 13409,
 13410, 13411, 13417, 13419,
 13421, 13512, 13513, 13514,
 13517, 13518, 13519, 13520,
 13521, 13733, 13734, 13735
 \@tempdima
 2376, 5639, 5640, 5641, 5642,
 5643, 5644, 5645, 5646, 8408,
 11957, 11962, 11964, 12000,
 12001, 12002, 12006, 12007,
 12008, 12009, 12431, 12436,
 12438, 12475, 12476, 12477,
 12481, 12482, 12483, 12484,
 12766, 12771, 12773, 12810,
 12811, 12812, 12816, 12817,
 12818, 12819
 \@tempdimb 11961, 11962, 12435,
 12436, 12770, 12771
 \@tempswafalse 7372
 \@tempswatrue 7342, 7345, 7348,
 7369
 \@temptokena . 3205, 3210, 3213,
 3215
 \@tfor 6704
 \@the@H@page 7391, 7393

\@thefnmark	6800, 6811, 6877, 6878, 6917, 6934, 6941, 6972, 6984, 6991	13468, 13901, 13913, 13925, 14130, 14146, 14154, 14167, 14181, 14195, 14211, 14219, 14220, 14235, 14249, 14297, 14336, 14355, 14376, 14499, 14515, 14523, 14535, 14549, 14563, 14579, 14587, 14588, 14603, 14617, 14934, 14936, 15182, 15210, 15347, 15375, 15778, 15780, 15828, 15830, 16189, 16194, 16199, 16204, 16209, 16214, 16219, 16224, 16229, 16234, 16239, 16244, 16249, 16254, 16259, 16264, 16269, 16274, 16279, 16284, 16289, 16294, 16299, 16304	14499, 14501, 14503, 14505, 14507, 14509, 14511, 14513, 14515, 14517, 14519, 14521, 14523, 14525, 14527, 14529, 14531, 14533, 14535, 14537, 14539, 14541, 14543, 14545, 14547, 14549, 14551, 14553, 14555, 14557, 14559, 14561, 14563, 14565, 14567, 14569, 14571, 14573, 14575, 14577, 14579, 14581, 14583, 14585, 14587, 14588, 14590, 14591, 14593, 14594, 14596, 14597, 14599, 14601, 14603, 14605, 14607, 14609, 14611, 14613, 14615, 14617, 14619, 14621, 14623, 14625, 14627, 14629, 14894, 14896, 14898, 14900, 14901, 14903, 14905, 14907, 14909, 14911, 14913, 14915, 14917, 14919, 14921, 14923, 14925, 14927, 14928, 14930, 14932, 14934, 14936, 14938, 14940, 14942, 14944, 14993, 14995, 14997, 14999, 15001, 15003, 15005, 15008, 15010, 15135, 15137, 15139, 15141, 15143, 15145, 15147, 15149, 15151, 15153, 15155, 15157, 15159, 15161, 15162, 15164, 15166, 15168, 15170, 15172, 15174, 15176, 15178, 15180, 15566, 15568, 15570, 15572, 15574, 15576, 15578, 15580, 15582, 15584, 15586, 15588, 15590, 15592, 15594, 15596, 15598, 15600, 15602, 15604, 15606, 15608, 15610, 15612, 15614, 15616, 15618, 15620, 15622, 15624, 15626, 15628, 15630, 15632, 15634, 15636, 15638, 15640, 15642, 15644, 15646, 15648, 15650, 15652, 15654, 15656, 15658, 15660, 15662, 15664, 15666, 15668, 15670, 15672, 15674, 15676, 15678, 15828, 15830, 15832, 15834, 16054, 16056, 16058, 16060, 16062, 16064, 16066, 16068, 16070, 16072, 16074, 16076, 16078, 16080, 16082, 16084, 16086, 16088, 16090, 16092, 16094, 16096, 16098, 16100, 16102, 16104, 16106, 16108, 16110, 16112, 16114, 16116, 16118, 16120, 16122, 16124, 16126, 16128, 16130,	
\@thirdoffive	4364, 8027			
\@thm	6732			
\@topnewpage	13876			
\@topsep	6745			
\@topsepadd	6746			
\@typeset@protect	13746			
\@undefined	314, 317, 619, 3209, 5798, 5833, 5846, 5858, 6059, 6077, 6116, 7005, 7068, 7080, 7085, 7094, 8015, 8406, 8619, 8628, 9890, 10275, 10289			
\@undottedtocline	7942			
\@unprocessedoptions	4215			
\@urlbordercolor	3891, 8516, 8518, 9599, 9601, 10040, 10042, 11009	\l 188, 213, 265, 1908, 2001, 2042, 2998, 3934, 7620, 8208, 8218		
\@urlcolor	8535, 9020, 9033, 9140, 9157, 9613, 10046, 11394, 11407, 11673, 11686	\~ 490, 1205, 2150, 3110, 3118, 3119, 3120, 4028, 4451, 13904, 13916, 13928, 14136, 14165, 14173, 14201, 14233, 14241, 14303, 14339, 14358, 14379, 14505, 14533, 14541, 14569, 14601, 14609, 14711, 14713, 14714, 14844, 14846, 15774, 15776, 15824, 15826, 15832, 15834, 16191, 16196, 16201, 16206, 16211, 16216, 16221, 16226, 16231, 16236, 16241, 16246, 16251, 16256, 16261, 16266, 16271, 16276, 16281, 16286, 16291, 16296, 16301, 16306		
\@urltype	8986, 8991, 9786, 9812, 9947, 9961, 11356, 11361, 11635, 11640			
\@vpageref	8048			
\@whilenum	1203			
\@wrindex	7624, 7625, 7656			
\@writefile	7298			
\@x@sf	6851, 6860, 6997, 6999			
\@xfootnote	6970			
\@xfootnotemark	6808, 6988			
\@xfootnotenext	6797, 6981			
\@xp	7531, 7566, 7567, 7580, 7581, 7583, 7584			
\[.	192, 217, 261, 3474, 4610			
\{	269, 291, 483, 2002, 10408, 13469			
\}	270, 296, 484, 2003, 10408, 13470			
\]	193, 218			
\^	186, 211, 259, 2100, 2101, 3116, 4426, 4427, 4435, 13903, 13915, 13927, 14134, 14150, 14158, 14171, 14185, 14199, 14215, 14225, 14226, 14239, 14253, 14301, 14338, 14357, 14378, 14503, 14519, 14527, 14539, 14553, 14567, 14583, 14593, 14594, 14607, 14621, 14647, 14649, 14687, 14689, 14703, 14705, 14739, 14741, 14742, 14820, 14822, 14868, 14870, 14872, 14874, 15806, 15808			
_	187, 212, 491, 4430, 4447, 4448			
\'	166, 172, 179, 182, 3052, 3186, 3189, 3191, 3199,			
		Numbers		
		\3 467, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 2264, 13612, 14130, 14132, 14134, 14136, 14138, 14140, 14142, 14144, 14146, 14148, 14150, 14152, 14154, 14156, 14158, 14160, 14162, 14163, 14165, 14167, 14169, 14171, 14173, 14175, 14177, 14179, 14181, 14183, 14185, 14187, 14189, 14191, 14193, 14195, 14197, 14199, 14201, 14203, 14205, 14207, 14209, 14211, 14213, 14215, 14217, 14219, 14220, 14222, 14223, 14225, 14226, 14228, 14229, 14231, 14233, 14235, 14237, 14239, 14241, 14243, 14245, 14247, 14249, 14251, 14253, 14255, 14257, 14259, 14261, 14262, 14335,		

16132, 16134, 16136, 16138, 16140, 16142, 16150, 16152, 16174, 16176, 16177, 16181, 16183, 16184, 16187, 16189, 16191, 16202, 16204, 16208, 16209, 16210, 16211, 16212, 16213, 16214, 16215, 16217, 16218, 16219, 16220, 16221, 16222, 16223, 16224, 16225, 16226, 16227, 16228, 16229, 16230, 16231, 16232, 16233, 16234, 16235, 16237, 16238, 16239, 16240, 16241, 16242, 16243, 16244, 16245, 16246, 16247, 16249, 16251, 16262, 16264, 16268, 16269, 16270, 16271, 16272, 16273, 16274, 16275, 16277, 16278, 16279, 16280, 16281, 16282, 16283, 16284, 16285, 16286, 16287, 16288, 16289, 16290, 16291, 16292, 16293, 16294, 16295, 16297, 16298, 16299, 16300, 16301, 16302, 16303, 16304, 16305, 16306, 16359, 16361	15918, 15920, 15922, 15924, 15926, 15928, 15930, 15932, 15934, 15936, 15938, 15940, 15942, 15944, 15946, 15948, 15950, 15952, 15954, 15956, 15958, 15960, 15962, 15964, 15966, 15968, 15970, 15972, 15974, 15976, 15978, 15980, 15982, 15984, 15986, 15988, 15990, 15992, 15994, 15996, 15998, 16000, 16002, 16004, 16006, 16008, 16010, 16012, 16014, 16016, 16018, 16020, 16022, 16024, 16026, 16028, 16030, 16032, 16034, 16036, 16038, 16040, 16042, 16044, 16046, 16048, 16050, 16052, 16054, 16056, 16058, 16060, 16062, 16064, 16066, 16068, 16070, 16072, 16074, 16076, 16078, 16080, 16082, 16084, 16086, 16088, 16090, 16092, 16094, 16096, 16098, 16100, 16102, 16104, 16106, 16108, 16110, 16112, 16114, 16116, 16118, 16120, 16122, 16124, 16126, 16128, 16130, 16132, 16134, 16136, 16138, 16140, 16142, 16144, 16146, 16148, 16150, 16152, 16154, 16156, 16188, 16190, 16192, 16193, 16194, 16195, 16196, 16197, 16198, 16199, 16200, 16201, 16203, 16205, 16206, 16207, 16208, 16209, 16210, 16211, 16213, 16215, 16218, 16220, 16222, 16223, 16224, 16225, 16226, 16227, 16228, 16229, 16230, 16231, 16233, 16235, 16237, 16238, 16240, 16241, 16243, 16244, 16245, 16246, 16250, 16252, 16253, 16254, 16255, 16256, 16257, 16258, 16259, 16260, 16261, 16263, 16265, 16266, 16267, 16268, 16269, 16270, 16271, 16273, 16275, 16278, 16280, 16282, 16283, 16284, 16285, 16286, 16287, 16288, 16289, 16291, 16295, 16297, 16298, 16299, 16300, 16301, 16303, 16304, 16305, 16306, 16360	13933, 13934, 13935, 13936, 14355, 14356, 14357, 14358, 14359, 14360, 14361, 14362, 14363, 14364, 14365, 14366, 14367, 14368, 14369, 14370, 14371, 14372, 14373
A		
\ABREVE . .	16180, 16252, 16253, 16254, 16255, 16256	
\abreve	16173, 16192, 16193, 16194, 16195, 16196	
\AccFancyVerbLineautorefname .	.....	3160
\Accfootnoteautorefname . .	3140	
\Acctheoremautorefname . .	3164	
\ACIRCUMFLEX .	16181, 16257, 16258, 16259, 16260, 16261	
\acircumflex . .	3191, 16174, 16197, 16198, 16199, 16200, 16201	
\Acrobatmenu .	2347, 3964, 5795, 8910, 9618, 10113, 10953	
\active	1183, 1190, 4427, 4428, 4429, 4430, 4431, 4432, 4435, 4437, 4440, 4448, 13616, 13645	
\add@accent	482	
\addcontentsline	7034, 7105, 7423, 7428, 7499, 13881	
\addtocontents	7468, 7500, 7773, 7825, 13869, 13870	
\addtocounter .	6473, 6496, 6505, 6516, 6520, 6725, 9508	
\addvspace	13869, 13870	
\adl@LT@array	6587	
\advance	404, 405, 1204, 4576, 4913, 5241, 5287, 5640, 5641, 5644, 5645, 6014, 8664, 9025, 9109, 9147, 9185, 10271, 11399, 11679, 11964, 12007, 12008, 12438, 12482, 12483, 12717, 12773, 12817, 12818, 13401, 13403, 13404, 13410, 13419, 13520, 13734	
\AE	14142, 14511, 14938	
\ae	14207, 14575, 14940	
\afterassignment	1797, 1803, 1809	
\AfterBeginDocument . .	301, 315	
\aftergroup	6921	
\alef	16315	
\alefhamza	16311	
\aleflowerhamza	16313	
\alefmadda	16310	
\alefmaqsura	16344	
\Alph	6063, 6368, 6369	
\alph	6064, 6696, 6727	
\AMSautorefname	8182	

`\anchor@spot` 4852, 4865, 4872, 4878, 4880, 8473, 8966, 9061, 9858, 9930, 10414, 10753, 10756, 11336, 11616
`\appendix` 6365, 6366
`\appendixautorefname` 3008, 3026, 3044, 3062, 3080, 3098, 3116, 3148, 3149, 3174, 3192, 8192
`\arabic` 6060, 6273, 6276, 6279, 6280, 6281, 6283, 6284, 6285, 6286, 6288, 6289, 6290, 6291, 6292, 6293, 6296, 6306, 6307, 6347, 6480, 7508, 7514, 7562, 7576, 7761, 7766, 7768
`\AtBeginDocument` 302, 5831, 6577, 11706
`\AtBeginShipout` 5943, 8945, 9454
`\AtBeginShipoutBox` 5947, 5950, 8940, 8941, 9455, 9456
`\AtBeginShipoutFirst` 5954, 9754, 11148, 11263
`\AtEndDocument` 5845
`\AtEndOfPackage` 312
`\AtVeryEndDocument` 6156, 12357
`\author` 5879, 5889
`\autopageref` 4076, 8063
`\autoref` 588, 4075, 8082, 11701
`\ayn` 16333

B

`\b` 819, 823, 829, 13911, 13923, 13935, 14327, 14350, 14369, 15686, 15688, 15694, 15696, 15726, 15728, 15730, 15732, 15746, 15748, 15762, 15764, 15770, 15772, 15810, 15812, 15814
`\baa` 16316
`\back@none` 2943, 2953, 2966
`\back@page` 2945, 2958
`\back@section` 2944, 2950, 2956, 2962
`\back@slide` 2946, 2955
`\backcite` 7299
`\backref` 7330, 11705
`\baselineskip` 2350, 5653, 5654, 5655, 5656, 5657, 5658, 9080, 10433, 10459, 11131
`\bbl@cite@choice` 7146
`\BeforeTeXIVht` 2782
`\begin` 11726, 16365
`\belowpdfbookmark` 13516
`\bfseries` 532, 7245, 7268, 7956, 7976, 7993, 8110
`\bgroup` 607, 4543, 6908, 6920, 8380, 9472, 9858, 10449, 12161, 12253, 12274

`\biblecite` 7137, 7143, 7147, 7172, 7187, 7203, 7213
`\bitsetGetDec` 4965, 5098, 5116, 5130, 5143, 5159, 5191, 5216
`\bitsetGetHex` 4966
`\bitsetGetSetBitList` 4954
`\bitsetIsEmpty` 5095, 5113, 5127, 5140, 5156, 5188, 5213
`\bitsetReset` 5068, 5102, 5121, 5135, 5148, 5164, 5196
`\bitsetSetValue` 4934, 4944
`\BOOKMARK` 13448, 13527
`\booknumberline` 13431, 13436
`\box` 5647, 5950, 8394, 9486, 10790
`\bullet` 7908, 7916, 7926, 7934

C

`\C` 14321, 15426, 15428
`\c` 820, 824, 830, 3110, 3118, 3119, 3120, 5902, 5909, 13909, 13921, 13933, 14144, 14209, 14329, 14344, 14363, 14374, 14513, 14577, 14699, 14701, 14744, 14746, 14754, 14756, 14774, 14776, 14808, 14810, 14824, 14826, 14832, 14834, 14979, 14981, 15481, 15484, 15698, 15700, 15718, 15720
`\c@footnote` 6810, 6867, 6875, 6990
`\c@Hy@tempcnt` 4561, 4562, 4568, 4576
`\c@page` 5996, 6014, 6015, 6019, 6031, 6033, 6038, 6045, 6047, 6049, 6078, 7386
`\c@secnumdepth` 13794, 13812, 13827
`\c@slidesection` 7774, 7902, 7903
`\c@slidesubsection` 7826
`\c@tocdepth` 3341, 3346
`\calc@bm@number` 13657, 13732
`\calculate@pdfview` 3768, 3771
`\capitalacute` 14377
`\capitalbreve` 14384
`\capitalcaron` 14383
`\capitalcedilla` 14374
`\capitalcircumflex` 14378
`\capitaldieresis` 14380
`\capitaldotaccent` 14386
`\capitalgrave` 14376
`\capitalhungarumlaut` 14381
`\capitalmacron` 14385
`\capitalnewtie` 14388
`\capitalogonek` 14375
`\capitalring` 14382
`\capitaltie` 14387
`\capitaltilde` 14379

`\caption` 7004, 7006, 7093, 7095
`\catcode` 172, 173, 184, 185, 186, 187, 206, 745, 746, 882, 1183, 1190, 1908, 1909, 2042, 2043, 2099, 2100, 2101, 4284, 4286, 4426, 4427, 4428, 4429, 4430, 4431, 4432, 4435, 4437, 4440, 4448, 4458, 4549, 4550, 8208, 10488, 10489, 13545, 13547, 13616, 13619, 13645, 13648
`\cf@encoding` 1508
`\chapterautorefname` 3009, 3027, 3045, 3063, 3081, 3099, 3117, 3146, 3175, 3193, 8193
`\chapternumberline` 13433, 13438
`\char` 12384, 13549, 13586
`\chardef` 2568, 2569, 2570, 2571, 2821, 2823, 10748, 10751, 10757
`\check@bm@number` 13668, 13676, 13725, 13733
`\CheckBox` 5604
`\CheckCommand` 6864
`\checkcommand` 42, 6515, 6981, 6988, 6995, 7093, 7103, 7197, 7209, 7499, 7502, 7562, 7990
`\checklatex` 4, 6980, 7092, 7196, 7498, 7989
`\checkpackage` 9, 6514, 7561
`\ChoiceBox` 5291
`\ChoiceMenu` 5601
`\citation` 7242, 7265, 7291
`\citeauthoryear` 7357, 7363
`\citeN` 7354
`\CJK@char` 1186
`\CJK@charx` 1187
`\CJK@CJK` 1175
`\CJK@eight` 1386, 1389, 1503
`\CJK@five` 1386, 1388, 1503
`\CJK@four` 1385, 1388, 1502
`\CJK@hundred` 1452
`\CJK@hundredmillion` 1415
`\CJK@ignorespaces` 1185
`\CJK@kern` 1173
`\CJK@minus` 1377
`\CJK@nine` 1386, 1390, 1503
`\CJK@null` 1479
`\CJK@one` 1385, 1387, 1502
`\CJK@punctchar` 1188
`\CJK@punctcharx` 1189
`\CJK@seven` 1386, 1389, 1503
`\CJK@six` 1386, 1389, 1503
`\CJK@ten` 1387, 1388, 1389, 1390, 1467
`\CJK@tenthousand` 1400, 1421
`\CJK@thousand` 1437
`\CJK@three` 1385, 1388, 1502

\CJK@two	1385, 1387, 1502	\CYRBYUS	15402	15298, 15301, 15375, 15630,	
\CJK@zero 1385, 1403, 1420, 1424,		\cyrbyus	15404	15634	
1440, 1455, 1477		\CYRC	15262	\CYRIE	15191
\CJKdigits	1262	\cycr	15327	\cyrie	15356
\CJKkern	1174	\CYRCH	15264, 15664	\CYRII	15195, 15198
\CJKnumber	1261	\cyrch	3136, 3137, 3145, 15329,	\cyril	15360, 15363
\close@pdflink	8467, 8492, 8501,		15666	\CYRIOTBYUS	15406
8536, 8576, 8612, 8935		\CYRCHLDSC	15584	\cyriotbyus	15408
\closeout	5825, 13536	\cyrchldsc	15586	\CYRIOTE	15390
\clubpenalty	6786, 6788	\CYRCHRDSC	15544	\cyriote	15392
\codeof	7321	\cyrchrdsc	15546	\CYRIOTLYUS	15398
\color@begingroup	8380, 9472	\CYRCHVCRS	15548	\cyriotlyus	15400
\color@endgroup	8387, 9479	\cyrchvcrs	15550	\CYRISHRT	15235
\columnwidth	6915	\CYRD	15225	\cyrishrt	15300
\comma@entry	5282, 5289, 5291	\cyrd 3133, 3136, 3147, 3152, 3153,		\CYRISHRTDSC	15452
\comma@parse	5281		15290	\cyrishrtdsc	15454
\contentsline	5834, 5835, 5847,	\CYRDJE	15187	\CYRIZH	15422, 15426
7469, 7473, 7500, 7502		\cyrdje	15352	\cyrizh	15424, 15428
\copy	8390, 8941, 9456, 9482	\CYRDZE	15193	\CYRJE	15200
\count@	784,	\cyrdze	15358	\cyrje	15365
786, 787, 790, 793, 796, 799,		\CYRDZHE	15215	\CYRK	15208, 15238
1202, 1203, 1204, 1205, 1798,		\cyrdzhe	15380	\cyrk	3139, 3140, 3142,
3357, 3358, 3363, 3364, 4912,		\CYRE 15182, 15185, 15227, 15604			3156, 3157, 3159, 3160, 3161,
4913, 4928, 5224, 5239, 5241,		\cyre	3130, 3136,		15303, 15373
5265, 5287, 5303, 8659, 8660,			3137, 3150, 3162, 3163, 3164,	\CYRKBEAK	15498
8661, 8662, 8663, 8664, 8667,			15292, 15347, 15350, 15606	\cyrkbeak	15500
10267, 10268, 10269, 10270,		\cyreref	15650	\CYRKDSC	15486
10271, 10274		\CYREREV	15276, 15648	\cyrkdsc	15488
\CurrentBorderColor		\cyrerev	15341	\CYRKHCRS	15494
.	8457, 8459, 8486, 8488,	\CYRERY	15272, 15672	\cyrkhcrs	15496
.	8496, 8498, 8503, 9920, 9954,	\cyrery	3128, 3130, 15337, 15674	\CYRKHK	15572
.	9956, 9972, 9974, 9993, 9995,	\CYRF	15258	\cyrkhk	15574
.	10053, 10055, 10072, 10074	\cyrf	15323	\CYRKOPPA	15446
\currentpdfbookmark	13508	\CYRFITA	15418	\cyrkoppa	15448
\curu	15378	\cyrfita	15420	\CYRKSI	15410
\cyr	567, 3128, 3130, 3133, 3136,	\CYRG	15189, 15223	\cyrksi	15412
	3139, 3140, 3141, 3142, 3143,	\cyrgh	3146, 15288, 15354	\CYRKVCRS	15490
	3144, 3145, 3146, 3147, 3148,	\CYRGDSC	15668	\cyrkvcrs	15492
	3150, 3152, 3153, 3154, 3155,	\cyrgdsc	15670	\CYRL	15240
	3156, 3157, 3158, 3159, 3160,	\CYRGHCRS	15468	\cyrl 3144, 3146, 3148, 3150,	15305
	3161, 3162, 3163, 3164, 3165	\cyrghcrs	15470	\CYRLDSC	15576
\CYRA	15217, 15592, 15596	\CYRGHK	15472	\cyrl	15578
\cyra	3130, 3137, 3139, 3144,	\cyrghk	15474	\CYRLJE	15202
	3147, 3152, 3153, 3159, 3163,	\CYRGUP	15464	\cyrlje	15367
	15282, 15594, 15598	\cyrgup	15466	\CYRLYUS	15394
\CYRABHCH	15556, 15561	\CYRH	15260	\cyrlyus	15396
\cyrabhch	15558, 15564	\cyrh	15325	\CYRM	15242
\CYRABHCHDSC	15560	\CYRHDSC	15536	\cyrh 3133, 3137, 3163, 3164,	15307
\cyrabhchdsc	15563	\cyrhdsc	15538	\CYRMDSC	15588
\CYRABHDZE	15624	\CYRHHK	15676	\cyrmdsc	15590
\cyrabhdze	15626	\cyrhkh	15678	\CYRN	15244
\CYRABHHA	15514	\CYRHRDSN	15270	\cyrn 3130, 3136, 3137, 3139, 3140,	
\cyrabhha	15516	\cyrhrdsn	15335		3142, 3150, 3156, 3157, 15309
\CYRAE	15600	\CYRI 15210, 15233, 15236, 15628,		\CYRNDSC	15502
\cyrae	15602		15632	\cyrndsc	15504
\CYRB	15219	\cyri	3130,	\CYRNG	15506
\cyrb	3144, 15284		3133, 3137, 3143, 3148, 3150,	\cyrng	15508

\CYRNHK	15580	\cyrtdsc	15526	967, 972, 973, 978, 983, 984,
\cyrnhk	15582	\CYRTETSE	15540	989, 994, 995, 996, 997, 998,
\CYRNJE	15204	\cyrtese	15542	999, 1004, 1005, 1010, 1011,
\cyrnje	15369	\cyrthousands	15450	1016, 1017
\CYRO	15246, 15636	\CYRTSHE	15206	\DeclareFontEncoding . . . 13900,
\cyro	3133, 3136, 3139, 3140, 3150,	\cyrtshe	15371	14295
	3159, 3160, 3162, 3163, 3164,	\CYRU	15213, 15256, 15652, 15656,	\DeclareFontFamily 841, 849, 2650
	15311, 15638		15660	\DeclareFontShape 842, 850, 2651
\CYROMEGA	15382	\cyru	3140,	\DeclareFontSubstitution . . . 843,
\cyromega	15384		3142, 3156, 3157, 3160, 3164,	851, 2652
\CYROMEGARND	15434		15321, 15654, 15658, 15662	\DeclareLocalOptions 3943
\cyromegarnd	15436	\CYRUK	15430	\DeclareRobustCommand . 4387,
\CYROMEGATITLO	15438	\cyruk	15432	4390, 4399, 4403, 4540, 4627,
\cyromegatitlo	15440	\CYRUSHRT	15212	4629, 4631, 4640, 5598, 5601,
\CYROT	15442	\cyrushrt	15377	5604, 5607, 5610, 5613, 5616,
\cyrot	15444	\CYRV	15221	5741, 5745, 5813, 5817, 8037,
\CYROTLT	15640, 15644	\cyrv	3128, 3130, 15286	8063, 8082, 13750
\cyrotld	15642, 15646	\CYRY	15528	\DeclareTextAccent 13901, 13902,
\CYRP	15248	\cyry	15530	13903, 13904, 13905, 13906,
\cyrp	3133, 3136, 3137, 3141, 3142,	\CYRYA	15280	13907, 13908, 13909, 13910,
	3148, 3150, 3154, 3155, 3156,	\cyrya	15345	13911, 13912
	3157, 15313	\CYRYAT	15386	\DeclareVoidOption . . 2779, 2793,
\CYRpalochka	15566	\cyryat	15388	2803, 2808, 2813, 2826, 2836,
\CYRPHK	15510	\CYRYHCRS	15532	2841, 2846, 2852, 2881, 2898,
\cyrphk	15512	\cyryhcrs	15534	2905, 2910, 2915, 2920, 3269,
\CYRPSI	15414	\CYRYI	15197	3277, 3285
\cyrpsi	15416	\cyryi	15362	\DefaultHeightofCheckBox . 5653,
\CYRR	15250	\CYRYO	15184	12112, 12606, 12969
\cyr	3128, 3130, 3133, 3136, 3137,	\cyryo	15349	\DefaultHeightofChoiceMenu . . .
	3143, 3147, 3148, 3150, 3152,	\CYRYU	15278	. 5655, 11954, 12428, 12763
	3153, 3158, 3159, 3160, 3161,	\cyryu	15343	\DefaultHeightofReset 5651,
	3162, 3163, 3164, 15315	\CYRZ	15231, 15481, 15620	12086, 12579, 12937
\CYRRTICK	15460	\cyrz	3147, 3152, 3153, 15296,	\DefaultHeightofSubmit . . . 5649,
\cyrrtick	15462		15484, 15622	12069, 12557, 12914
\CYRS	15252, 15519	\CYRZDSC	15480	\DefaultHeightofText 5657, 11931,
\cyr	3133, 3136, 3139, 3140, 3143,	\cyrzdc	15483	12404, 12731
	3158, 3159, 3160, 3161, 3165,	\CYRZH	15229, 15568, 15616	\DefaultHeightofTextMultiline . .
	15317, 15522	\cyrzh	3130, 3150, 15294, 15570,	. 5658, 11929, 12402, 12729
\CYRSCHWA	15608, 15612		15618	\DefaultOptionsofCheckBox 5663,
\cyrswa	15610, 15614	\CYRZHDSC	15476	12114, 12608, 12971
\CYRSDSC	15518, 15519	\cyrzhdsc	15478	\DefaultOptionsofComboBox 5666
\cyrzdc	15521			\DefaultOptionsofListBox . 5665
\CYRSEMISFTSN	15456			. . . . . 5667
\cyrsemisftsn	15458			\DefaultOptionsofPushButton . .
\CYRSFTSN	15274			. 5662, 12044, 12530, 12882
\cyrstsn	15339			\DefaultOptionsofRadio . . . 5668
\CYRSH	15266			\DefaultOptionsofReset . . . 5661,
\cyrsh	15331			12089, 12582, 12940
\CYRSHCH	15268			\DefaultOptionsofSubmit . . 5660,
\cyrshch	15333			12072, 12560, 12917
\CYRSHHA	15552			\DefaultOptionsofText 5664,
\cyrshha	15554			11936, 12409, 12736
\CYRT	15254			\DefaultWidthofCheckBox . 5654,
\cyr	3133, 3136, 3142, 3144, 3156,			12111, 12605, 12968
	3157, 3158, 3159, 3160, 3161,			\DefaultWidthofChoiceMenu . . .
	3162, 3163, 3164, 15319			. 5656, 11953, 12427, 12762
\CYRTDSC	15524			

D

\d	821, 825, 831, 3188, 3192, 3194,
	3195, 3196, 3197, 3198, 3200,
	13912, 13924, 13936, 14325,
	14351, 14370, 16188, 16193,
	16198, 16203, 16208, 16213,
	16218, 16223, 16228, 16233,
	16238, 16243, 16248, 16253,
	16258, 16263, 16268, 16273,
	16278, 16283, 16288, 16293,
	16298, 16303
\dad	16330
\dal	16323
\damma	16350
\declare@shorthand	937, 938, 943,
	944, 949, 959, 960, 961, 966,

<code>\DefaultWidthhofReset</code>	5652, 12085, 12578, 12936	
<code>\DefaultWidthhofSubmit</code>	5650, 12068, 12556, 12913	
<code>\DefaultWidthhofText</code>	5659, 11926, 12399, 12726	
<code>\define@key</code>	2467, 2469, 2512, 2527, 2530, 2533, 2541, 2544, 2554, 2557, 2560, 2577, 2589, 2591, 2594, 2597, 2614, 2618, 2621, 2624, 2627, 2630, 2633, 2636, 2671, 2729, 2818, 2926, 2937, 2940, 2947, 2976, 2995, 2998, 3235, 3292, 3295, 3310, 3335, 3338, 3342, 3370, 3375, 3379, 3382, 3389, 3401, 3409, 3412, 3415, 3419, 3434, 3443, 3453, 3460, 3467, 3484, 3556, 3565, 3595, 3601, 3607, 3613, 3619, 3625, 3631, 3637, 3643, 3676, 3683, 3717, 3768, 3769, 3789, 3796, 3806, 3836, 3837, 3840, 3843, 3846, 3849, 3852, 3855, 3858, 3881, 3884, 3887, 4557, 4586, 4592, 4604, 4906, 4994, 5050, 5352, 5357, 5370, 5416, 5419, 5422, 5426, 5429, 5433, 5436, 5440, 5443, 5447, 5450, 5453, 5456, 5459, 5462, 5465, 5468, 5471, 5474, 5477, 5480, 5510, 5513, 5516, 5519, 5538, 5544, 5559, 5565, 5582, 5587, 5593, 6169, 6180, 10820, 10822, 10825, 10827, 10829, 10838, 10846, 10853, 10855, 10857, 10859, 10861, 10863, 10872, 10882, 10884, 10886, 10887, 10893, 10902, 10904, 10906, 10908, 10910, 10912, 10914, 10916, 10918, 10920, 10922, 10924, 10926, 10928, 10930, 10932, 10933, 10934, 10935, 10936, 10937, 10938, 10939, 10940, 10941, 10942, 10943	
<code>\df@tag</code>	7523, 7529	
<code>\DH</code>	14162, 14531	
<code>\dh</code>	14231, 14599	
<code>\dhal</code>	16324	
<code>\dimen@</code>	445, 446, 450, 1804, 1872, 1873, 1876, 1878, 3920, 3921, 3923, 3930, 3931, 10234, 10235, 10237, 10781, 10793, 10796	
<code>\dimexpr</code>	457, 2168, 2170, 2178, 2183, 2186, 2188, 2202, 2204, 2207, 2208, 2215, 2218, 2221, 2222, 2223, 2224, 2234, 2239, 2247, 2251, 2256, 2266, 2269, 2274, 2277, 2282, 2283	
<code>\ding</code>	5485, 5488	
<code>\DingObject</code>	12504	
<code>\discretionary</code>	609	
<code>\divide</code>	8660, 10268	
<code>\DJ</code>	3200, 14163, 14663, 16182	
<code>\dj</code>	3197, 3198, 14665, 16175	
<code>\do</code>	1203, 2484, 2489, 2494, 3441, 3462, 3463, 3464, 3465, 3496, 3497, 3498, 3499, 3500, 3501, 3504, 3505, 3506, 3507, 3508, 3509, 3512, 3513, 3516, 3517, 3518, 3519, 3520, 3523, 3524, 3525, 3526, 3527, 3530, 3531, 3532, 3533, 3534, 3537, 3538, 3539, 3540, 3541, 3544, 3545, 3548, 3549, 3550, 3553, 3554, 3560, 3561, 3562, 3563, 3874, 3875, 3876, 3877, 3878, 3879, 4954, 6707, 7237, 7260, 11958, 12019, 12223, 12230, 12240, 12432, 12494, 12767, 12832, 13615, 13644	
<code>\documentclass</code>	2	
<code>\dospecials</code>	13624, 13653	
<code>\dots</code>	494	
<code>\dp</code>	5643, 5646, 6913, 9015, 9095, 9132, 9170, 10782, 10785, 11389, 11664, 12712	
<code>\dth@counter</code>	6747, 6748, 6774	
<code>\dth@everypar</code>	6762	
<code>\dvipdfm@setdim</code>	12709, 12750, 12847, 12872, 12903, 12928, 12956, 12984	
E		
<code>\ECIRCUMFLEX</code>	16183, 16267, 16268, 16269, 16270, 16271	
<code>\ecircumflex</code>	16176, 16207, 16208, 16209, 16210, 16211	
<code>\EdefEscapeHex</code>	764	
<code>\EdefEscapeName</code>	3707, 3751	
<code>\EdefEscapeString</code>	718, 728	
<code>\EdefUnescapeName</code>	3708	
<code>\EdefUnescapeString</code>	713	
<code>\egroup</code>	608, 8387, 9479, 9858, 10483, 12170, 12262, 12287	
<code>\em</code>	538	
<code>\emph</code>	517	
<code>\empty</code>	1185, 3345	
<code>\enc@html</code>	5356, 5359	
<code>\enc@update</code>	479	
<code>\END</code>	1533, 1534, 1560, 1561, 1576, 1577, 1594, 1595, 1612, 1613, 1981, 1987, 1992, 2094, 2096, 8784, 8797, 8801, 8808, 8821, 8825, 8831, 8843, 8847	
<code>\end</code>	16366	
<code>\endeqnarray</code>	6653, 6671, 6678	
<code>\endequation</code>	6616, 6648	
<code>\endForm</code>	5346	
<code>\endinput</code>	64, 2790, 2865, 4072, 4174, 7950, 10423, 11724, 13740	
<code>\endlinechar</code>	4425	
<code>\endNoHyper</code>	5777	
<code>\EndPreamble</code>	11727	
<code>\endsubeqnarray</code>	6682, 6693	
<code>\eqnarray</code>	6652, 6654, 6675	
<code>\equal</code>	7318	
<code>\equation</code>	6615, 6624, 6628, 6637	
<code>\equationautorefname</code>	3002, 3020, 3038, 3056, 3074, 3092, 3110, 3128, 3129, 3168, 3186, 8182, 8186	
<code>\errmessage</code>	3232	
<code>\es@roman</code>	568	
<code>\es@save@dot</code>	1161	
<code>\escapechar</code>	463, 769, 6700, 13475, 13655, 13706	
<code>\eTeX</code>	503, 11732	
<code>\etex@unexpanded</code>	1736, 1743	
<code>\eTeXversion</code>	8619, 8621, 8623	
<code>\evensidemargin</code>	7410	
<code>\everypar</code>	6788	
<code>\ExecuteOptions</code>	3935, 3936, 3940	
<code>\ext@figure</code>	7758	
<code>\ext@table</code>	7757	
<code>\extra@b@citeb</code>	7244	
<code>\extrasvietnam</code>	3278	
<code>\extrasvietnamese</code>	3270	
F		
<code>\fa</code>	16336	
<code>\FancyVerbLineautorefname</code>	3015, 3033, 3051, 3069, 3087, 3105, 3123, 3158, 3161, 3181, 3199, 8199	
<code>\farsikaf</code>	16357	
<code>\farsiya</code>	16359	
<code>\fatha</code>	16349	
<code>\fbox</code>	12388, 12391	
<code>\Field@addtoks</code>	5396, 5427, 5430, 5560, 5583	
<code>\Field@boolkey</code>	4907, 4995, 5390, 5420, 5423	
<code>\Field@toks</code>	5394, 5395, 5397, 12162, 12179, 12190, 12201, 12211, 12228, 12246, 12254, 12259, 12275, 12284	
<code>\Field@Width</code>	5331, 5445	

\figureautorefname . . . 3005, 3023, 3041, 3059, 3077, 3095, 3113, 3143, 3171, 3189, 8189	11924, 11940, 11951, 11991, 12109, 12160, 12178, 12192, 12200, 12207, 12233, 12243, 12273, 12283, 12397, 12414, 12425, 12466, 12603, 12724, 12741, 12760, 12801, 12966, 13267, 13268, 13304	\Fld@noviewtrue 5034
\filename@area 4793	\Fld@DingDef . . . 5478, 5481, 5483	\Fld@nozoomfalse 5026
\filename@base 4793	\Fld@disabledfalse 5329	\Fld@nozoomtrue 5025
\filename@ext . . . 4790, 4791, 4793, 4794	\Fld@export 5059, 5062, 5069, 5361	\Fld@onblur@code . . 5528, 13121, 13123
\filename@parse 4789	\Fld@findlength . . . 12210, 12221	\Fld@onclick@code . . . 5522, 5594, 13205
\find@pdfink . . . 8436, 8490, 8500	\Fld@flags 5128, 5130, 5141, 5143, 5157, 5159, 5189, 5191, 5214, 5216, 13156, 13187, 13214, 13247, 13279, 13314, 13349	\Fld@onenter@code . . 5531, 13133, 13135
\Fld@@additionalactions . . 13100, 13143, 13147	\Fld@format@code . . 5523, 13105, 13107	\Fld@onexit@code . . 5532, 13137, 13139
\Fld@@DingDef . . 5485, 5488, 5507	\Fld@getmethodfalse 5381	\Fld@onfocus@code . . 5527, 13117, 13119
\Fld@additionalactions . . . 13100, 13178, 13206, 13240, 13272, 13306, 13340, 13371	\Fld@getmethodtrue 5383	\Fld@onmousedown@code . . 5529, 13125, 13127
\Fld@align 5335, 5472, 13157, 13215, 13280	\Fld@height . . . 5454, 11927, 11943, 11954, 12009, 12024, 12036, 12069, 12086, 12112, 12120, 12400, 12418, 12428, 12484, 12509, 12522, 12557, 12579, 12606, 12616, 12727, 12743, 12763, 12819, 12830, 12865, 12914, 12937, 12969, 12977	\Fld@onmouseup@code . . . 5530, 13129, 13131
\Fld@annotflags 5114, 5116, 13153, 13184, 13211, 13244, 13276, 13311, 13346	\Fld@hiddenfalse 5017	\Fld@printfalse 5022
\Fld@bcolor . . . 5337, 5514, 13168, 13170, 13231, 13233, 13259, 13261, 13284, 13296, 13298	\Fld@hiddentrue 5018	\Fld@printtrue 5021
\fld@bcolor 13219	\Fld@invisiblefalse 5013	\Fld@radiosymbol . . . 5343, 5481, 13263
\Fld@bordercolor 5338, 5517, 13164, 13166, 13191, 13199, 13201, 13218, 13227, 13229, 13255, 13257, 13283, 13292, 13294, 13318, 13326, 13328, 13353, 13361, 13363	\Fld@invisibletrue 5014	\Fld@rotation . . 5344, 5511, 13160, 13162, 13190, 13195, 13197, 13217, 13223, 13225, 13251, 13253, 13282, 13288, 13290, 13317, 13322, 13324, 13352, 13357, 13359
\Fld@bordersep 5339, 5466	\Fld@keystroke@code 5526, 13101, 13103	\Fld@submitflags 5096, 5098, 13338
\Fld@borderstyle 5341, 5463, 13158, 13189, 13216, 13249, 13281, 13316, 13369	\Fld@listcount 12018, 12021, 12032, 12493, 12496, 12510, 12516, 12828, 12834, 12838, 12843, 12854, 12861	\Fld@temp 5484, 5486, 5489, 5490, 5499, 5500
\Fld@borderwidth . . . 5340, 5460, 5637, 5640, 5641, 5644, 5645, 12007, 12008, 12482, 12483, 12817, 12818, 13158, 13189, 13216, 13249, 13281, 13316, 13369	\Fld@loc 5417	\Fld@validate@code . . 5524, 13109, 13111
\Fld@calculate@code 5525, 13113, 13115	\Fld@maxlen . . 5334, 5448, 13307	\Fld@value 5247, 5254, 5256, 5475, 11925, 11940, 11952, 11990, 11991, 12398, 12414, 12426, 12465, 12466, 12725, 12741, 12761, 12800, 12801, 13305
\Fld@cbsymbol 5342, 5478, 13172	\Fld@menulength . . . 5330, 5451, 11956, 11960, 12006, 12222, 12223, 12226, 12430, 12434, 12481, 12765, 12769, 12816	\Fld@width . . 5444, 11926, 11939, 11943, 11953, 11989, 12000, 12002, 12024, 12036, 12056, 12068, 12076, 12085, 12099, 12111, 12117, 12120, 12399, 12413, 12418, 12427, 12464, 12475, 12477, 12509, 12522, 12543, 12556, 12564, 12578, 12592, 12605, 12612, 12616, 12726, 12740, 12743, 12762, 12799, 12810, 12812, 12830, 12865, 12896, 12913, 12921, 12936, 12950, 12968, 12975, 12977
\Fld@charsize . . . 5332, 5333, 5457, 12006, 12481, 12816, 13174, 13237, 13265, 13302, 13351	\Fld@name . . 5441, 11923, 11950, 12041, 12108, 12159, 12164, 12175, 12176, 12187, 12188, 12197, 12198, 12206, 12227, 12244, 12252, 12257, 12272, 12281, 12396, 12424, 12527, 12602, 12723, 12759, 12879, 12965, 13096, 13098, 13154, 13185, 13212, 13245, 13277, 13312, 13347	\float@caption 7014, 7074
\Fld@checkedfalse 5328	\Fld@norotatefalse 5030	\float@makebox 7076, 7077
\Fld@checkequals . . . 5408, 11959, 12020, 12231, 12241, 12433, 12495, 12768, 12833	\Fld@norotatetrue 5029	\floatingpenalty 6914
\Fld@choices . . . 5221, 5229, 5231, 5235, 5244, 5252, 5257, 5305, 5307, 5315, 5316, 13239	\Fld@noviewfalse 5033	\flq 575
\Fld@color 5336, 5520, 13175, 13238, 13266, 13303		\flqq 573
\Fld@default 5246, 5249, 5251, 5469,		

`\fmtname` 7
`\fmtversion` 7
`\fontencoding` 471, 475, 510, 12380
`\fontfamily` 511, 12379
`\fontseries` 512, 6740, 12381
`\fontshape` 513, 4350, 12382
`\fontsize` 514
`\footins` 6908
`\footnote` 4883
`\footnoteautorefname` 3003, 3021,
3039, 3057, 3075, 3093, 3111,
3132, 3135, 3169, 3187, 8183,
8187
`\footnotesep` 6912, 6919
`\footnotesize` 543, 6910
`\footnotetext` 6867
`\footref` 6938, 6939
`\Form` 5345
`\Form@action` 5355, 12151, 13336
`\Form@boolkey` 5349
`\Form@htmlfalse` 5348, 5367
`\Form@htmltrue` 5360
`\Form@method` 5379, 5387, 12151
`\frq` 576
`\frqq` 574
`\futurelet` 628, 1527
`\FV@SetLineNo` 6454
`\FV@StepLineNo` 6453, 6455, 6456

G

`\G` ... 14320, 14346, 14365, 14946,
14948, 14950, 14952, 14954,
14956, 14957, 14959, 14961,
14963, 14965, 14967, 14969
`\g@addto@macro`
5957, 6108, 7146, 7420, 8850,
10258, 10539, 11100, 11186,
11248, 11550, 11738
`\G@refundefinedtrue` . 4678, 7246,
7269, 7955, 7975, 7992, 8109
`\gaf` 16358
`\Gauge` 5610
`\GenericError` 616, 3589
`\GenericInfo` 618, 3587
`\GenericWarning` . 248, 617, 3588
`\getpagerefnumber` 6568
`\getrefbykeydefault` .. 6524, 6525
`\gexmode` ... 10289, 10290, 10378
`\ghayn` 16334
`\Gin@setfile` 7600, 7601
`\glossary` 582
`\glq` 571
`\glqq` 569
`\Greeknatural` 1025
`\greeknumeral` 1024
`\grq` 572
`\grqq` 570

`\guill@spacing` 954
`\guillemotleft` .. 994, 14089, 14269,
14457, 16162
`\guillemotright` 995, 14120, 14270,
14489, 16163
`\guilsinglleft` 14020, 14271, 15868,
16164
`\guilsinglright` 14022, 14272, 15870,
16165

H

`\H` ... 14316, 14348, 14367, 14381,
14796, 14798, 14860, 14862,
15660, 15662
`\h` 3190, 16190, 16195, 16200, 16205,
16210, 16215, 16220, 16225,
16230, 16235, 16240, 16245,
16250, 16255, 16260, 16265,
16270, 16275, 16280, 16285,
16290, 16295, 16300, 16305
`\H@footnotemark` .. 6796, 6813,
6943, 6950, 6962, 6973
`\H@footnotetext` ... 6795, 6805,
6832, 6892, 6951, 6965, 6973
`\H@mpfootnotetext` . 6803, 6815,
6817
`\H@definecounter` ... 7505, 7507
`\H@endeqnarray` ... 6653, 6672
`\H@endequation` 6616, 6648
`\H@endsubeqnarray` .. 6682, 6694
`\H@eqnarray` 6652, 6657
`\H@equation` 6615, 6639
`\H@item` .. 6294, 6300, 7154, 7179
`\H@newctr` 7510, 7512
`\H@old@part` 13804, 13815
`\H@old@chapter` .. 13774, 13783
`\H@old@sect` 13825, 13836, 13845
`\H@old@spart` 13817, 13823
`\H@old@ssect` 13760, 13765
`\H@refstepcounter` ... 6309, 6319,
6455, 6579, 6592, 6638, 6753,
7009, 7771, 7824
`\H@seteqlabel` 7541, 7543
`\H@subeqnarray` 6681, 6685
`\ha` 16342
`\Haa` 16321
`\halign` 591
`\hamza` 16309
`\HAR@checkcitations` 7334
`\HAR@citetoaux` 7290
`\HAR@tempa` .. 7335, 7336, 7337,
7338, 7339, 7340
`\harvardcite` 7284, 7321
`\harvarditem` 7309
`\hbox` 1796, 1802,
1808, 2380, 3356, 3362, 4828,
4830, 5445, 5631, 5632, 5633,
5634, 7274, 7405, 8380, 8940,
9016, 9026, 9096, 9110, 9133,
9148, 9171, 9186, 9455, 9472,
10449, 10785, 10796, 11390,
11400, 11665, 11680, 12299,
12742, 12829, 12864, 12894,
12922, 12951, 12976, 13752

`\hc@currentHref` 7025
`\HCode` 12151, 12153, 12164, 12173,
12185, 12193, 12195, 12226,
12232, 12237, 12242, 12256,
12261, 12265, 12268, 12277
`\headerps@out` 6203, 11090, 11101,
11173, 11187, 11240, 11249,
11262, 11276, 11315, 11433,
11551, 11739
`\hfill` 5631, 5632, 5633, 5634, 7165,
7198
`\Hfootnoteautorefname` ... 8183
`\hhyperref` 4888
`\hoffset` 7406
`\hphantom` 553
`\href` . 583, 4540, 4882, 4883, 5803
`\href@` 4543, 4546, 4551
`\href@split` 4551, 4552
`\hsize` 6915
`\hskip` 1807, 1885, 2421, 2422, 4537,
5637, 12299
`\hspace` 579, 7324, 7325
`\hss` 7414, 13757
`\ht` 5639, 5642,
9024, 9099, 9108, 9115, 9136,
9146, 9153, 9174, 9184, 9191,
10781, 11398, 11678, 12710
`\htmladdimg` 4881
`\htmladdnormallink` 4882
`\htmladdnormallinkfoot` ... 4883
`\htmlref` 4884
`\Huge` 540
`\huge` 544
`\Hurl` 4626, 4628, 4630
`\hv@pdf@char` 13544, 13609, 13610,
13611, 13612
`\hvtex@buffer` 10153, 10157, 10165,
10168, 10177, 10181, 10197
`\hvtex@gettoken` .. 10152, 10166,
10170, 10179, 10183
`\hvtex@gettoken@` . 10153, 10155
`\hvtex@par@dimension` .. 10148,
10189
`\hvtex@par@direction` ... 10149,
10192
`\hvtex@par@duration` 10150, 10184
`\hvtex@par@motion` 10151, 10186
`\hvtex@param@dimension` 10161,
10190, 10208, 10211

`\hvtex@param@direction` . 10162, 10193, 10219, 10227
`\hvtex@param@duration` . 10163, 10185, 10232, 10234
`\hvtex@param@motion` . 10164, 10187, 10208, 10215
`\hvtex@parse@trans` 10137, 10159
`\hvtex@produce@trans` . . . 10198, 10204
`\hvtex@token` 10156, 10167, 10173, 10180, 10185, 10188, 10191, 10193
`\hvtex@trans@code` 10141, 10142, 10143, 10144, 10145, 10146, 10147, 10160, 10206, 10207, 10209, 10211, 10213, 10215, 10217, 10219, 10221, 10222, 10223, 10224, 10225, 10227
`\hvtex@trans@effect@Blinds` 10141
`\hvtex@trans@effect@Box` . 10142
`\hvtex@trans@effect@Dissolve` 10143
`\hvtex@trans@effect@Glitter` 10144
`\hvtex@trans@effect@R` . . 10147
`\hvtex@trans@effect@Split` 10145
`\hvtex@trans@effect@Wipe` 10146
`\hvtex@trans@par` . 10180, 10184, 10186, 10189, 10192
`\hvtex@trans@params` . . . 10174, 10176, 10200
`\Hy@@boolkey` 2435, 2436
`\Hy@@CleanupFile` . . . 4828, 4830
`\Hy@@DefNameKey` . . 2509, 2511
`\Hy@@escapeform` . 13055, 13068, 13074
`\Hy@@SectionAnchor` 13747, 13750
`\Hy@temp` 3386, 3388, 5534, 5536
`\Hy@abspage` . . 5977, 6042, 6152, 6229
`\Hy@Acrobatmenu` . . . 3980, 4021, 8911, 9619, 10114, 10954
`\Hy@activeanchorfalse` 4423, 8481, 8968, 8983, 9062, 9072, 9384, 9843, 9860, 9931, 9944, 10440, 11338, 11353, 11618, 11632
`\Hy@activeanchortrue` 8477, 8965, 8979, 9060, 9069, 9380, 9839, 9857, 9929, 9941, 10430, 11335, 11349, 11615, 11628
`\Hy@ActiveCarriageReturn` 4459, 4462
`\Hy@AllowHyphens` . 4533, 10428, 10454, 10771
`\Hy@AnchorName` . . . 4663, 4665, 4668, 4670, 4692, 4694, 4698, 4703, 4705
`\Hy@appendixstring` . 6363, 6370
`\Hy@AtBeginDocument` 304, 933, 2655, 2715, 2786, 2861, 2917, 3298, 3917, 3953, 4068, 4074, 4170, 4318, 4408, 5709, 5822, 6236, 6460, 7281, 8029, 8176, 8375, 8857, 9467, 9912, 11275, 11313, 12314, 12315
`\Hy@AtBeginDocumentHook` 305, 310, 316, 317
`\Hy@AtEndOfPackage` . 307, 827, 2296, 3271, 3279, 3286, 4056, 4082, 4088, 4270
`\Hy@AtEndOfPackageHook` . 308, 311, 313, 314
`\Hy@author` 5891, 5895
`\Hy@babelnormalise` . 4641, 4643
`\Hy@backout` . . 4419, 5761, 5765, 7120
`\Hy@backreffalse` 367, 2967, 2989, 4080
`\Hy@backreftrue` 2960, 2964, 2986
`\Hy@BeginAnnot` 9497, 9513, 9554, 9591, 9620
`\Hy@bibcite` 7143, 7147
`\Hy@bookmarksdepth` 3341, 3346, 3358, 3364, 13386
`\Hy@bookmarksnumberedfalse` 368
`\Hy@bookmarksopenfalse` . . . 369
`\Hy@bookmarkstrue` 370
`\Hy@bookmarkstype` . 3376, 3378, 7436, 13397
`\Hy@boolkey` . . 2435, 2528, 2531, 2534, 2555, 2558, 2561, 2592, 2595, 2598, 2615, 2619, 2622, 2625, 2628, 2631, 2634, 2637, 2938, 2941, 2996, 3293, 3296, 3311, 3336, 3339, 3380, 3383, 3435, 3566, 3838, 3841, 3844, 3847, 3850, 3853, 3856, 3864, 3885, 3888, 6170
`\Hy@BorderArrayPatch` . . 10833, 10836, 11099, 11549
`\Hy@breaklinks@unsupported` 2603, 10406
`\Hy@breaklinksfalse` 371
`\Hy@breaklinksunhbox` . . 10744, 10788
`\Hy@CatcodeWrapper` 4279, 4338, 4382, 4411
`\Hy@centerwindowfalse` 372
`\Hy@chapapp` . . 6364, 6370, 6395, 13778, 13789, 13871
`\Hy@chapterstring` . . . 6359, 6361, 6364, 6394
`\Hy@CheckOptionValue` . . . 2479, 2516
`\Hy@CJKbookmarksfalse` . . . 373
`\Hy@cjkpu` 1196, 1198, 1219
`\Hy@CleanupFile` 4826, 8542, 9556, 10008, 11025
`\Hy@colorlink` . 4342, 4350, 4354, 8376, 8462, 8535, 8575, 8611, 8934, 8966, 8989, 9020, 9033, 9061, 9077, 9102, 9118, 9140, 9157, 9178, 9195, 9468, 9545, 9584, 9613, 9638, 9930, 9952, 10022, 10046, 10079, 10110, 10126, 10452, 10728, 10730, 11336, 11359, 11394, 11407, 11616, 11638, 11673, 11686
`\Hy@ColorList` 3440, 3441
`\Hy@CounterExists` . . 6259, 6272, 6275
`\Hy@currentbookmarklevel` 13392, 13402, 13403, 13409, 13416, 13509, 13512, 13517, 13521
`\Hy@defaultdriver` . . . 4159, 4184, 4194, 4205
`\Hy@DefFormAction` . 5353, 5355
`\Hy@DefNameKey` . . . 2508, 3461, 3495, 3503, 3511, 3515, 3522, 3529, 3536, 3543, 3547, 3552, 3559, 3873
`\Hy@DEST` 10745, 10800
`\Hy@DestName` 8423, 8430
`\Hy@DisableOption` . . 2465, 3973, 3974, 3975, 3977, 4061, 4087, 4217, 4218, 4219, 4220, 4221, 4222, 4223, 4224, 4225, 4226, 4227, 4228, 4229, 4230, 4231, 4232, 4233, 4234, 4278, 4331, 4359, 4360, 4421, 4422, 5713, 5714, 5715, 5716, 5717, 5718, 5719, 5720, 5721, 5722, 5723, 5724, 5725, 5726, 5727, 5728, 5729, 5730, 5731, 5732, 5733, 5734, 5735, 5736, 5915, 6110, 6977, 7605, 7703, 7704, 8302, 8403, 8769, 8770, 8771, 8772, 8773, 8774, 8775, 8776, 8777, 8778, 8906, 9223, 9224, 9225, 9226, 9227, 9228, 9229, 9230, 9231, 9232, 9495, 9681, 9682, 9683, 9684, 9685, 9686, 9687, 9688, 9689, 9690, 9772, 9914, 10358, 10359, 10360, 10361, 10362, 10363, 10364, 10365, 10366, 10367, 10618, 10619, 10620, 10621, 10622, 10623,

10624, 10625, 10626, 10627, 11166, 11459, 11460, 11461, 11462, 11463, 11464, 11465, 11466, 11467, 11468	13305, 13336	4048, 4051, 4053, 4263, 4269, 4347, 4352, 4356, 4502, 4529, 4961, 5670, 5672, 5675, 5677, 5680, 5682, 5685, 5687, 5690, 5692, 5695, 5697, 5700, 5702, 7221, 7282, 7441, 7458
\Hy@displaydoctitlefalse . . . 402	\Hy@EveryPageAnchor 7381, 7421	\Hy@InfoNoLine 246, 4063, 4065, 11595
\Hy@DistillerDestFix 7382, 10371, 10373	\Hy@EveryPageBoxHook 5941, 5945, 5949, 7420, 10258, 10539	\Hy@LastPage 3994
\Hy@draftfalse 332	\Hy@EveryPageHook . 5940, 5944, 6108, 8850	\Hy@Level . . 13398, 13400, 13411, 13416, 13417, 13418, 13449
\Hy@drafttrue 333	\Hy@ExchangeLeftParenthesis 8233, 8239	\Hy@Levelcheck . . . 13399, 13414
\Hy@driver 407, 2608, 2783, 2795, 2805, 2810, 2815, 2828, 2838, 2843, 2848, 2855, 2858, 2884, 2900, 2907, 2912, 2922, 4090, 4093, 4097, 4100, 4104, 4107, 4109, 4113, 4117, 4121, 4124, 4128, 4132, 4136, 4139, 4143, 4146, 4148, 4152, 4157, 4161, 4164, 4167, 4178, 4181, 4184, 4193, 4194, 4205, 4207, 4213, 4214	\Hy@ExchangeRightParenthesis 8243, 8249	\Hy@Linkcounter . 409, 411, 6424, 6425, 6447, 6448, 7544, 7813, 7814, 7818, 7864, 7865, 7869
\Hy@nth@currentHref 6755, 6779	\Hy@false . . 2344, 2446, 2952, 2988	\Hy@Linkfileprefix . . . 3411, 4778, 9006, 9808, 11379, 11655
\Hy@DviErrMsg 2750, 2752, 2755, 2761, 2774	\Hy@figuresfalse 375	\Hy@linktoc . . . 2563, 2565, 2573, 2575, 2585, 7477
\Hy@DviModetrue . . . 2759, 2764	\Hy@finalfalse 333	\Hy@linktoc@all 2571
\Hy@DvipdfmxOutlineOpentru 4240, 4247	\Hy@finaltrue 332	\Hy@linktoc@none 2568
\Hy@EndAnnot 9503, 9548, 9587, 9616, 9641	\Hy@FirstPage 3991	\Hy@linktoc@page . . . 2563, 2570, 2573
\Hy@endcolorlink	\Hy@FirstPageHook	\Hy@linktoc@section . 2565, 2569, 2575
4346, 4351, 4355, 8385, 8468, 8966, 9003, 9027, 9035, 9061, 9085, 9106, 9120, 9144, 9157, 9182, 9195, 9477, 9505, 9930, 10003, 10022, 10046, 10079, 10110, 10126, 10479, 10737, 11336, 11375, 11401, 11409, 11616, 11652, 11677, 11686	\Hy@float@caption . . . 7015, 7065, 7067	\Hy@linktocpagefalse 381
\Hy@EndWrap . 4280, 4282, 4283, 4316	\Hy@float@currentHref 7068, 7070, 7072, 7080, 7083, 7085	\Hy@localanchornamefalse . . 382
\Hy@Error 242, 2659, 2772, 2797, 2830, 2868, 2875, 2886, 2892, 4005, 4594, 4759, 5054, 5178, 5374, 5539, 5588, 12047, 12093, 12534, 12586, 12886, 12944	\Hy@footnote@currentHref . 5708, 6820, 6825, 6835, 6840, 6843, 6855, 6857, 6883, 6924, 6927	\Hy@LT@currentHref . 6594, 6605
\Hy@escapeform . . 11942, 12023, 12035, 12059, 12077, 12100, 12119, 12416, 12499, 12520, 12546, 12566, 12593, 12614, 12747, 12837, 12868, 12900, 12924, 12952, 12981, 13049, 13079, 13086	\Hy@FormObjects . 12351, 12622, 12676, 12686, 12992, 13042	\Hy@LT@footnotetext 6881, 6891
\Hy@escapeformfalse 374	\Hy@Gin@setfile 7600, 7602	\Hy@make@anchor . . . 7518, 7524, 7530
\Hy@escapestring . . 13046, 13103, 13107, 13111, 13115, 13119, 13123, 13127, 13131, 13135, 13139, 13172, 13205, 13304,	\Hy@GlobalStepCount 405, 6042, 6424, 6447, 7396, 7813, 7864	\Hy@make@df@tag@@ 7522, 7537
	\Hy@gtemp . 742, 743, 5251, 5252, 5256, 5257, 5268, 5282, 8257, 8259, 13096, 13098	\Hy@make@df@tag@@@ 7528, 7538
	\Hy@href 4543, 4545	\Hy@MakeCurrentHref 6435, 6448
	\Hy@href@nextactionraw	\Hy@MakeCurrentHrefAuto
	. . . . . 4580, 4603, 4605, 4606, 4608, 4613, 4617, 4619, 8531, 8571, 8607, 8930, 9541, 9580, 9609, 9629, 9967, 10035, 10099, 11050, 11079	. . . 6446, 6528, 7519, 13377, 13762, 13778, 13789, 13819, 13833, 13871
	\Hy@href@page 4558, 4560, 4564, 4565, 4567, 4574, 4577, 8567, 9575, 11046	\Hy@MakeRemoteAction . . 4563, 8545, 9559, 11028
	\Hy@hyperfootnotesfalse . . 6792	\Hy@maketitle@end . . 6954, 6959, 6961
	\Hy@hyperfootnotestrue . . . 377	\Hy@maketitle@optarg 6952, 6957
	\Hy@hyperindextrue 378	\Hy@Match . 255, 257, 2929, 3421, 3470, 3812, 4608
	\Hy@hypertextnamesfalse . . 2300	\Hy@MaybeStopNow . 2851, 3941
	\Hy@hypertextnamestrue . . . 379	\Hy@menubartrue 383
	\Hy@ifStringEndsWith 4794, 4806	\Hy@Message 247, 2785, 2860, 4067, 4169, 4213, 9864, 9868, 9871, 9874, 9877, 9880, 9883, 9886, 11920, 12128, 12131, 12134, 12137, 12140, 12143, 12145, 12146, 12155, 12292, 12681
	\Hy@implicittrue 380	\Hy@naturalnamesfalse 384
	\Hy@Info . . 245, 2454, 4031, 4033, 4036, 4038, 4041, 4043, 4046,	\Hy@nestingfalse 385
		\Hy@newline@author 5934
		\Hy@newline@title 5933

\Hy@newwindowfalse 387
\Hy@newwindowsetfalse 386, 3861
\Hy@newwindowsettrue . . . 3863, 4582
\Hy@newwindowtrue 4583
\Hy@next 6058, 6068, 6073, 13788, 13797, 13800
\Hy@nextfalse 4023, 7615
\Hy@NextPage 3985
\Hy@nexttrue . 4024, 4025, 4026, 7616, 7617, 7618
\Hy@number . . . 3781, 3785, 3793
\Hy@numberline . . 13393, 13430, 13431, 13432, 13433
\Hy@ObsoletePaperOption 2537, 2545
\Hy@ocgcolor . . 8379, 8393, 9471, 9485
\Hy@ocgcolorlinksfalse . . . 4326
\Hy@Org@chapter . . 13786, 13801
\Hy@OrgMakeLabel 11707, 11714
\Hy@OutlineName . 13667, 13721
\Hy@OutlineRerunCheck . 13533, 13632, 13711
\Hy@pageanchortrue 388
\Hy@pagecounter . 410, 412, 6486, 7396, 7398
\Hy@pageheight . . . 3931, 11188, 11277
\Hy@pagelabelsfalse 5964
\Hy@pagelabeltrue 389
\Hy@param 6393, 6394, 6395, 6421, 6425
\Hy@pdfafalse 403
\Hy@pdfencoding@pdfdoc . 2710
\Hy@pdfmarkerrorfalse . . 10708
\Hy@pdfmarkerrortrue . . . 10866, 10875
\Hy@pdfminorversion 8269, 8275, 8278, 8286, 8291, 8293, 8296, 8300
\Hy@pdfpagehiddenfalse . . . 390
\Hy@pdfstringdef . 741, 5226, 5234
\Hy@pdfstringfalse 391, 5738
\Hy@pdfstringtrue 595, 5710
\Hy@pdfversion 2737, 2748, 5228, 8291, 8293, 8297, 8300, 13090
\Hy@plainpagesfalse 392
\Hy@PrevPage 3988
\Hy@ps@CR 11230, 11237, 11242, 11243, 11260, 11281, 11282, 11283, 11289, 11296, 11303, 11310
\Hy@pstringB 8687, 8692, 9721, 9733, 10681, 10697, 11522, 11538
\Hy@pstringD . 8544, 8569, 9558, 9577, 11027, 11048
\Hy@pstringdef 8203, 8422, 8446, 8506, 8543, 8544, 8581, 8582, 8687, 9322, 9522, 9557, 9558, 9592, 9721, 9951, 10027, 10086, 10087, 10681, 10864, 10873, 11000, 11026, 11027, 11058, 11059, 11522, 13072, 13666, 13682
\Hy@pstringDest 8422, 8423, 9322, 9369, 10864, 10865, 10869, 10873, 10874, 10878
\Hy@pstringF 8541, 8542, 8543, 8563, 8581, 8600, 8605, 9555, 9556, 9557, 9572, 10007, 10008, 10012, 10086, 10093, 10097, 11024, 11025, 11026, 11043, 11058, 11074, 11077
\Hy@pstringName . 13666, 13667, 13682, 13696
\Hy@pstringP . 8582, 8605, 10087, 10097, 11059, 11077
\Hy@pstringURI 8506, 8527, 9592, 9605, 9951, 9963, 10027, 10031, 11000, 11012
\Hy@PutCatalog 6104, 6112, 6218
\Hy@raisedlink 2368, 6352, 6530, 6551, 6552, 6553, 6556, 6606, 6645, 6648, 6776, 6823, 6838, 6896, 6922, 7053, 7131, 7155, 7160, 7180, 7520, 7545, 11088, 11171, 11429, 11593, 13378, 13754, 13779, 13790, 13820, 13872
\Hy@raiselinksfalse . . . 393, 7283
\Hy@RemoveDurPageAttr . 8808, 8821
\Hy@RemoveHidPageAttr . 8831, 8843
\Hy@RemovePercentCr . . . 4475, 4479, 4484
\Hy@RemoveTransPageAttr 8783, 8797
\Hy@Reserved@a 4708, 6655, 6684, 12158, 12208, 12271
\Hy@RestoreCatcodes 205, 3937, 4216
\Hy@RestoreLastskip 2389, 8424, 8969, 8984, 9063, 9073, 9371, 9844, 9861, 9932, 9945, 10421, 10441, 11339, 11354, 11619, 11633
\Hy@RestoreSavedSpaceFactor . . 2364, 9014, 9094, 9131, 9169, 11388, 11663
\Hy@RestoreSpaceFactor 2355, 2381, 2386, 9013, 9021, 9028, 9093, 9103, 9111, 9130, 9141, 9149, 9168, 9179, 9187, 10450, 10484, 10770, 10776, 10798, 11387, 11395, 11402, 11662, 11674, 11681, 11715, 11719
\Hy@ReturnAfterElseFi 413, 4463
\Hy@ReturnAfterElseFiFiEnd 417, 1770
\Hy@ReturnAfterFi 413, 433, 1948, 4467, 4483, 7715, 7751, 8238, 8248, 13073
\Hy@ReturnAfterFiFiEnd . . 416, 1762, 1776, 1854, 1861
\Hy@ReturnEnd . . 415, 416, 417, 1782, 1866
\Hy@safe@activesfalse 418, 4372, 4377, 4722, 8098
\Hy@safe@activetrue 418, 4370, 4375, 4455, 4492, 4500, 4528, 4645, 4714, 8005, 8087, 13625, 13654
\Hy@saved@currentHref . . . 6853, 6856
\Hy@saved@footnotemark . 6948, 6963
\Hy@saved@footnotetext . . 6949, 6966
\Hy@saved@hook 5919, 5929
\Hy@saved@refstepcounter . 6336, 6580
\Hy@SavedSpaceFactor . . . 2351, 2353, 2358, 2359, 2365, 11712
\Hy@SaveLastskip 2389, 8420, 8957, 8972, 9054, 9066, 9319, 9831, 9847, 9922, 9935, 10411, 10425, 11328, 11342, 11608, 11622
\Hy@SaveSavedSpaceFactor 2363, 9012, 9092, 9129, 9167, 11386, 11661
\Hy@SaveSpaceFactor 2352, 2372, 2383, 9011, 9023, 9091, 9105, 9128, 9143, 9166, 9181, 10448, 10482, 10767, 10772, 10778, 11385, 11397, 11660, 11676, 11710, 11717
\Hy@scanauthor 5889, 5894
\Hy@scanoptauthor . . 5889, 5890
\Hy@scanopttitle 5880, 5881
\Hy@scantitle 5880, 5885
\Hy@secnum@part . 13807, 13809, 13812

\Hy@SectionAnchorHref	593, 13745, 13767, 13838	
\Hy@SectionHShift 13744, 13753, 13763, 13834		
\Hy@seminarslidesfalse . . .	7763	
\Hy@seminarslidestrue	7761	
\Hy@setbreaklinks . . . 2600, 2604, 2616, 8265, 9312		
\Hy@SetCatcodes 181, 231, 3939		
\Hy@SetNewWindow	3867, 8565, 8602, 9579, 10094, 11042, 11073	
\Hy@setouterhbox . 10743, 10769		
\Hy@setpagesizetrue	394	
\Hy@setpdfborder . . . 3485, 8452, 8511, 8549, 8586, 8914, 9533, 9565, 9598, 9631, 9971, 9992, 10015, 10039, 10071, 10103, 10119		
\Hy@setpdfversiontrue	2736	
\Hy@setref@link	7961, 7964	
\Hy@slidetitle . 7790, 7792, 7799, 7807, 7817, 7841, 7843, 7850, 7858, 7868		
\Hy@StartlinkName . . 8450, 8464		
\Hy@StepCount 404, 6019, 11960, 12021, 12223, 12434, 12496, 12769, 12834, 13513, 13518, 13594		
\Hy@StringLocalhost . 4824, 4825, 4840		
\Hy@temp	623, 630, 745, 817, 921, 924, 932, 933, 2543, 2548, 2549, 2550, 2551, 2552, 2553, 3385, 3394, 3395, 3396, 3397, 3398, 3399, 3400, 3441, 3442, 3443, 3446, 3448, 3451, 3468, 3481, 3644, 3645, 3648, 3651, 3654, 3679, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3859, 3860, 4012, 4016, 4017, 4018, 4019, 4095, 4097, 4102, 4104, 4107, 4119, 4121, 4126, 4128, 4134, 4136, 4141, 4143, 4146, 4206, 4207, 4951, 4955, 4956, 4967, 5051, 5052, 5053, 5055, 5059, 5371, 5372, 5373, 5375, 5379, 5380, 5533, 5549, 5550, 5551, 5552, 5553, 5554, 5555, 5556, 5558, 5564, 5570, 5571, 5572, 5573, 5574, 5575, 5576, 5577, 5578, 5579, 5580, 5999, 6002, 6011, 6013, 6017, 6021, 6065, 6067, 6480, 6483, 6486, 6492, 6618, 6624, 6932, 6938, 7712, 7713, 8702, 8731, 8733, 9242, 9247, 9253, 9257, 9260, 9265, 9296, 9298, 9693, 9736, 9738, 10581, 10584, 10588, 10589, 10595, 10596, 10602, 10630, 10635, 10641, 10645, 10648, 10653, 10686, 10688, 10749, 10750, 10754, 10830, 10831, 10839, 10840, 10944, 10945, 11471, 11476, 11482, 11486, 11489, 11494, 11527, 11529, 13054, 13055, 13664, 13670, 13678, 13693	
\Hy@temp@A 654, 655, 1754, 1756, 1767, 1769, 1774, 1775, 1778, 3680, 3682, 7634, 7635, 7636, 7643, 7671, 7672, 7673, 7682		
\Hy@temp@B	1755, 1756	
\Hy@tempa	2437, 2439, 2441, 2442, 2444, 2446, 2448, 2451, 2454, 2455, 2948, 2949, 2950, 2952, 2953, 2955, 2956, 2958, 2962, 2966, 2977, 2979, 2981, 2982, 2984, 2988, 4461, 4462, 4473, 4477, 4646, 4650, 4713, 4716, 4725, 4727, 5358, 5359, 6048, 6050, 6088, 6090, 6229, 6231, 6702, 6704, 6705, 6708, 6709, 6710, 7010, 7015, 7020, 7435, 7436, 7454, 7455, 7461, 7777, 7778, 7829, 7830, 8990, 8991, 9812, 9960, 9961, 11360, 11361, 11639, 11640, 13396, 13397, 13420, 13422, 13441, 13442, 13450, 13474, 13476, 13477, 13479, 13480, 13861, 13886, 13891, 13894, 13897	
\Hy@tempb 6049, 6050, 6089, 6090, 13421, 13422, 13450		
\Hy@tempcolor . . . 10461, 10463, 10476, 10551, 10553, 10565		
\Hy@TempPageAnchor . . . 7386, 7393, 7397, 7413		
\Hy@Test@Alph	6382, 6404	
\Hy@Test@alph	6373, 6400	
\Hy@testname	8438, 8439, 8444, 8446, 8447, 8461, 9514, 9515, 9520, 9522, 9524, 9540, 9979, 9980, 9985, 9989, 10058, 10059, 10064, 10068, 10556, 10557, 10562, 10573	
\Hy@texhtfalse	395	
\Hy@texhttrue	2780, 4091	
\Hy@title	5882, 5886	
\Hy@toclevel . . . 7446, 7450, 7463		
\Hy@toolbartrue	396	
\Hy@true . 2343, 2442, 2444, 2982, 2984		
\Hy@typexmlfalse	397	
\Hy@undefinedname	8435, 8442, 8444, 9510, 9518, 9520, 9948, 9983, 9985, 10062, 10064, 10547, 10560, 10562	
\Hy@unicodefalse . . 398, 721, 731, 2666, 2667, 2675, 3621, 3627, 6482, 7390, 13092		
\Hy@unicodetrue 2667, 6163, 6177		
\Hy@usehidkeyfalse	3433	
\Hy@usehidkeytrue	3437	
\Hy@UseMaketitleInfos	5935, 8743, 9204, 9653, 10347, 10579, 11440	
\Hy@UseMaketitleString . . 5916, 5936, 5937		
\Hy@UseNameKey	2521, 8709, 8710, 8711, 8712, 8713, 8714, 8715, 8716, 8735, 9272, 9273, 9274, 9275, 9276, 9277, 9278, 9279, 9300, 9700, 9701, 9702, 9703, 9704, 9705, 9706, 9707, 9740, 10319, 10320, 10321, 10322, 10323, 10324, 10325, 10326, 10660, 10661, 10662, 10663, 10664, 10665, 10666, 10667, 10690, 11501, 11502, 11503, 11504, 11505, 11506, 11507, 11508, 11531	
\Hy@usetitlefalse	399	
\Hy@varioref@refstepcounter 6571, 6578		
\Hy@varioref@undefined . . . 6562, 6566, 8093		
\Hy@VerboseAnchor	4525, 8421, 8958, 8973, 9055, 9067, 9320, 9832, 9848, 9923, 9936, 10412, 10426, 11329, 11343, 11609, 11623	
\Hy@verbosefalse	400	
\Hy@VerboseGlobalTemp . . 4501, 4502, 4503, 4504, 4508		
\Hy@VerboseLinkInfo 4508, 4509, 4512, 4519		
\Hy@VerboseLinkStart 4497, 8484, 8494, 8988, 9040, 9076, 9088, 9512, 9788, 9811, 9950, 10051, 10444, 10549, 11358, 11414, 11637, 11692		
\Hy@VerboseLinkStop 4513, 8469		
\Hy@vt@PutCatalog . 6135, 6137		
\Hy@VTeXversion . . . 6115, 6127, 10011, 10130, 10266, 13546		

\Hy@WarnHTMLFieldOption	\HyC@org@cmd	\HyField@NewBitsetFlag
5401, 5434, 5437, 5566	76	4899, 4902, 4910
\Hy@Warning	\HyC@org@optcmd	\HyField@NewFlag
243, 279, 440, 1694, 2459, 2474, 2499, 2579, 2694, 2699, 3302, 3354, 3424, 3476, 3656, 3703, 3711, 3822, 4322, 4569, 4612, 4728, 4850, 5008, 5363, 5402, 6173, 6188, 7427, 8074, 8123, 8440, 9353, 9357, 9516, 9981, 10060, 10558, 10867, 10876, 13405, 13423	80, 111	4897, 4973, 4974, 4975, 4976, 4977, 4978, 4979, 4980, 4981, 4982, 4983, 4984, 4985, 4986, 4987, 4988, 4989, 4990, 4991, 4992, 4997, 4998, 4999, 5000, 5001, 5002, 5003, 5004, 5005, 5038, 5040, 5041, 5043, 5044, 5046, 5047, 5048, 5049
\Hy@WarningNoLine	\HyC@org@robustcmd	\HyField@NewFlagOnly
244, 2538, 2606, 2720, 3405, 3457, 3572, 3672, 3924, 3971, 4099, 4108, 4123, 4138, 4147, 5863, 5965, 6129, 6243, 6467, 7437, 7592, 10716	81, 120	4901, 5039, 5042, 5045
\Hy@WarningPageBorderColor	\HyC@org@robustoptcmd	\HyField@NewOption
3454, 3456, 3458	82	4898, 4904
\Hy@WarningPageColor	\HyC@package 10, 22, 28, 34, 37, 38	\HyField@PDFAFlagWarning
3404, 3406	\HyC@param	5007, 5015, 5019, 5023, 5027, 5031, 5035
\Hy@WarnOptionDisabled	\HyC@robustcmd	\HyField@PDFChoices
2471, 2473	115, 120, 121, 122	5219, 12034, 12518, 12863
\Hy@WarnOptionValue	\HyC@star	\HyField@PrintFlags
2452, 2458, 2969, 2991	67, 70, 94	4948, 5094, 5112, 5126, 5139, 5155, 5187, 5212
\Hy@windowuitrue	\HyC@string	\HyField@SetFlag
401	131, 152, 155, 158	4940, 5080, 5086, 5091, 5125, 5153
\Hy@writebookmark	\HyC@Toks	\HyField@SetKeys
2348, 7447, 7797, 7805, 7815, 7848, 7856, 7866, 13382, 13524	79, 90, 96, 106, 126	5323, 11935, 11966, 11969, 11988, 12043, 12071, 12088, 12113, 12408, 12440, 12443, 12462, 12529, 12559, 12581, 12607, 12735, 12775, 12778, 12797, 12881, 12916, 12939, 12970
\HyC@@cmd	\HyCal@do	\HyField@TheAnnotCount
87, 109, 122	434, 438	12719, 12749, 12754, 12844, 12856, 12871, 12876, 12902, 12908, 12927, 12932, 12955, 12960, 12983, 12988
\HyC@check	\HyCal@scan	\HyField@UseFlag
68, 71, 74	425, 429, 453	4931, 4933
\HyC@checkcommand	\HyColor@FieldBColor 5514, 5517	\HyField@AddToFields
50, 57, 59	\HyColor@FieldColor	12304, 12333, 12419, 12511, 12524, 12550, 12574, 12597, 12618
\HyC@checkFailed	\HyColor@HyperrefBorderColor	\HyField@AdvanceAnnotCount
146, 157	3444	12716, 12745, 12839, 12869, 12897, 12925, 12953, 12979
\HyC@checkItem	\HyColor@HyperrefColor	\HyField@afields
132, 133, 134, 135, 138	3390	12301, 12323, 12324, 12326, 12360
\HyC@checklong	\HyColor@UseColor	\HyField@AfterAuxOpen
45, 53	8393, 9474, 9485	12314, 12321, 12339
\HyC@checkOk	\HyField@@AddToFields	\HyField@AnnotCount
144, 154	12338	12714, 12717, 12720
\HyC@checkPackage	\HyField@@PDFChoices	\HyField@AuxAddToFields 12313, 12318, 12322, 12342
12, 16, 18	5246, 5247, 5262	\HyField@FlagsAnnot 5101, 5120, 5134, 5147, 5163, 5195
\HyC@cmd 62, 75, 87, 95, 118, 131	\HyField@@SetFlag	\HyField@FlagsCheckBox
\HyC@date	\HyField@@UseFlag	5133, 12116, 12611, 12974
11, 15, 23, 29, 31	4941, 4943	\HyField@FlagsChoice
\HyC@DeclareRobustCommand	\HyField@AddToFields	5194, 11999, 12474, 12809
114	12304, 12333, 12419, 12511, 12524, 12550, 12574, 12597, 12618	\HyField@FlagsPushButton 5119, 12055, 12074, 12098, 12542, 12562, 12591, 12895, 12919, 12949
\HyC@def	\HyField@AdvaceAnnotCount	\HyField@FlagsRadioButton 5146, 11995, 12470, 12805
125	12716, 12745, 12839, 12869, 12897, 12925, 12953, 12979	\HyField@FlagsSubmit
\HyC@defcmd	\HyField@afields	5067, 12075, 12563, 12920
47, 54, 93	12324, 12326, 12360	\HyField@FlagsText 5162, 11938, 12412, 12739
\HyC@doCheck	\HyField@AfterAuxOpen	
99, 130	12314, 12321, 12339	
\HyC@edef	\HyField@AnnotCount	
125	12714, 12717, 12720	
\HyC@getDate	\HyField@AuxAddToFields 12313, 12318, 12322, 12342	
12, 14	\HyField@FlagsAnnot 5101, 5120, 5134, 5147, 5163, 5195	
\HyC@meaning	\HyField@FlagsCheckBox	
152, 160	5133, 12116, 12611, 12974	
\HyC@nc@default	\HyField@FlagsChoice	
103, 105	5194, 11999, 12474, 12809	
\HyC@nc@noopt 88, 91, 103, 112, 123, 127	\HyField@FlagsPushButton 5119, 12055, 12074, 12098, 12542, 12562, 12591, 12895, 12919, 12949	
\HyC@nc@opt	\HyField@FlagsRadioButton 5146, 11995, 12470, 12805	
88, 101, 123	\HyField@FlagsSubmit	
\HyC@newcommand	5067, 12075, 12563, 12920	
86	\HyField@FlagsText 5162, 11938, 12412, 12739	
\HyC@next		
48, 55, 60, 83		
\HyC@noValue		
80, 81, 82, 85, 139		
\HyC@optcmd		
107, 111		

\HyInd@org@wrindex . 7624, 7628, 7638, 7644, 7646, 7649	\HyOpt@CheckDvi . . 2768, 2804, 2809, 2814, 2837, 2842, 2847, 2899, 2906, 2911, 2916, 2921	6353, 6531, 6607, 6645, 6667, 6691, 6777, 7131, 7156, 7161, 7181, 7314, 7520, 7546, 8475, 8971, 9065, 9379, 9830, 9934, 10424, 11341, 11621, 13378, 13525, 13755, 13780, 13791, 13821, 13873
\HyInd@pagelink 7725, 7731, 7733, 7736	\HyOpt@DriverFallback . . . 2925, 2928, 2929, 2933, 4183, 4188	\hyper@chars 4489, 8507, 8961, 8975, 8995, 9017, 9031, 9045, 9125, 9163, 9797, 9818, 9834, 9851, 9926, 9938, 10028, 11001, 11345, 11365, 11391, 11405, 11419, 11625, 11644, 11667, 11684, 11697
\HyInd@ParenLeft . . . 7607, 7635, 7672	\HyOpt@DriverType . 4156, 4158, 4185, 4195, 4197, 4213	\hyper@currentanchor . . . 10429, 10438, 10455, 10472
\HyInd@ParenRight . . 7608, 7636, 7643, 7673, 7682	\HyOrg@addtoreset . . 7550, 7552, 7579	\hyper@currentlinktype . . 10456, 10460, 10464
\HyInd@removespaces 7739, 7742, 7752	\HyOrg@appendix . . . 6365, 6371	\hyper@hash . . 4441, 4442, 4490, 4770, 4782, 4799, 4802, 5704, 9791
\HyInfo@AddonHandler . . . 3698, 3701	\HyOrg@author . 5879, 5892, 5896	\hyper@image . 4631, 4632, 9043, 10082, 10544, 11417, 11695
\HyInfo@AddonList . . 3725, 3726, 3760, 3767	\HyOrg@float@makebox . . . 7076, 7078	\hyper@last 5853, 5858
\HyInfo@Addons 3746, 3762, 8767, 9678, 10611, 10615	\HyOrg@hyperpage . . 7610, 7612, 7613	\hyper@link 3956, 4717, 5751, 5752, 5767, 5778, 5784, 8493, 9039, 9087, 9549, 9787, 10050, 10548, 11413, 11691
\HyInfo@AddonUnsupportedtrue . . . 9202, 10345, 11438	\HyOrg@languageshorthands 891, 906, 917, 927	\hyper@link@ . . 3963, 4709, 4711, 5749, 5760, 5764, 5775, 5791
\HyInfo@do 3700, 3727, 3750	\HyOrg@make@df@tag@@ . 7535	\hyper@linkend 3960, 5757, 5772, 5788, 6859, 7125, 7128, 7481, 7485, 7489, 7491, 8492, 9001, 9084, 9548, 9550, 9823, 10001, 10458, 11373, 11650
\HyInfo@GenerateAddons . 3744, 8744, 9654, 10580	\HyOrg@make@df@tag@@@ 7536	\hyper@linkfile 3962, 4795, 5759, 5774, 5790, 8539, 9005, 9161, 9552, 9807, 10005, 11022, 11377, 11654
\HyInfo@Key . . 3708, 3709, 3717, 3722, 3727, 3730, 3737, 3751, 3755	\HyOrg@maketitle . . . 6946, 6953, 6958	\hyper@linkstart 3959, 5756, 5771, 5787, 6857, 7121, 7128, 7481, 7485, 7489, 7491, 8483, 8987, 9075, 9511, 9550, 9810, 9949, 10443, 11357, 11636
\HyInfo@KeyEscaped . 3707, 3708	\HyOrg@subequations 6719, 6726	\hyper@linkurl 3961, 4630, 4770, 4777, 4798, 4802, 5758, 5773, 5789, 8504, 9006, 9008, 9041, 9123, 9589, 9795, 9808, 10025, 10083, 10545, 10998, 11378, 11382, 11415, 11655, 11657, 11693
\HyInfo@trapped@false 3648, 3667	\HyOrg@title . . . 5878, 5883, 5887	\hyper@livelink 5751, 5778
\HyInfo@trapped@true 3645, 3666	\HyOrg@url 4625	\hyper@makecurrent . 6349, 6391, 6593, 6644, 6666, 6690, 6754, 6854, 7027, 7069
\HyInfo@trapped@unknown 3651, 3668	\HyPat@NonNegativeReal . 3471, 3472, 3473, 3474, 3803, 3813, 3814, 3815, 3817, 3818, 3819	\hyper@n@normalise . . 4456, 4460, 4472
\HyInfo@TrappedUnsupported 3669, 3673, 9205, 10348, 11441	\HyPat@ObjRef 4609, 4610, 4623, 8266, 9313, 10407	\hyper@n@nat@current 7122
\HyInfo@Value 3721, 3723	\hyper@@anchor 3955, 4635, 4637, 4668, 4670, 4703, 4705, 4847, 5750, 5766, 5783, 6819, 6824, 6834, 6839, 6894, 6897, 6923, 7051, 7054, 7082, 7386, 7393, 7398, 7796, 7804, 7814, 7847, 7855, 7865	
\HyLang@addto 3203, 3219, 3237, 3270, 3278	\hyper@@link . . 4495, 4553, 4658, 4682, 4684, 4708, 7139, 7285, 7286, 7287, 7335, 7337, 7339, 7966, 7981, 8083	
\HyLang@afrikaans 3001	\hyper@@normalise . . 4464, 4468, 4472	
\HyLang@DeclareLang 3217, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268	\hyper@anchor 4874, 5753, 5768, 5833, 5846, 8472, 8956, 9053, 9376, 9846, 9921, 10410, 11327, 11607	
\HyLang@english 3019	\hyper@anchorend 3958, 5737, 5755, 5770, 5786, 6353, 6532, 6607, 6648, 6667, 6691, 6780, 7133, 7158, 7161, 7181, 7314, 7520, 7546, 8479, 8981, 9071, 9383, 9841, 9943, 10432, 11351, 11630, 13378, 13525, 13755, 13780, 13791, 13821, 13873	
\HyLang@french 3037		
\HyLang@german 3055		
\HyLang@italian 3073		
\HyLang@magyar 3091		
\HyLang@portuges 3109		
\HyLang@russian 3127		
\HyLang@spanish 3167		
\HyLang@vietnamese . 3185, 3270, 3278		
\HyLinguex@OrgB 819, 823		
\HyLinguex@OrgC 820, 824		
\HyLinguex@OrgD 821, 825		
\HyLinguex@Restore . . 822, 835, 839, 847, 2648		

\hyper@natanchorend	7133	\hyperpage 5811, 7610, 7611, 7613,	\HyPsd@@@pageref . . 1579, 1581,
\hyper@natanchorstart	7130	7706	1584
\hyper@natlinkbreak	7127	\HyperRaiseLinkDefault . . 2350,	\HyPsd@@@ref . . 1563, 1565, 1568
\hyper@natlinkend	7124	2377	\HyPsd@@@UTFviii@four . . 2217,
\hyper@natlinkstart	7119	\HyperRaiseLinkHook 2349, 2378	2220
\hyper@normalise . . . 3935, 3940,		\HyperRaiseLinkLength . . 2376,	\HyPsd@@AppendItalcrr . 1784
4433, 4543, 4546, 4627, 4629,		2377, 2380	\HyPsd@@autoref . . . 1612, 1613
4631, 4652, 5353		\hyperref . 4640, 4888, 4889, 5807,	\HyPsd@@autorefname 1633, 1636
\hyper@pageduration . 8804, 8852,		8041, 8045, 8055, 8069	\HyPsd@@CJKdigits . 1477, 1479,
10243, 10260, 10511, 10541		\hypersetup 2687, 2727, 3255, 3684,	1482
\hyper@pagehidden . . 8828, 8853,		3936, 5801	\HyPsd@@CJKnumber 1378, 1380,
10253, 10261, 10528, 10542		\hypertarget 4633, 5806	1383, 1436, 1451, 1464, 1466,
\hyper@pagetransition 8780, 8851,		\HyPL@@@CheckThePage . 6069,	1470
10132, 10259, 10494, 10540		6087	\HyPsd@@ConvertToUnicode . . .
\hyper@quote . 5706, 8963, 8977,		\HyPL@@CheckThePage . . 6045,	. . . . . 2096
8992, 8997, 9018, 9032, 9046,		6047	\HyPsd@@GetNextTwoTokens . .
9791, 9801, 9814, 9837, 9855,		\HyPL@Alph 5985	. . . . . 2094
11333, 11347, 11362, 11368,		\HyPL@alph 5986	\HyPsd@@GlyphProcessWarning
11392, 11406, 11420, 11613,		\HyPL@arabic 5982	. . . . . 1954, 1957
11626, 11641, 11646, 11669,		\HyPL@CheckThePage 5997, 6044	\HyPsd@@GreekNum . 1040, 1049,
11685, 11698		\HyPL@Entry . 6231, 6239, 6247,	1148, 1152, 1156
\hyper@readexternallink . . 4719,		6249	\HyPsd@@hspace 1533, 1534
4735		\HyPL@EveryPage . . . 5987, 6108	\HyPsd@@LetCommand . . 1657,
\hyper@refstepcounter 6327, 6330,		\HyPL@Format 6060, 6061, 6062,	1678
6338		6063, 6064, 6076	\HyPsd@@nameref . . . 1594, 1595
\hyper@tilde 4450, 4451, 4452, 5705		\HyPL@found . 6059, 6066, 6070,	\HyPsd@@pageref . . . 1576, 1577
\hyperbaseurl . . 3408, 3409, 5802		6077, 6087, 6089	\HyPsd@@ProtectSpacesFi . 1706,
\hypercalcbp 420, 420		\HyPL@Labels . 5976, 6099, 6100,	1710, 1728, 1734, 1739
\hypercalcbpdef . . 422, 459, 3800,		6102, 6104, 6149, 6150, 6242,	\HyPsd@@ref 1560, 1561
3810		6250, 6251	\HyPsd@@RemoveBraces . . 1752
\hyperdef 4660, 5804		\HyPL@LastNumber . 5980, 6015,	\HyPsd@@RemoveBracesFi 1749,
\HyperDestNameFilter		6038	1752
. 3916, 4529, 8422,		\HyPL@LastPrefix . . . 5981, 6009,	\HyPsd@@RemoveCmdPrefix . . .
8447, 8963, 8977, 8997, 9041,		6040	. . . . . 1911, 1914
9322, 9523, 9791, 9801, 9819,		\HyPL@LastType 5979, 6000, 6039	\HyPsd@@ReplaceFi . 1981, 1987,
9837, 9855, 9927, 9939, 9988,		\HyPL@page . . 5990, 5992, 5997,	1992
10067, 10864, 10873, 11333,		6005	\HyPsd@@UTFviii@four . . 2201,
11347, 11368, 11415, 11613,		\HyPL@Prefix . 6005, 6007, 6009,	2206
11626, 11646, 11693, 13603,		6023, 6026, 6028, 6040, 6054,	\HyPsd@add@accent . . 482, 1522
13666, 13682		6092	\HyPsd@AfterCountRemove 1797,
\HyperFirstAtBeginDocument . .		\HyPL@Roman 5983	1868
. . 5830, 5832, 5854, 5857		\HyPL@roman 5984	\HyPsd@AfterDimenRemove . . .
\hypergetpageref 6525		\HyPL@SetPageLabels 6098, 6157,	. . . . . 1803, 1871
\hypergetref 6524		6245	\HyPsd@AfterSkipRemove . 1809,
\HyperGlobalCurrentHref . 6410,		\HyPL@storePageLabel . . . 6023,	1883
6412, 6420, 6421, 6425, 6428,		6025, 6095, 6147, 6226	\HyPsd@AMScsfix . 578, 1543,
6432, 6438, 6439, 6443		\HyPL@thisLabel 5973, 5975, 5989,	1545
\hyperimage . . . 4631, 4881, 7602		5992, 5993	\HyPsd@AppendItalcrr . . 1768,
\hyperindexformat 7609		\HyPL@Type . . 5995, 6000, 6004,	1775, 1784
\hyperlink 4494, 5805, 7748, 7886,		6022, 6030, 6039, 6053, 6091	\HyPsd@autoref 588, 1612
7894, 7909, 7917, 7927, 7935,		\HyPL@Useless 6096, 6102	\HyPsd@autorefname . 1624, 1630
7942		\HyPsd@@@autoref . . 1615, 1617,	\HyPsd@babel@danish 936
\hyperlinkfileprefix . . 3411, 3412,		1620	\HyPsd@babel@dutch 942
3413, 11599		\HyPsd@@@CJKdigits 1485, 1488,	\HyPsd@babel@finnish 948
\HyperLocalCurrentHref . . 6428,		1496	\HyPsd@babel@frenchb 953
6430, 6436, 6437, 6438, 6439,		\HyPsd@@@nameref . . 1597, 1599,	\HyPsd@babel@german 958
6441		1602	\HyPsd@babel@macedonian . 965

\HyPsd@babel@ngerman . . .	971		
\HyPsd@babel@portuges . . .	977		
\HyPsd@babel@russian	982		
\HyPsd@babel@slovene	988		
\HyPsd@babel@spanish	993		
\HyPsd@babel@swedish . . .	1003		
\HyPsd@babel@ukrainian . .	1009		
\HyPsd@babel@usorbian . .	1015		
\HyPsd@BabelPatch	564, 890, 926		
\HyPsd@CatcodeWarning .	1813,		
	1830, 1833, 1836, 1839, 1895		
\HyPsd@Char	2098		
\HyPsd@CharOctByte	2118, 2120,		
	2123, 2132, 2137		
\HyPsd@CharSurrogate . .	2112,		
	2129		
\HyPsd@CharTwoByte	2110, 2117		
\HyPsd@CheckCatcodes	641, 1790		
\HyPsd@CJK@Unicode	1260, 1264		
\HyPsd@CJKActiveChars .	1200,		
	1215		
\HyPsd@CJKdigit . . .	1489, 1499		
\HyPsd@CJKdigits . .	1262, 1475		
\HyPsd@CJKhook	594, 1171, 1182		
\HyPsd@CJKhook@bookmarks .			
	1177, 1211		
\HyPsd@CJKhook@unicode	1179,		
	1259		
\HyPsd@CJKnumber .	1261, 1375		
\HyPsd@CJKnumberFour .	1393,		
	1397, 1401, 1414, 1418, 1422,		
	1428		
\HyPsd@CJKnumberLarge .	1406,		
	1413		
\HyPsd@CJKnumberThree	1434,		
	1438, 1444		
\HyPsd@CJKnumberTwo . .	1449,		
	1453, 1459		
\HyPsd@ConvertToUnicode .	709,		
	2044		
\HyPsd@DecimalToOctal . .	1192,		
	1223		
\HyPsd@DecimalToOctalFirst . .			
	1266, 1302		
\HyPsd@DecimalToOctalSecond			
	1267, 1276, 1339		
\HyPsd@DefCommand .	624, 625,		
	626, 627, 1646		
\HyPsd@DisableCommands .	870,		
	872		
\HyPsd@DoConvert . .	2046, 2056		
\HyPsd@DoEscape	2070		
\HyPsd@doxspace	681, 2017		
\HyPsd@empty	666, 668, 672, 673,		
	675, 683, 690		
\HyPsd@end	641, 645, 1707, 1710,		
	1713, 1716, 1719, 1732, 1742,		
	1749, 1752, 1790, 1798, 1804,		
	1810, 1855, 1862, 1868, 1871,		
	1883		
\HyPsd@endWithElse	1512, 1521		
\HyPsd@EscapeTeX	720, 730, 1999		
\HyPsd@fi .	1724, 1730, 1734, 1740		
\HyPsd@GetNextTwoTokens	2094		
\HyPsd@GetOneByte	2089		
\HyPsd@GetTwoBytes	2085		
\HyPsd@GLYPHERR	646, 1509,		
	1523, 1530		
\HyPsd@GlyphProcess	648, 1942,		
	1955		
\HyPsd@GlyphProcessWarning .			
	1949, 1953		
\HyPsd@GobbleFiFi .	1514, 1520		
\HyPsd@GreekNum . .	1029, 1032,		
	1034		
\HyPsd@Greeknumeral	1025, 1031		
\HyPsd@greeknumeral	1024, 1028		
\HyPsd@GreekNumI .	1052, 1078,		
	1121, 1147		
\HyPsd@GreekNumII .	1056, 1100,		
	1144, 1151		
\HyPsd@GreekNumIII	1059, 1123,		
	1155		
\HyPsd@GreekNumIV	1068, 1146		
\HyPsd@GreekNumV .	1071, 1150		
\HyPsd@GreekNumVI	1073, 1154		
\HyPsd@GreekPatch .	561, 1021,		
	1023		
\HyPsd@HighA	1270, 1279		
\HyPsd@HighB	1280, 1285		
\HyPsd@HighC	1286, 1289		
\HyPsd@HighD	1282, 1294		
\HyPsd@href	583, 1559		
\HyPsd@hspace	579, 1533		
\HyPsd@hspacetest . .	1536, 1538,		
	1541		
\HyPsd@ifnextchar	610, 611, 612,		
	1683		
\HyPsd@ignorespaces . . .	592, 881		
\HyPsd@InitUnicode	844		
\HyPsd@inmathwarn . .	481, 1506		
\HyPsd@ITALCORR . .	602, 606,		
	1530		
\HyPsd@langshort@system . .	897,		
	900		
\HyPsd@LanguageShorthands . .			
	892, 898, 910		
\HyPsd@LetCommand .	628, 629,		
	1646		
\HyPsd@LetUnexpandableSpace			
	597, 598, 599, 600, 1526,		
	1529		
\HyPsd@LoadStringEnc . . .	2691,		
	2711, 2713, 2717, 2719, 6168		
\HyPsd@LoadUnicode	2640, 2645,		
	2653, 2656, 2658, 2665, 6162		
\HyPsd@nameref	587, 1594		
\HyPsd@pageref	586, 1576		
\HyPsd@pdfencoding .	710, 2639,		
	2642, 2674, 2686, 2689, 2690,		
	2695, 2710, 6164, 6166, 6183,		
	6186		
\HyPsd@pdfencoding@auto .	710,		
	2680, 2690, 2707, 6166, 6185		
\HyPsd@pdfencoding@pdfdoc . .			
	2673, 2695, 2708		
\HyPsd@pdfencoding@unicode . .			
	2677, 2709, 6164, 6182		
\HyPsd@PrerenderUnicode	3582,		
	3598, 3604, 3610, 3616, 3634,		
	3640, 3720		
\HyPsd@protected@testopt .	613,		
	614, 1687		
\HyPsd@ProtectSpaces	634, 1704,		
	1725, 1774		
\HyPsd@ref	585, 1560		
\HyPsd@RemoveBraces	636, 1746,		
	1763, 1771, 1777		
\HyPsd@RemoveCmdPrefix	1904,		
	1910		
\HyPsd@RemoveMask	644, 1713,		
	1719, 1732, 1742		
\HyPsd@RemoveSpaceWarning .			
	1878, 1890, 1916		
\HyPsd@ReplaceSpaceWarning .			
	1873, 1885, 1929		
\HyPsd@Rest . .	1791, 1851, 1859,		
	1862, 1869, 1874, 1880, 1886,		
	1892		
\HyPsd@RussianPatch .	563, 1164		
\HyPsd@SanitizeForOutFile			
	13442, 13473		
\HyPsd@SanitizeOut@BraceLeft			
	13477, 13483, 13492		
\HyPsd@SanitizeOut@BraceRight			
	13480, 13495, 13504		
\HyPsd@SPACEOPTI .	638, 653,		
	654, 656, 658, 660, 661, 700,		
	702, 1826, 2028		
\HyPsd@spaceopti	702, 1973		
\HyPsd@SpanishPatch .	562, 1158		
\HyPsd@String	635,		
	637, 640, 642, 647, 649, 1757,		
	1758, 1768, 1820, 1821, 1825,		
	1826, 1841, 1842, 1872, 1884,		
	1943, 1944		
\HyPsd@StringSubst . .	650, 652,		
	658, 664, 667, 670, 673, 692,		
	695, 697, 1996		
\HyPsd@Subst .	646, 655, 659, 665,		
	671, 675, 679, 684, 685, 686,		

687, 688, 689, 693, 696, 1980,
1997, 2012, 2013, 2014

\HyPsd@temp 713, 715, 716,
718, 719, 726, 728, 729, 2672,
2673, 2674, 2677, 2680, 2686,
2698, 2702, 6181, 6182, 6183,
6185, 6186, 6191

\HyPsd@ToBigChar 770, 771, 780

\HyPsd@ToBigChars . . . 723, 762

\HyPsd@tocsection . . 1546, 1547,
1548, 1549, 1550, 1551, 1552,
1554

\HyPsd@UnescapedString . . 715,
764, 765, 771

\HyPsd@UnexpandableSpace . . .
1529, 1715, 1739, 1874, 1886

\HyPsd@unichar 2159, 2226, 2232,
2237

\HyPsd@unichar@first@byte 2245,
2265

\HyPsd@unichar@octtwo . . 2267,
2275, 2281

\HyPsd@unichar@second@byte . .
. 2253, 2273

\HyPsd@UnicodeReplacementCharacter
. 2229, 2264

\HyPsd@utf@viii@undeferr . . 478,
2287

\HyPsd@UTFviii . 472, 2147, 2152

\HyPsd@UTFviii@@three . . 2182,
2191

\HyPsd@UTFviii@@two 2167, 2173

\HyPsd@UTFviii@ccxliv@def 2157,
2163

\HyPsd@UTFviii@ccxliv@undef .
. 2156, 2162

\HyPsd@UTFviii@four 2155, 2200

\HyPsd@UTFviii@three 2154, 2181

\HyPsd@UTFviii@two 2153, 2166

\HyPsd@Warning 1691, 1896, 1917,
1930, 1959, 1965

\HyPsd@XeTeXBigCharsfalse 737,
751, 756

\HyPsd@XeTeXBigCharstrue . . .
. 750, 759, 3597, 3603,
3609, 3615, 3633, 3639, 3719,
13095, 13440

\HyPsd@XSPACE 604, 680, 1530

\HyPsd@xspace . . . 678, 680, 681

\HyRef@StarSetRef . 8009, 8014

\HyRef@autopageref . 8066, 8068

\HyRef@autopagerefname . 8065,
8069, 8071

\HyRef@autoref 8083, 8085

\HyRef@autosetref . . . 8088, 8091

\HyRef@CaseStar 8152, 8158

\HyRef@currentHtag . 8104, 8122,
8125, 8131, 8138, 8144, 8159

\HyRef@MakeUppercaseFirstOfFive
. 8032, 8034

\HyRef@name . 8120, 8121, 8126,
8133, 8151, 8152, 8153, 8155

\HyRef@Ref 8038, 8040

\HyRef@ShowKeysInit 8161, 8174,
8178

\HyRef@ShowKeysRef 8092, 8160

\HyRef@StarSetRef . . 8003, 8021,
8024, 8027, 8032

\HyRef@StripStar . . . 8119, 8150

\HyRef@testreftype . . 8097, 8116

\HyRef@thisref 8094, 8097

\HyTmp@found . 5273, 5283, 5286

\HyTmp@key 5267, 5268

\HyTmp@Optitem . . . 5223, 5239,
5266, 5271, 5277, 5298, 5309

\HyTmp@Optlist 5222, 5237, 5238,
5269, 5270, 5275, 5276, 5284,
5285, 5305, 5307, 5314, 5317

\HyXeTeX@CheckUnicode . 3568,
3579, 3596, 3602, 3608, 3614,
3632, 3638, 3718, 6196

I

\i 14057, 14220, 14223, 14226, 14229,
14426, 14588, 14591, 14594,
14597, 14714, 14719, 14724,
14729, 14733, 14900, 14956

\if 1555,
2337, 6013, 6021, 6708, 6709,
10206, 10209, 10213, 10217,
10221, 10223, 10225, 13143

\if@eqnstar 6650, 6658

\if@filesw 2305, 4696,
5823, 5867, 6227, 6237, 6474,
7168, 7183, 7199, 7211, 7241,
7264, 7291, 7296, 7315, 7658,
12316, 12340, 13443, 13630,
13709

\if@hyper@item 6312, 6325

\if@inlabel 6766

\if@Localurl 9778, 9824

\if@mid@expandable 577

\if@minipage 7039, 7110

\if@nmbrlist 6299

\if@nobreak 6785

\if@skiphyperref 6313, 6323

\if@twocolumn 13875

\if@twoside 13864

\ifcase 272,
1085, 1107, 1130, 1224, 1273,
1295, 1298, 1304, 1340, 1384,
1500, 2195, 2677, 3351, 5069,
5174, 5303, 5380, 6374, 6383,
7477, 7635, 7672, 7901, 8093,
10279, 10762, 13190, 13217,
13282, 13317, 13352, 13550

\ifcat 1792, 1819, 1824, 1829, 1832,
1835, 1838, 4858, 4860

\ifdim 1541, 1872, 1876, 1884, 1888,
2392, 2411, 3921, 4238, 8870,
8874, 8879, 8883, 8890, 8893,
8897, 8900, 9758, 9759, 9764,
9765, 9897, 9900, 9904, 9907,
10782, 10793, 11152, 11153,
11158, 11159, 11962, 12000,
12001, 12436, 12475, 12476,
12771, 12810, 12811

\ifetex@unexpanded 1698

\iffalse 757

\IfFileExists 5862, 11724

\ifFld@checked 5326, 12278, 13177

\ifFld@comb 5173

\ifFld@combo . 5201, 5206, 11975,
12004, 12449, 12479, 12784,
12814

\ifFld@disabled 5327, 12279

\ifFld@edit 5207

\ifFld@fileselect 5176

\ifFld@hidden 11939, 11989, 12056,
12076, 12099, 12117, 12177,
12189, 12199, 12282, 12413,
12464, 12543, 12564, 12592,
12612, 12740, 12799, 12896,
12921, 12950, 12975

\ifFld@multiline 5174, 11928,
12184, 12401, 12728

\ifFld@multiselect 5245

\ifFld@password . . . 5175, 12165

\ifFld@popdown . . . 4993, 11976,
12450, 12785

\ifFld@radio . 11972, 11994, 12214,
12446, 12469, 12781, 12804

\ifFld@readonly . . . 12186, 12196,
12280

\ifForm@html 5347

\ifhmode . 2353, 2357, 2410, 2419,
4535, 6733, 6851, 6860, 6997,
6999, 8417, 8425, 11709

\ifHy@activeanchor . . . 322, 4871

\ifHy@backref . . 323, 4050, 4416,
5684, 7292, 7328

\ifHy@bookmarks 324, 4262

\ifHy@bookmarksnumbered . 325,
7789, 7840, 13429

\ifHy@bookmarksopen . 326, 4252

\ifHy@breaklinks 327, 2605, 10445,
10480, 10768, 10787

\ifHy@centerwindow
328, 8707, 9270, 9698, 10317,
10658, 11499

<code>\ifHy@CJKbookmarks</code> . 329, 1176	<code>\ifHy@pdfstring</code> . . 353, 855, 6317	<code>\ifpdf</code> 2751, 2794, 4096, 4160
<code>\ifHy@colorlinks</code> . 330, 4333, 5689, 11314	<code>\ifHy@plainpages</code> 354, 4045, 6479, 7385	<code>\ifpdfstringunicode</code> 473, 476
<code>\ifHy@displaydoctitle</code> 365, 8708, 9271, 9699, 10318, 10659, 11500	<code>\ifHy@psize</code> 355	<code>\ifportrait</code> 8869
<code>\ifHy@draft</code> 331, 3954	<code>\ifHy@raiselinks</code> . 356, 9010, 9090, 9127, 9165, 11384, 11659	<code>\ifthenelse</code> 7318
<code>\ifHy@DviMode</code> . 2749, 2769, 2927	<code>\ifHy@seminarslides</code> 357	<code>\iftrue</code> 760, 1705, 1727, 1991, 13796
<code>\ifHy@DvipdfmxOutlineOpen</code> 4236, 13684	<code>\ifHy@setpagesize</code> 358, 8858, 9755, 9894, 11149	<code>\ifvmode</code> 2369, 2391, 2400
<code>\ifHy@escapeform</code> . . . 334, 13050, 13080	<code>\ifHy@setpdfversion</code> . . 2728, 8290	<code>\ifvoid</code> 6600, 6604, 6770
<code>\ifHy@figures</code> 335, 4030, 5669, 7599	<code>\ifHy@texht</code> 359, 4361, 4409, 5393, 5425, 5557, 5581, 5737, 7949	<code>\ifvtex</code> 2757, 2853, 2882
<code>\ifHy@fitwindow</code> 336, 8706, 9269, 9697, 10316, 10657, 11498	<code>\ifHy@toolbar</code> . . 360, 8703, 9266, 9694, 10313, 10654, 11495	<code>\ifvtexdvi</code> 2758
<code>\ifHy@frenchlinks</code> 337, 4349	<code>\ifHy@typexml</code> . . 321, 4055, 4336, 4380, 5824, 13634, 13713	<code>\ifvtexhtml</code> 4135, 4166
<code>\ifHy@href@ismap</code> . . . 4591, 8528, 9606, 9964, 10032, 11013	<code>\ifHy@unicode</code> . 361, 468, 501, 504, 651, 663, 691, 699, 708, 1035, 1195, 1898, 1919, 1932, 1961, 1967, 2227, 2638, 2688, 3570, 6171, 13091	<code>\ifvtexpdf</code> 4177
<code>\ifHy@hyperfootnotes</code> . 338, 6793	<code>\ifHy@usehidkey</code> 3432, 8829, 10254, 10529	<code>\ifvtexps</code> 4180
<code>\ifHy@hyperindex</code> 339, 4040, 5679, 7606	<code>\ifHy@usetitle</code> 362, 5877	<code>\ifxetex</code> 714, 747, 2754, 2827, 3569, 4120, 4163, 4237
<code>\ifHy@hypertextnames</code> 340, 6397, 6478, 7384, 7794, 7845	<code>\ifHy@verbose</code> . . 363, 4498, 4514, 4526, 4949, 7452	<code>\ignorespaces</code> . . . 592, 6560, 6728, 6929, 7035, 7046, 7049, 7106, 7114, 7176, 7191, 7207, 7216, 7326, 7774, 7826
<code>\ifHy@implicit</code> . . 341, 4062, 13738	<code>\ifHy@windowui</code> . 364, 8705, 9268, 9696, 10315, 10656, 11497	<code>\IJ</code> 14053, 14735
<code>\ifHy@linktocpage</code> 342, 2562, 2572	<code>\ifHy@info@addonunsupported</code> 3696, 3710, 3745	<code>\ij</code> 14262, 14737
<code>\ifHy@localanchorname</code> 343, 6429, 6440	<code>\ifHy@psd@XeTeXBigChars</code> . . 755, 757, 760, 763	<code>\immediate</code> 5825, 5826, 5827, 5829, 5869, 6140, 6230, 6238, 6489, 6517, 7171, 7186, 7202, 7212, 7242, 7265, 7291, 7321, 8304, 8319, 8334, 10381, 11173, 12295, 12317, 12358, 13536, 13602, 13633, 13635, 13712, 13714
<code>\ifHy@menubar</code> . 344, 8704, 9267, 9695, 10314, 10655, 11496	<code>\ifmeasuring@</code> 6337, 6350	<code>\incr@eqnum</code> 6619, 6632
<code>\ifHy@naturalnames</code> . . 345, 6408, 7795, 7846	<code>\ifnum</code> 787, 790, 793, 796, 799, 911, 1036, 1039, 1050, 1051, 1055, 1063, 1067, 1070, 1080, 1102, 1125, 1265, 1376, 1392, 1396, 1416, 1429, 1432, 1445, 1447, 1460, 1462, 1468, 2106, 2109, 2185, 2228, 2231, 2243, 2358, 2854, 2857, 2883, 3352, 3353, 4246, 4253, 4568, 5228, 5299, 5310, 5996, 6015, 6031, 6127, 7903, 7941, 8286, 8291, 8623, 8630, 8636, 8644, 9499, 9504, 10011, 10130, 10266, 10274, 10276, 10277, 10287, 10290, 10376, 10378, 10491, 11176, 12352, 12510, 12838, 12843, 12854, 13090, 13160, 13190, 13195, 13217, 13223, 13251, 13282, 13288, 13307, 13317, 13322, 13352, 13357, 13386, 13402, 13546, 13616, 13619, 13645, 13648, 13686, 13794, 13812, 13827	<code>\index</code> 581
<code>\ifHy@nesting</code> . . 346, 4035, 4634, 4667, 4702, 4856, 5674, 6818, 6833, 6893, 7050	<code>\ifodd</code> 2209, 2214, 7407	<code>\indexentry</code> 7661, 7676, 7684, 7688, 7693
<code>\ifHy@newwindow</code> . . . 348, 3870, 10011		<code>\input</code> 838, 846, 2647, 3273, 3281, 3288, 4214, 11091, 11174, 11265, 11434
<code>\ifHy@newwindowset</code> . . 347, 3868		<code>\inputiffileexists</code> . . 3938, 13626, 13659, 13704, 13706
<code>\ifHy@next</code> 934, 4027, 7623		<code>\inputlineno</code> 4505, 4863
<code>\ifHy@ocgcolorlinks</code> . . 349, 3301, 4319, 4329, 5694, 8285, 8303, 8378, 8386, 9387, 9470, 9478		<code>\insert</code> 6908
<code>\ifHy@pageanchor</code> 350, 6465, 6477, 6492, 7383		<code>\IntCalcAdd</code> 2135
<code>\ifHy@pagelabels</code> 351, 5961, 6147, 6225		<code>\IntCalcDec</code> 1287
<code>\ifHy@pdfa</code> 366, 3978, 4321, 4758, 5006, 5537, 5586, 5699, 8451, 8523, 8561, 8598, 8926, 9532, 9564, 9597, 9625, 9970, 9991, 10014, 10038, 10070, 10102, 10118, 10888, 11899, 12046, 12092, 12368, 12533, 12585, 12700, 12885, 12943, 13145, 13180, 13342		<code>\IntCalcDiv</code> 1281, 1290, 1295, 1398, 1407, 1419, 1436, 1451, 1466, 2119, 2125, 2131
<code>\ifHy@pdfmarkerror</code> 10705, 10713		<code>\intcalcDiv</code> . 1271, 2126, 2133, 2136
<code>\ifHy@pdfpagehidden</code> . 352, 3436, 8832, 10255, 10534		<code>\IntCalcMod</code> . . 1283, 1292, 1298, 1402, 1408, 1423, 1439, 1454, 1468, 1470, 2121, 2126, 2127, 2133, 2136, 2138

3141, 3142, 3170, 3188, 8184,
8185, 8188
\itemindent 6771
\itshape 534

J

\j 14742, 14927, 14991
\jarr 16348
\jeem 16320
\jeh 16356
\jobname 5826, 5862, 5869, 11724,
13535, 13626, 13633, 13659,
13704, 13706, 13712

K

\k . . . 13937, 14279, 14281, 14286,
14288, 14331, 14349, 14368,
14375, 14639, 14641, 14679,
14681, 14726, 14728, 14729,
14864, 14866, 14923, 14925,
15522, 15561, 15564
\kaf 16338
\kasra 16351
\keepPDF@SetupDoc 11318, 11325
\kern 1801, 1873, 1878, 1890, 6771,
7402, 7403, 7404, 7406, 7407,
7412, 13753
\kernel@ifnextchar 611
\kha 16322
\KV@href@pdfnewwindow . 4589
\KV@href@pdfnewwindow@default
. 4590
\KV@Hyp@draft 2536
\KV@Hyp@nolinks 2536
\KV@Hyp@pdfnewwindow . 4589
\KV@Hyp@pdfnewwindow@default
. 4590
\kv@key . . 3704, 3707, 3714, 5226,
5229, 5231, 5235, 5239
\kv@parse 5225
\kv@parse@normalized 3729, 3736
\kv@processor@default 3732, 3739
\kv@set@family@handler . . 3697
\kv@value . 3702, 5227, 5234, 5235
\kvsetkeys 2727,
2781, 2901, 3576, 3677, 3979,
4190, 4208, 4320, 5324, 8287,
10712, 11916, 12150, 12163,
12212, 12255, 12276, 12350,
12685

L

\L 14046, 14766
\l 14059, 14768
\l@slide . . 7774, 7884, 7889, 7893,
7900
\l@subslide . 7826, 7889, 7896, 7940
\label 580, 7425

\label@@hyperref 4674, 4676
\label@hyperdef 4660, 4688
\label@hyperref . 4641, 4673, 4885
\labelsep 7325
\labelwidth 7324
\lam 16339
\language@group 559
\languageshorthands 891, 892, 927
\LARGE 541
\Large 542
\large . 545, 7906, 7914, 7924, 7932
\lastbox 6769
\lastpage@putlabel 6460
\lastskip . 2392, 2396, 2403, 2411,
2415, 2422
\LaTeX . . . 498, 500, 11730, 11731
\LaTeXe 499, 11731
\LayoutCheckField . 5625, 12118,
12613, 12980
\LayoutChoiceField . 5622, 11993,
12468, 12803
\LayoutPushButtonField . . 5628,
12050, 12057, 12537, 12544,
12889, 12898
\LayoutTextField . . . 5619, 11941,
12415, 12746
\lccode 291, 296, 786,
1205, 2000, 2001, 2002, 2003,
2004, 2005, 2006, 2007, 2008,
2009, 2150, 5497, 7620, 7621,
13460, 13461, 13462, 13463,
13464, 13465, 13466, 13467,
13468, 13469, 13470
\ldots 493
\leavevmode
589, 2347, 3964, 3981, 4021,
4763, 5795, 6850, 6996, 7232,
8044, 8052, 8437, 8508, 8546,
8583, 9009, 9089, 9126, 9164,
9553, 9590, 9789, 9798, 9852,
10006, 10029, 10057, 10088,
10447, 10766, 11002, 11029,
11060, 11383, 11658, 12051,
12058, 12091, 12498, 12519,
12538, 12545, 12565, 12584,
12836, 12867, 12890, 12899,
12923, 12942, 13751
\LetLtxMacro . 5740, 5744, 5812,
5816
\limits 4481
\listofslides 7875
\listslidenam . 7874, 7877, 7879,
7881
\literals@out 2345, 10370, 10375,
10427, 10433, 10453, 10459,
10723, 10734, 10763, 10764,

10783, 10785, 10794, 10796,
11089, 11172, 11235, 11432
\lower . . . 9016, 9096, 9133, 9171,
10785, 11390, 11665
\lowercase . . . 292, 297, 806, 1206,
2010, 2151, 2438, 2948, 2978,
3644, 3680, 4898, 4899, 4902,
4907, 4931, 4941, 4995, 5051,
5371, 5420, 5423, 5498, 7622,
10490, 13471
\lslide@flag 7901, 7904, 7922, 7941,
7945
\LT@array 6585
\LT@foot 6600, 6604
\LT@p@ftn . 6866, 6869, 6873, 6886
\LT@p@ftntext 6864, 6871
\LT@start 6602, 6612
\ltx@backslashchar . 259, 260, 261,
262, 263, 264, 265, 266, 267,
268, 269, 271
\ltx@empty 2750, 2925, 2933, 3429,
4183, 4193, 10750
\ltx@firstofone 2770, 13488, 13500
\ltx@firstoftwo 277, 285, 4395, 4819
\ltx@gobble . . . 251, 2776, 13486,
13498
\ltx@ifpackagelater 289
\ltx@ifpackageloaded 1172
\ltx@ifUndefined
. . . . 254, 558, 601, 676, 711,
829, 830, 831, 935, 941, 947,
952, 957, 964, 970, 976, 981,
987, 992, 1002, 1008, 1014,
1020, 1159, 1165, 1542, 1637,
1638, 2299, 2332, 4024, 4025,
4026, 4394, 4395, 4593, 5917,
6278, 6367, 6680, 7134, 8072,
8073, 8117, 8118, 8120, 8121,
8485, 8495, 8889, 9896, 9953,
10052, 10423, 10460, 10550,
10727, 13785, 13795
\ltx@ifundefined 6778
\ltx@leftbracechar 269, 293
\ltx@LocalAppendToMacro . 305,
308
\ltx@rightbracechar 270, 298
\ltx@secondoftwo 274, 4394, 4395,
4397, 4817
\ltx@zero . 2004, 2005, 2006, 2007,
2008, 2009
\luatexrevision 8667
\luatexversion 8659, 8664

M

\m@ne 4517, 4576, 4913, 6505, 6700,
9508, 13706, 13794, 13809
\make@df@tag@@ 7535, 7537
\make@df@tag@@@ 7536, 7538

<code>\make@stripped@name</code> 6342, 6641, 6663, 6687, 6698	3823, 3824, 3926, 4100, 4101, 4109, 4110, 4124, 4125, 4139, 4140, 4148, 4149, 4323, 4570, 4571, 4595, 4596, 4612, 4613, 4952, 4957, 4966, 5009, 5055, 5179, 5292, 5364, 5375, 5403, 5966, 6174, 6189, 6190, 6468, 7429, 7459, 7460, 7461, 7462, 7463, 7594, 8441, 9517, 9982, 10061, 10559, 12307, 12309, 13407, 13425, 13538	<code>\newname</code> 6343, 6642, 6664, 6688, 6701, 6710
<code>\makeatletter</code> 3, 869, 5861		<code>\newsavebox</code> 9316, 10742
<code>\MakeButtonField</code> . . 5635, 12052, 12060, 12078, 12096, 12101, 12539, 12548, 12572, 12589, 12595, 12891, 12894, 12922, 12947, 12951		<code>\newtie</code> 13939, 13940, 14323, 14353, 14372, 14388
<code>\MakeCheckField</code> . . . 5632, 12120, 12616, 12977		<code>\newtoks</code> . 90, 5394, 10577, 10805, 10806
<code>\MakeChoiceField</code> . . 5634, 12036, 12522, 12865	<code>\MF</code> 508, 11733	<code>\newwrite</code> . . . 5868, 13631, 13710
<code>\MakeFieldObject</code> . 12294, 12377, 12387, 12390	<code>\MP</code> 509, 11734	<code>\next</code> . . . 7319, 7320, 7321, 10198, 10200, 10202
<code>\MakeLowercase</code> 556	<code>\multiply</code> 8663, 10235, 10270	<code>\nfss@text</code> . 7956, 7976, 7993, 8110
<code>\MakeLowercaseUnsupportedInPdfStrings</code> 556		<code>\NG</code> 14784
<code>\MakeRadioField</code> . . . 5631, 12024, 12509, 12830	N	<code>\ng</code> 14786
<code>\makeslideheading</code> 7784	<code>\n</code> 797	<code>\noboundary</code> 16361
<code>\makeslidesubheading</code> 7836	<code>\name@of@eq</code> 6310, 6340	<code>\nobreak</code> . 2393, 2401, 2412, 2420, 6851, 6997
<code>\maketag@@@</code> 7524	<code>\name@of@slide</code> 6311, 6321	<code>\nobreakspace</code> . . 600, 8047, 8076, 8079
<code>\MakeTextField</code> 5633, 11943, 12418, 12743	<code>\nameref</code> 587, 4399, 4403	<code>\noexpand</code> 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 775, 879, 1219, 1652, 1669, 1792, 2164, 2399, 2400, 2401, 2404, 2418, 2419, 2420, 2423, 3231, 3233, 3235, 3236, 3237, 3239, 3255, 3443, 3444, 3446, 3762, 4190, 4475, 4648, 4728, 4858, 4860, 4961, 6069, 6070, 6079, 6081, 6084, 6203, 6502, 6503, 6505, 6530, 6531, 6532, 6533, 6534, 6542, 6543, 6544, 6704, 6867, 6875, 6876, 6877, 6878, 6879, 6881, 7006, 7095, 7170, 7185, 7201, 7554, 7556, 8009, 8010, 8126, 8127, 8132, 8134, 8139, 8140, 8145, 8146, 8666, 9254, 10642, 10709, 11232, 11483, 11968, 11969, 11970, 11971, 12442, 12443, 12444, 12445, 12777, 12778, 12779, 12780, 13052
<code>\maketitle</code> 6946, 6947	<code>\nasb</code> 16346	<code>\nofrenchguillemets</code> 619, 621
<code>\MakeUppercase</code> 555, 7879, 7881, 8035	<code>\netscape</code> 9052	<code>\NoHy@OrgPageRef</code> . . 5744, 5746, 5816, 5818
<code>\MakeUppercaseUnsupportedInPdfStrings</code> 555	<code>\new@ifnextchar</code> 612	<code>\NoHy@OrgRef</code> 5740, 5742, 5812, 5814
<code>\MathBSuppress</code> 9799, 9803	<code>\new@pdfink</code> . . . 8416, 8473, 8476	<code>\NoHyper</code> 5748
<code>\mathdisplay</code> 6622, 6631	<code>\new@refstepcounter</code> . 6614, 6646	<code>\nohyperpage</code> . . 5794, 7705, 7707, 7709
<code>\mathdisplay@push</code> . . 6620, 6629	<code>\newblock</code> 7329	<code>\nolinkurl</code> 4627
<code>\mathversion</code> 550	<code>\newcommand</code> 4, 9, 42, 2346, 5799, 5803, 6273, 6276, 6279, 6280, 6281, 6283, 6284, 6285, 6286, 6288, 6289, 6290, 6291, 6292, 6293, 6302, 6303, 6304, 6305, 6306, 6307, 6696, 7562, 7761, 7766, 7767, 13508, 13511, 13516	<code>\nolinkurl@</code> 4627, 4628
<code>\maxdimen</code> 3373, 12299	<code>\newcount</code> 409, 410, 2351, 4561, 5330, 5977, 12032, 12516, 12714, 12861, 13543	<code>\NomFancyVerbLineautorefname</code> 3159
<code>\MaybeStopEarly</code> 408, 2784, 2859, 4066, 4168, 6258	<code>\newcounter</code> . . . 6295, 6794, 9386, 13458	<code>\Nomfootnoteautorefname</code> . 3139
<code>\mbox</code> 590, 7245, 7268, 8388, 9480	<code>\newdimen</code> 406, 5331, 5332	<code>\Nomtheoremautorefname</code> . 3163
<code>\mddefault</code> 6740	<code>\newif</code> . . . 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 755, 934, 2728, 2749, 3432, 3696, 4236, 4591, 4905, 4993, 5326, 5327, 5347, 6312, 6313, 6337, 6650, 9778, 10705	<code>\nonumber</code> 6675, 6678
<code>\mdseries</code> 533		<code>\normalfont</code> 528, 6736
<code>\meaning</code> 62, 153, 159, 2308, 5901, 6421, 6705, 13670, 13678, 13693	<code>\newlabel</code> . 2311, 4698, 5839, 5840, 5848, 5874, 6490, 6518	
<code>\measuring@false</code> 6337	<code>\newlabelxx</code> 5841, 5842	
<code>\mediaheight</code> . . 9890, 9892, 9898, 9905	<code>\newlength</code> 13744	
<code>\mediawidth</code> 9901, 9908	<code>\newline</code> 496, 5922	
<code>\meem</code> 16340		
<code>\message</code> 7902		
<code>\MessageBreak</code> 280, 281, 441, 1904, 1925, 1938, 1961, 1966, 1968, 2460, 2461, 2475, 2497, 2500, 2502, 2580, 2581, 2607, 2608, 2660, 2661, 2662, 2700, 2701, 2721, 2732, 2773, 2798, 2831, 2869, 2876, 2887, 2893, 2970, 3303, 3425, 3426, 3477, 3478, 3573, 3657, 3712, 3713,		

`\normalsize` 546, 7042, 7113
`\NR@getttitle` 7032
`\null` 7310, 7318, 7998, 8106
`\number` 1053, 1057, 1060, 1068,
1071, 1073, 1378, 1380, 1407,
1408, 2110, 2168, 2169, 2170,
2171, 2175, 2176, 2177, 2178,
2179, 2183, 2184, 2185, 2186,
2187, 2188, 2189, 2193, 2194,
2195, 2196, 2197, 2198, 2201,
2203, 2207, 2208, 2210, 2212,
2214, 2217, 2221, 2222, 2223,
2224, 2233, 2234, 2238, 2239,
2246, 2247, 2251, 2254, 2255,
2256, 2266, 2268, 2269, 2274,
2276, 2277, 2282, 2283, 3782,
4238, 4254, 4919, 6399, 6402,
6406, 8297, 8300, 9080, 9098,
9099, 9114, 9115, 9135, 9136,
9152, 9153, 9173, 9174, 9190,
9191
`\numberline` 7035, 7106, 13430,
13435
`\numberwithin` 7559
`\numexpr` 2175, 2176, 2177, 2179,
2185, 2193, 2194, 2195, 2196,
2197, 2198, 2202, 2204, 2208,
2210, 2212, 2214, 2218, 2221,
2222, 2224, 2233, 2238, 2255,
2269, 2277, 2283, 3786
`\nun` 16341

O
`\O` 14179, 14547, 14942
`\o` 14247, 14615, 14944
`\obeylines` 11231
`\OBJ@acroform` 12374, 12375
`\OBJ@Helv` 12355, 12364, 12675
`\OBJ@OCG@print` 8333, 8336,
8344, 8370, 9404, 9406, 9419,
9423, 9432, 9461
`\OBJ@OCG@view` 8318, 8336,
8369, 9388, 9390, 9403, 9423,
9460
`\OBJ@OCGs` 8339, 8342, 8348,
8353, 8358, 9420, 9422, 9426,
9430, 9436, 9441, 9446
`\OBJ@pdfdocencoding` 12353,
12656, 12672
`\OBJ@ZaDb` 12354, 12363, 12665
`\OCIRCUMFLEX` 16184, 16282,
16283, 16284, 16285, 16286
`\ocircumflex` 16177, 16222, 16223,
16224, 16225, 16226
`\oddsidemargin` 7408
`\OE` 14048, 14800
`\oe` 14061, 14802
`\offinterlineskip` 5948

`\OHORN` 16185, 16287, 16288,
16289, 16290, 16291
`\ohorn` 3186, 3193, 16178, 16227,
16228, 16229, 16230, 16231
`\oldb` 829
`\oldc` 830
`\oldcontentsline` 5834, 5837, 5847
`\oldd` 831
`\oldnewlabel` 5839, 5844, 5848
`\OMEGA` 11729
`\on@line` 7456, 7457
`\openout` 5826, 5869, 13633, 13712
`\OpMode` 2854, 2857, 2870, 2883,
2888, 10287, 10378, 11176
`\or` 275,
1087, 1088, 1089, 1090, 1091,
1092, 1093, 1094, 1095, 1109,
1110, 1111, 1112, 1113, 1114,
1115, 1116, 1117, 1132, 1133,
1134, 1135, 1136, 1137, 1138,
1139, 1140, 1225, 1226, 1227,
1228, 1229, 1230, 1231, 1232,
1233, 1234, 1235, 1236, 1237,
1238, 1239, 1240, 1241, 1242,
1243, 1244, 1245, 1246, 1247,
1248, 1249, 1250, 1251, 1252,
1253, 1254, 1255, 1256, 1274,
1296, 1299, 1305, 1306, 1307,
1308, 1309, 1310, 1311, 1312,
1313, 1314, 1315, 1316, 1317,
1318, 1319, 1320, 1321, 1322,
1323, 1324, 1325, 1326, 1327,
1328, 1329, 1330, 1331, 1332,
1333, 1334, 1335, 1336, 1341,
1342, 1343, 1344, 1345, 1346,
1347, 1348, 1349, 1350, 1351,
1352, 1353, 1354, 1355, 1356,
1357, 1358, 1359, 1360, 1361,
1362, 1363, 1364, 1365, 1366,
1367, 1368, 1369, 1370, 1371,
1372, 1385, 1386, 1387, 1388,
1389, 1501, 1502, 1503, 5079,
5085, 5090, 5304, 6374, 6375,
6376, 6377, 6383, 6384, 6385,
6386, 7479, 7483, 7921, 7930,
10280, 13551, 13552, 13553,
13554, 13555, 13556, 13557,
13558, 13559, 13560, 13561,
13562, 13563, 13564, 13565,
13566, 13567, 13568, 13569,
13570, 13571, 13572, 13573,
13574, 13575, 13576, 13577,
13578, 13579, 13580, 13581,
13582

P
`\P` 492

`\p@` 2234, 2239, 5333, 5339,
6742, 9025, 9109, 9147, 9185,
10234, 11399, 11679, 11964,
12438, 12773, 13869, 13870
`\p@equation` 7531
`\PackageError` 61
`\PackageInfo` 8281, 8295, 12305
`\PackageWarning` 2731, 5290
`\pageautorefname` 3017, 3035,
3053, 3071, 3089, 3107, 3125,
3165, 3183, 3201, 8079, 8201
`\pagename` 8076
`\pageref` 586, 4076, 4390, 5744,
5745, 5816, 5817, 6468, 8065,
8069
`\paperheight` 3919, 8874,
8876, 8879, 8881, 8893, 8894,
9759, 9760, 9897, 9898, 9900,
11153, 11154
`\paperwidth` 8870, 8872, 8883,
8885, 8890, 8891, 9758, 9760,
9901, 11152, 11154
`\par` 6734, 7034, 7062, 7104, 7114,
7312, 7332
`\paragraphautorefname` 3013,
3031, 3049, 3067, 3085, 3103,
3121, 3154, 3156, 3179, 3197,
8197
`\partautorefname` 3007, 3025, 3043,
3061, 3079, 3097, 3115, 3145,
3173, 3191, 8191
`\partnumberline` 13432, 13437
`\PassOptionsToPackage` 2902,
2959, 2963, 2985, 3948, 4209
`\pdf@addtoks` 10808, 10827, 10833,
10842, 10849, 10853, 10855,
10857, 10859, 10861, 10869,
10878, 10882, 10884, 10886,
10889, 10898, 10902, 10904,
10906, 10908, 10910, 10912,
10914, 10916, 10918, 10920,
10922, 10924, 10926, 10928,
10930, 10932, 10933, 10934,
10935, 10936, 10937, 10938,
10939, 10940, 10941, 10942,
10947
`\pdf@addtoksx` 10802, 10812, 10825
`\pdf@box` 10742, 10769, 10775,
10781, 10782, 10785, 10792
`\pdf@defaulttoks` 10709, 10806,
10807, 10817
`\pdf@docset` 10577
`\pdf@endanchor` 8429, 8473, 8480
`\pdf@escapestring` 8257
`\PDF@FinishDoc` 2787, 2788, 2862,
2863, 3913, 3966, 4069, 4070,
4171, 4172, 5793, 5958, 5959,

[8742](#), [8949](#), [9203](#), [9652](#), [9779](#),
[10346](#), [10578](#), [11439](#), [11600](#)
\pdf@linktype [10727](#), [10731](#), [10822](#),
[10823](#)
\pdf@rect . . . [10719](#), [10733](#), [10746](#)
\PDF@SetupDoc
[3912](#), [3965](#), [5711](#), [5712](#), [5792](#),
[8673](#), [8950](#), [9234](#), [9692](#), [9780](#),
[10295](#), [10629](#), [11320](#), [11470](#),
[11601](#)
\PDF@SetupDox [8673](#)
\pdf@strcmp [911](#)
\pdf@toks . . [10709](#), [10724](#), [10735](#),
[10805](#), [10809](#), [10813](#)
\pdf@type . . [10711](#), [10715](#), [10724](#),
[10735](#), [10800](#), [10820](#)
\pdfannotlink [8407](#)
\pdfbookmark . [2346](#), [5798](#), [5799](#),
[13509](#), [13514](#), [13519](#), [13523](#)
\pdfcatalog [6112](#), [8340](#), [8688](#), [8730](#),
[12375](#)
\PDFdefaults [10816](#)
\pdfdest [8431](#)
\pdfendlink . . [8470](#), [12418](#), [12509](#),
[12523](#), [12549](#), [12573](#), [12596](#),
[12617](#)
\pdfescapestring [13081](#)
\pdfform [8409](#)
\PDFForm@Check . [12119](#), [12121](#),
[12614](#), [12615](#), [12981](#), [12985](#),
[13151](#)
\PDFForm@List . . . [12035](#), [12037](#),
[12520](#), [12521](#), [12868](#), [12873](#),
[13209](#)
\PDFForm@Name . [12411](#), [12463](#),
[12532](#), [12610](#), [12738](#), [12798](#),
[12884](#), [12973](#), [13088](#)
\PDFForm@Push . . [12059](#), [12061](#),
[12546](#), [12547](#), [12900](#), [12904](#),
[13180](#)
\PDFForm@Radio . [12023](#), [12027](#),
[12499](#), [12501](#), [12837](#), [12849](#),
[13242](#)
\PDFForm@Reset . [12100](#), [12102](#),
[12593](#), [12594](#), [12952](#), [12957](#),
[13342](#)
\PDFForm@Submit [12077](#), [12080](#),
[12566](#), [12568](#), [12924](#), [12929](#),
[13309](#)
\PDFForm@Text . . [11942](#), [11944](#),
[12416](#), [12417](#), [12747](#), [12750](#),
[13274](#)
\pdfhorigin [8866](#)
\pdfinfo [8745](#)
\pdflastform [8410](#)
\pdflastlink [12335](#)
\pdflastobj [8318](#), [8333](#), [8339](#), [12374](#),
[12656](#), [12665](#), [12675](#)
\pdflastxform . [8410](#), [12297](#), [12299](#)
\pdflinkmargin . . [8405](#), [8408](#), [8413](#)
\pdfliteral [8389](#), [8391](#), [8396](#)
\pdfm@box . . [9316](#), [12710](#), [12711](#),
[12712](#), [12742](#), [12753](#), [12829](#),
[12853](#), [12864](#), [12875](#), [12894](#),
[12907](#), [12922](#), [12931](#), [12951](#),
[12959](#), [12976](#), [12987](#)
\pdfmark . [6221](#), [9254](#), [9263](#), [9293](#),
[10414](#), [10434](#), [10467](#), [10501](#),
[10518](#), [10530](#), [10564](#), [10601](#),
[10613](#), [10642](#), [10651](#), [10682](#),
[10706](#), [10955](#), [10969](#), [10984](#),
[10996](#), [11003](#), [11030](#), [11061](#),
[11483](#), [11492](#), [11523](#), [11943](#),
[12024](#), [12036](#), [12060](#), [12078](#),
[12101](#), [12120](#), [13674](#)
\pdfmark@ [10706](#), [10707](#)
\pdfmatch [272](#)
\pdfminorversion [8278](#)
\PDFNextPage [10967](#)
\PDFNextPage@ . . [10967](#), [10968](#)
\pdfobj . [8304](#), [8319](#), [8334](#), [12358](#),
[12623](#), [12657](#), [12666](#)
\PDFOpen [10995](#)
\pdfoptionpdfminorversion [8275](#)
\pdfoutline [13722](#)
\pdfpageattr . . [8784](#), [8788](#), [8789](#),
[8799](#), [8808](#), [8812](#), [8813](#), [8823](#),
[8831](#), [8834](#), [8835](#), [8845](#)
\pdfpageheight [8876](#), [8885](#), [8894](#),
[8901](#)
\pdfpageresources [8367](#)
\pdfpagesattr . . . [8677](#), [8679](#), [8681](#)
\pdfpagewidth . [8872](#), [8881](#), [8891](#),
[8898](#)
\PDFPreviousPage [10980](#)
\PDFPreviousPage@ [10981](#), [10983](#)
\pdfrefform [8411](#)
\pdfrefobj . . [12353](#), [12354](#), [12355](#)
\pdfrefxform [8411](#), [12299](#)
\pdfstartlink [8406](#), [8407](#),
[8465](#), [8509](#), [8547](#), [8584](#), [8912](#),
[12417](#), [12500](#), [12521](#), [12547](#),
[12567](#), [12594](#), [12615](#)
\pdfstringdef [461](#), [742](#), [3599](#), [3605](#),
[3611](#), [3617](#), [3622](#), [3628](#), [3635](#),
[3641](#), [3721](#), [5251](#), [5256](#), [5282](#),
[5925](#), [6005](#), [6007](#), [6483](#), [7391](#),
[13096](#), [13441](#)
\pdfstringdefDisableCommands .
. . . [828](#), [867](#), [5796](#), [5920](#)
\pdfstringdefPostHook . . [738](#), [861](#)
\pdfstringdefPreHook . [596](#), [861](#),
[873](#), [875](#), [5919](#), [5929](#)
\pdfstringdefWarn . [495](#), [496](#), [591](#),
[878](#), [1660](#), [1665](#), [1684](#), [1688](#)
\pdftexrevision . . [8633](#), [8641](#), [8652](#)
\pdftexversion . . [8628](#), [8630](#), [8633](#),
[8636](#), [8639](#), [8640](#), [8644](#), [8650](#),
[8651](#), [12352](#)
\pdfvorigin [8867](#)
\pdfxform [8409](#), [12295](#)
\peh [16354](#)
\penalty . . [1795](#), [2373](#), [4536](#), [7239](#),
[7262](#)
\phantom [551](#)
\phantomsection [3914](#), [5800](#), [7431](#),
[13376](#), [13427](#), [13813](#)
\Preamble [11725](#)
\PrerenderUnicode [3590](#)
\process@me . . [5899](#), [5911](#), [5912](#),
[8676](#), [8685](#)
\ProcessKeyvalOptions . . . [3952](#)
\protect [1793](#), [4678](#), [7035](#),
[7106](#), [7170](#), [7185](#), [7201](#), [7317](#),
[7324](#), [7325](#), [7469](#), [7500](#), [7774](#),
[7826](#), [7955](#), [7975](#), [7981](#), [7992](#),
[8109](#), [8960](#), [9057](#), [9850](#), [9925](#),
[11331](#), [11611](#), [13448](#), [13746](#),
[13869](#), [13870](#)
\protected@edef [4713](#), [6065](#), [6573](#),
[6702](#), [6722](#), [8438](#), [9514](#), [9979](#),
[10058](#), [10556](#)
\protected@write [2310](#), [4697](#), [7297](#),
[7660](#), [7675](#), [7683](#), [7687](#), [7692](#),
[13447](#)
\protected@xdef . [6876](#), [6878](#), [6972](#)
\providecommand
. [2327](#), [2328](#), [3328](#),
[3329](#), [3332](#), [3333](#), [4159](#), [4367](#),
[4368](#), [4489](#), [4632](#), [5830](#), [6095](#),
[6114](#), [6239](#), [7135](#), [7136](#), [7151](#),
[7229](#), [7757](#), [7758](#), [7874](#), [8182](#),
[8183](#), [8184](#), [8185](#), [8186](#), [8187](#),
[8188](#), [8189](#), [8190](#), [8191](#), [8192](#),
[8193](#), [8194](#), [8195](#), [8196](#), [8197](#),
[8198](#), [8199](#), [8200](#), [8201](#), [8264](#),
[8415](#), [8433](#), [8434](#), [8948](#), [9051](#),
[9052](#), [9311](#), [9373](#), [9374](#), [9375](#),
[9776](#), [9895](#), [9917](#), [9918](#), [9919](#),
[10371](#), [10743](#), [10744](#), [11087](#),
[11095](#), [11096](#), [11097](#), [11098](#),
[11170](#), [11182](#), [11183](#), [11184](#),
[11185](#), [11229](#), [11270](#), [11271](#),
[11272](#), [11273](#), [11428](#), [11430](#),
[11431](#), [11544](#), [11545](#), [11592](#),
[12318](#)
\PushButton [5607](#)
\put@me@back . . [4853](#), [4866](#), [4876](#)

Q
\qaf [16337](#)

\quotedblbase 14028, 14265, 15854, 16158
\quotesinglbase . . . 14038, 14267, 15848, 16160

R

\r . 800, 13906, 13918, 13930, 14140, 14205, 14314, 14341, 14360, 14382, 14509, 14573, 14856, 14858, 15818, 15820
\ra 16325
\raff 16347
\raise 2380, 9026, 9110, 9148, 9186, 10796, 11400, 11680
\ReadBookmarks 3951, 3969, 4083, 4271, 4412, 13607, 13642
\real@setref 7952, 8018
\realfootnote 6969
\Ref 8037, 8041, 8046
\ref . . 585, 4075, 4387, 4893, 5740, 5741, 5812, 5813, 6934, 6941, 8056, 11701
\ref@one 4654, 4655
\rEfLiNK 11702, 11703
\refstepcounter 6309, 6316, 6336, 6555, 6578, 6579, 6580, 6589, 6614, 6638, 6646, 7098
\rem@ptetc 10491, 10493
\renewcommand 2302, 7077, 7576, 13523
\RequirePackage 22, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 320, 894, 1170, 1697, 2296, 2712, 2782, 4057, 4058, 4339, 4383, 4417, 4624, 4896, 5782, 5939, 6155, 8204, 9777, 11597, 13533
\RerunFileCheck 13535
\Reset 5616
\reset@font 7245, 7268, 7956, 7976, 7993, 8110
\revtex@checking 7222
\Rightarrow 7908
\rlap 8390, 9482
\rm 539
\rmfamily 529
\Roman 6061
\roman 6062
\romannumeral 885, 886
\rule 6919

S

\sad 16329
\sbox 3586, 5636, 9013, 9093, 9130, 9168, 10743, 10775, 11387, 11662, 12294
\scr@LT@array 6588

\scriptsize 547
\scriptstyle 7235
\scrollmode 1712, 1737, 1747, 1760, 1852, 1984
\scshape 535
\section 7876
\sectionautorefname . . 3010, 3028, 3046, 3064, 3082, 3100, 3118, 3147, 3176, 3194, 8194
\seen 16327
\selectfont 515, 4350, 12383
\setbox 1796, 1802, 1808, 3356, 3362, 5445, 5947, 6769, 8380, 8940, 9455, 9472, 12742, 12829, 12864, 12894, 12922, 12951, 12976
\setcounter 4567
\setkeys 4542, 4587
\setlength 445, 446, 2377, 8866, 8867, 8872, 8876, 8881, 8885, 8891, 8894, 8898, 8901, 9898, 9901, 9905, 9908, 10234, 13763, 13834
\setpdfinkmargin 3769, 3770, 8405
\settowidth . 11961, 12435, 12770
\SetupKeyvalOptions . 2431, 3942
\sffamily 530
\shadda 16352
\sheen 16328
\shortciteN 7360
\SK@ 8168
\SK@@ref 8168
\SK@ref 8165
\skip@ 1810, 1884, 1885, 1888, 1890, 2396, 2402, 2415, 2421
\slide@cline 7894, 7907, 7915, 7925, 7933
\Slide@contents 7899
\slide@contents 7892
\slide@heading 7770
\slide@subheading 7823
\slide@undottedcline 7885
\slidenumberline 7886, 7894, 7908, 7916, 7926, 7934
\SliTeX 507
\slshape 536
\small 548
\smash 2374
\spacefactor 2353, 2359, 6851, 6860, 6997, 6999, 8418, 8426
\special@paper 3915
\SpecialDvipdfmxOutlineOpen 2821, 2823, 4246
\splitmaxdepth 6913
\splittopskip 6912
\SS 14263, 16157
\ss 3057, 14193, 14278, 14561

\st@rredfalse 6621, 6630
\stepcounter . . 6326, 6503, 6572, 6721, 6852, 6971, 9498, 13444
\stockheight 3919, 8900, 8901, 9765, 9766, 9904, 9905, 11159, 11160
\stockwidth 8897, 8898, 9764, 9766, 9907, 9908, 11158, 11160
\stop@hyper 5763
\StringEncodingConvertTest 716, 726
\strip@period 2315
\strip@prefix 62, 2308, 5901, 6421, 6705, 13670, 13678, 13693
\strip@pt 450, 457, 3931, 8872, 8876, 8881, 8885, 10237, 13174, 13237, 13265, 13302, 13351
\strip@pt@and@otherjunk 10433, 10459, 10493
\strutbox 6913
\sub@label 2302
\subeqnarray 6681, 6683
\subequations 6719, 6720
\subfig@oldlabel 2304
\Submit 5613
\SubmitObject 12569
\SubmitPObject 12569
\subparagraphautorefname 3014, 3032, 3050, 3068, 3086, 3104, 3122, 3155, 3157, 3180, 3198, 8198
\subpdfbookmark 13511
\subsection 11424
\subsectionautorefname . . 3011, 3029, 3047, 3065, 3083, 3101, 3119, 3152, 3177, 3195, 8195
\subsubsectionautorefname 3012, 3030, 3048, 3066, 3084, 3102, 3120, 3153, 3178, 3196, 8196
\sukun 16353
\surd 7916

T

\T 16317
\t 13938, 14333, 14352, 14371, 14387
\T@nameref 4404
\T@pageref 4374, 4391, 8054
\T@ref 4369, 4388
\T@temp 7223, 7226
\Ta 16331
\taa 16318
\tableautorefname . . 3006, 3024, 3042, 3060, 3078, 3096, 3114, 3144, 3172, 3190, 8190
\tagform@ 7530

<code>\tatweel</code>	16335	<code>\textcircled</code> .	14335, 14354, 14373, 15994, 15996, 15998, 16000, 16002, 16004, 16006, 16008, 16010, 16012, 16014, 16016, 16018, 16020, 16022, 16024, 16026, 16028, 16030, 16032, 16034, 16036, 16038, 16040, 16042, 16044, 16046, 16048, 16050, 16052, 16054, 16056, 16058, 16060, 16062, 16064, 16066, 16068, 16070, 16072, 16074, 16076, 16078, 16080, 16082, 16084, 16086, 16088, 16090, 16092, 16094, 16096, 16098, 16100, 16102, 16104, 16106, 16108, 16110, 16112, 16114, 16116, 16118, 16120, 16122, 16124, 16126, 16128, 16130, 16132, 16134, 16136, 16138	<code>\textepsilon</code> 501, 504, 1091, 15097, 15113	
<code>\tcheh</code>	16355	<code>\textcircledP</code>	15956	<code>\textequalsuperior</code>	15902
<code>\temp@online</code>	7456, 7459	<code>\textcircledflex</code>	13953	<code>\textestimated</code>	15970
<code>\TeX</code>	497, 498, 505, 507, 11728, 11730, 11732	<code>\textcolonmonetary</code>	15934	<code>\textEta</code>	1094, 15030, 15054
<code>\texorpdfstring</code>	854, 5797	<code>\textcolor</code> 554, 12349, 12388, 12391, 12684		<code>\texteta</code>	1094, 15099, 15117
<code>\textacute</code>	13902, 13914, 13926, 14106, 14337, 14356, 14474	<code>\textcompwordmark</code>	15836	<code>\texteuro</code>	14067, 15946
<code>\textacutedbl</code>	15006	<code>\textcopyright</code>	14085, 14453	<code>\textexclamdown</code> 688, 998, 14069, 14437	
<code>\textaleph</code>	15972	<code>\textCR</code>	13947, 14394	<code>\textfi</code>	686, 14042, 16154
<code>\textAlpha</code>	1087, 15026, 15042	<code>\textcurrency</code>	14075, 14443	<code>\TextField</code>	5598
<code>\textalpha</code>	1087, 15095, 15105	<code>\textdagger</code>	14006, 15856	<code>\textfiveinferior</code>	15920
<code>\textampersand</code> 489, 13973, 14404		<code>\textdaggerdbl</code>	14008, 15858	<code>\textfivesuperior</code>	15888
<code>\textangstrom</code>	15968	<code>\textdegree</code>	14098, 14264, 14466	<code>\textfl</code>	687, 14044, 16156
<code>\textasciicircum</code>	14475	<code>\textDelta</code>	1090, 15048	<code>\textflorin</code>	14016, 14892
<code>\textasciibreve</code>	13949, 14345, 14364, 14995	<code>\textdelta</code>	1090, 15111	<code>\textflq</code>	575, 14271, 16164
<code>\textasciicaron</code>	13907, 13919, 13931, 13951, 14342, 14361, 14993	<code>\textDigammagreek</code>	15170	<code>\textflqq</code>	573, 14269, 16162
<code>\textasciicircum</code>	13903, 13915, 13927, 13987, 14338, 14357, 14420	<code>\textdigammagreek</code>	15172	<code>\textfourinferior</code>	15918
<code>\textasciidieresis</code>	13905, 13917, 13929, 14083, 14340, 14359, 14451	<code>\textdiscount</code>	15882	<code>\textfoursuperior</code>	15886
<code>\textasciigrave</code> 13901, 13913, 13925, 13992, 14336, 14355, 14424		<code>\textdiv</code>	14275, 16168	<code>\textfractionsolidus</code> 14018, 15876	
<code>\textasciimacron</code>	13910, 13922, 13934, 14096, 14347, 14366, 14464	<code>\textdivide</code>	14245, 14275, 14613, 16168	<code>\textfrq</code>	576, 14272, 16165
<code>\textasciitilde</code>	490, 4452, 14002, 14435	<code>\textdivorced</code>	16148	<code>\textfrqq</code>	574, 14270, 16163
<code>\textasteriskcentered</code>	14412	<code>\textdollar</code>	487, 13969, 14400	<code>\textGamma</code>	1089, 15046
<code>\textbackslash</code>	485, 650, 2290, 13985, 14418	<code>\textdong</code>	15944	<code>\textgamma</code>	1089, 15109
<code>\textbaht</code>	15680	<code>\textdotaccent</code> 13908, 13920, 13932, 13955, 14343, 14362, 14997		<code>\textglq</code>	571, 14267, 16160
<code>\textbar</code>	13998, 14431	<code>\textdotbelow</code> 13912, 13924, 13936, 13979, 14351, 14370, 15016		<code>\textglqq</code>	569, 14265, 16158
<code>\textbardbl</code>	15842	<code>\textdoublegrave</code>	14346, 14365, 15012	<code>\textgravedbl</code>	15008
<code>\textBeta</code>	1088, 15044	<code>\textdownarrow</code>	15980	<code>\textgreater</code>	13983, 14416
<code>\textbeta</code>	1088, 14278, 15107	<code>\texteightinferior</code>	15926	<code>\textgrq</code>	572, 14268, 16161
<code>\textbf</code>	522	<code>\texteightsuperior</code>	15894	<code>\textgrqq</code>	570, 14266, 16159
<code>\textbigcircle</code> 14354, 14373, 16142		<code>\textellipsis</code> 493, 494, 14010, 15862		<code>\textGslash</code>	14911
<code>\textblank</code>	15990	<code>\textemdash</code>	684, 14012, 15840	<code>\textgslash</code>	14913
<code>\textbraceleft</code>	483, 2291, 13996, 14429	<code>\textendash</code>	685, 14014, 15838	<code>\textguarani</code>	15950
<code>\textbraceright</code> 484, 2291, 14000, 14433		<code>\textEpsilon</code>	1091, 15028, 15050	<code>\textHslash</code>	14707
<code>\textbrokenbar</code>	14079, 14447			<code>\textthslash</code>	14709
<code>\textbullet</code>	14004, 15860			<code>\textHT</code>	13943, 14390
<code>\textcdot</code>	14277, 16170			<code>\texthungarumlaut</code> 13957, 14348, 14367, 15005, 15006	
<code>\textcedilla</code>	13909, 13921, 13933, 14114, 14344, 14363, 14483			<code>\textinterrobang</code>	15874
<code>\textcelsius</code>	14264, 15952			<code>\textIota</code> 1109, 15032, 15058, 15091	
<code>\textcent</code>	14071, 14439			<code>\textiota</code> 1109, 15101, 15121, 15155	
<code>\textChi</code>	1137, 15084			<code>\textlotadieresis</code>	15040, 15090
<code>\textchi</code>	1137, 15149			<code>\texttit</code>	524

<code>\textlnot</code>	14092, 14460	<code>\textperiodcentered</code>	14112, 14277, 14481, 16170	<code>\textTau</code>	1134, 15078
<code>\textlogicalnot</code>	14091, 14273, 14459, 16166	<code>\textpertenthousand</code>	15866	<code>\texttau</code>	1134, 15143
<code>\textlongs</code>	14890, 15822	<code>\textperthousand</code>	14026, 15864	<code>\textTheta</code>	1095, 15056
<code>\textlquill</code>	15878	<code>\textpeseta</code>	15940	<code>\texttheta</code>	1095, 15119
<code>\textmacronbelow</code>	13911, 13923, 13935, 13990, 14350, 14369, 15018	<code>\textpeso</code>	15948	<code>\textthreeinferior</code>	15916
<code>\textmarried</code>	16146	<code>\textPhi</code>	1136, 15082	<code>\textthreequarters</code>	14126, 14495
<code>\textmd</code>	523	<code>\textphi</code>	1136, 15147	<code>\textthreesuperior</code>	14104, 14472
<code>\textmho</code>	15966	<code>\textPi</code>	1116, 15072	<code>\texttie</code>	14352, 14371, 15020
<code>\textminus</code>	14024, 15982	<code>\textpi</code>	1116, 15135	<code>\texttilde</code>	4028, 13904, 13916, 13928, 13963, 14339, 14358, 15003
<code>\textminussuperior</code>	15900	<code>\textplusminus</code>	14100, 14276, 14468, 16169	<code>\texttildelow</code>	15010
<code>\textMu</code>	1112, 15064	<code>\textplussuperior</code>	15898	<code>\texttimes</code>	14274, 16167
<code>\textmu</code>	1112, 14108, 14477	<code>\textpm</code>	14276, 16169	<code>\texttrademark</code>	14040, 15962
<code>\textmugreek</code>	15127	<code>\textPsi</code>	1138, 15086	<code>\textTslash</code>	14840
<code>\textmultiply</code>	14177, 14274, 14545, 16167	<code>\textpsi</code>	1138, 15151	<code>\texttslash</code>	14842
<code>\textmusicalnote</code>	16144	<code>\textquestiondown</code>	689, 999, 14128, 14497	<code>\texttt</code>	521
<code>\textnaira</code>	15938	<code>\textquotedbl</code>	13965, 14396	<code>\texttwoinferior</code>	15914
<code>\textnapostrophe</code>	14782	<code>\textquotedblleft</code>	14030, 14266, 15850, 16159	<code>\texttwosuperior</code>	14102, 14470
<code>\textneg</code>	14273, 16166	<code>\textquotedblright</code>	14032, 15852	<code>\textunderscore</code>	491, 4446, 4447, 4449, 13989, 14422
<code>\textnewtie</code>	14353, 14372, 15014	<code>\textquoteleft</code>	14034, 14268, 15844, 16161	<code>\textup</code>	527
<code>\textnineinferior</code>	15928	<code>\textquoteright</code>	14036, 15846	<code>\textuparrow</code>	15976
<code>\textninesuperior</code>	15896	<code>\textquotesingle</code>	14406	<code>\textUpsilon</code>	1135, 15036, 15080, 15093
<code>\textnormal</code>	518	<code>\texttriangle</code>	15988	<code>\textupsilon</code>	1135, 15145, 15157, 15162
<code>\textnsuperior</code>	15908	<code>\texttrbrackdbl</code>	16152	<code>\textupsilonacute</code>	15103, 15161
<code>\textNu</code>	1113, 15066	<code>\textrecipe</code>	15958	<code>\textvarsigma</code>	15139
<code>\textnu</code>	1113, 15129	<code>\textreferencemark</code>	15872	<code>\textvisiblespace</code>	15992
<code>\textnumbersign</code>	486, 13967, 14398	<code>\textregistered</code>	14094, 14462	<code>\textwon</code>	15942
<code>\textnumeralsigngreek</code>	1064, 15022	<code>\textRho</code>	1132, 15074	<code>\textXi</code>	1114, 15068
<code>\textnumeralsignlowergreek</code>	1081, 1103, 1126, 15024	<code>\textrho</code>	1132, 15137	<code>\textxi</code>	1114, 15131
<code>\textnumero</code>	15954	<code>\textrightarrow</code>	15978	<code>\textyen</code>	14077, 14445
<code>\textogonek</code>	13959, 14349, 14368, 15001	<code>\textring</code>	13906, 13918, 13930, 13961, 14341, 14360, 14999	<code>\textzeroinferior</code>	15910
<code>\textohm</code>	15964	<code>\textrm</code>	519	<code>\textzerosuperior</code>	15884
<code>\textOmega</code>	1139, 15038, 15088	<code>\textrquill</code>	15880	<code>\textZeta</code>	1093, 15052
<code>\textomega</code>	1139, 15153, 15164	<code>\textSampigreek</code>	1140, 15178	<code>\textzeta</code>	1093, 15115
<code>\textOmicron</code>	1115, 15034, 15070	<code>\textsampigreek</code>	1140, 15180	<code>\TH</code>	14191, 14559
<code>\textomicron</code>	1115, 15133, 15159	<code>\textsc</code>	525	<code>\th</code>	14259, 14627
<code>\textonehalf</code>	14124, 14493	<code>\textsection</code>	14081, 14449	<code>\thaa</code>	16319
<code>\textoneinferior</code>	15912	<code>\textservicemark</code>	15960	<code>\thebookmark@seq@number</code>	13451
<code>\textonequarter</code>	14122, 14491	<code>\textseveninferior</code>	15924	<code>\theequation</code>	6342, 6641, 6663, 6687, 6723
<code>\textonesuperior</code>	14116, 14485	<code>\textsevensuperior</code>	15892	<code>\thefootnote</code>	6811, 6991
<code>\textopenbullet</code>	16140	<code>\textsf</code>	520, 12388, 12391	<code>\theHchapter</code>	6283, 6284, 6285, 6286, 6369
<code>\textordfeminine</code>	14087, 14455	<code>\textSigma</code>	1133, 15076	<code>\theHenumi</code>	6302
<code>\textordmasculine</code>	14118, 14487	<code>\textsigma</code>	1133, 15141	<code>\theHenumii</code>	6303
<code>\textparagraph</code>	492, 14110, 14479	<code>\textsixinferior</code>	15922	<code>\theHenumiii</code>	6304
<code>\textparenleft</code>	692, 693, 13975, 14408	<code>\textsixsuperior</code>	15890	<code>\theHenumiv</code>	6305
<code>\textparenleftinferior</code>	15930	<code>\textsl</code>	526	<code>\theHequation</code>	6273, 6343, 6642, 6664, 6688, 6696, 6723, 6727
<code>\textparenleftsuperior</code>	15904	<code>\textsterling</code>	14073, 14441	<code>\theHfigure</code>	6280, 6284
<code>\textparenright</code>	13977, 14410	<code>\textStigmagreek</code>	1092, 15166	<code>\theHHfootnote</code>	6306, 6308
<code>\textparenrightinferior</code>	15932	<code>\textstigmagreek</code>	1092, 15168	<code>\theHHmpfootnote</code>	6308
<code>\textparenrightsuperior</code>	15906	<code>\textsurd</code>	15984		
<code>\textpercent</code>	488, 13971, 14402	<code>\TextSymbolUnavailable</code>	13937, 13938, 13940		

\theHItem	6296, 6302, 6303, 6304, 6305	4294, 4295, 4296, 4297, 4298, 4299, 4300, 4301, 4302, 4303, 4304, 4305, 4306, 4307, 4308, 4309, 4310, 4311, 4312, 4313, 4314	U	\U . . .	14308, 15213, 15236, 15301, 15378, 15568, 15570, 15592, 15594, 15604, 15606
\theHlisting	3332			\u . . .	14307, 14345, 14364, 14384, 14635, 14637, 14671, 14673, 14691, 14693, 14721, 14723, 14724, 14792, 14794, 14852, 14854
\theHlstlisting	3328			\UHORN . . .	16186, 16297, 16298, 16299, 16300, 16301
\theHmpfootnote	6307			\uhorn . .	3186, 3193, 16179, 16237, 16238, 16239, 16240, 16241
\theHparagraph	6290, 6291	\tocappendix	1548	\UnDef	11702
\theHparentequation	6722, 6727	\tocchapter	1547	\unhbox	6783, 10744, 12753, 12875, 12907, 12931, 12959, 12987
\theHpart	6276	\toclevel@chapter	3319	\unhcopy	12853
\theHsection	6273, 6279, 6286, 6288, 6292, 6293, 6368	\toclevel@figure	3325	\unichar	2159
\theHslide	7761	\toclevel@listing	3333	\Unicode	1260
\theHslidesection	7766, 7768, 7804, 7808	\toclevel@lstlisting	3329	\unrestored@protected@xdef	6800, 6811, 6934, 6941, 6984, 6991
\theHslidesubsection	7767, 7855, 7859	\toclevel@paragraph	3323	\unskip	6734, 7233, 8044, 8048, 8052, 8057
\theHsubequation	6696	\toclevel@part	3315, 3317	\upshape	537, 6740
\theHsubparagraph	6291	\toclevel@section	3320	\Url	4626
\theHsubsection	6288, 6289	\toclevel@subfigure	2327	\url	4625, 4629
\theHsubsubsection	6289, 6290	\toclevel@subparagraph	3324	\url@	4629, 4630
\theHtable	6281, 6285	\toclevel@subsection	3321	\use@file	4793, 4795, 4802
\theHtheorem	6292	\toclevel@subsubsection	3322	\usefont	516
\theHthm	6293	\toclevel@subtable	2328	\utf@viii@undeferr	478
\theHy@tempcnt	4562, 4570, 4577	\toclevel@table	3326	\UTFviii@four@octets	2155, 2164
\thelisting	3332	\tocparagraph	1552	\UTFviii@three@octets	2154
\thelstlisting	3328	\tocpart	1546	\UTFviii@two@octets	2153
\thempfn	6800, 6877, 6879, 6972, 6984	\tocsection	1549		
\theoremautorefname	3016, 3034, 3052, 3070, 3088, 3106, 3124, 3162, 3182, 3200, 8200	\tocsubsection	1550		
\thepage	2313, 4680, 5967, 5990, 6483, 6491, 6518, 7248, 7271, 7300, 7391, 7469, 7500, 7661, 7678, 7684, 7688, 7695, 7958, 7978, 7995, 8112	\tocsubsubsection	1551		
\theslideheading	7787	\toks	873, 874, 875, 4717, 4719, 4721, 4725, 4730, 7966, 7967, 7969, 13766, 13771, 13837, 13842		
\theslidesection	7775, 7782, 7790, 7796, 7798, 7800, 7806, 7816	\toks@	171, 208, 424, 427, 430, 448, 449, 768, 775, 807, 808, 1184, 1207, 1210, 1212, 1720, 1721, 3212, 3213, 3215, 3749, 3753, 3754, 3762, 4188, 4190, 4832, 4837, 4841, 4845, 6067, 6069, 6149, 6151, 6201, 6213, 6500, 6504, 6540, 6545, 7531, 7532, 7738, 7743, 7745, 7748, 13765, 13771, 13836, 13842		
\theslidesubheading	7788, 7839	\topmargin	7403		
\theslidesubsection	7827, 7834, 7841, 7847, 7849, 7851, 7857, 7867	\trivlist	6737		
\This@name	6320, 6321, 6339, 6340	\tryhyper@link	4655, 4657		
\thispdfpagelabel	5972	\ttfamily	531		
\ThisShouldNotHappen	13059	\ttl@b	6551, 6556		
\thm@headpunct	6741	\ttl@Gobblecontents	6560		
\thm@headsep	6742	\ttl@Hy@PatchSaveWrite	6534, 6538		
\thm@notefont	6740	\ttl@Hy@refstepcounter	6550		
\thm@postskip	6746	\ttl@Hy@saveanchor	6529, 6553		
\thm@preskip	6745	\ttl@Hy@SavedCurrentHref	6533, 6544		
\thm@space@setup	6743	\ttl@Hy@steplink	6527		
\thm@swap	6739	\ttl@savewrite	6540, 6542		
\thmheadnl	6738	\tw@	13766, 13771, 13837, 13842		
\tiny	549	\typeout	5, 6, 7, 19, 26, 27, 36, 131, 155, 158, 159, 160, 4862, 13863, 16364		
\title	5878, 5880				
\TMP@EnsureCode	4281, 4288, 4289, 4290, 4291, 4292, 4293,				

`\Vr@f` 8043
`\vr@f` 8051
`\vref@pagenum` 6564
`\vref@space` 8044, 8047, 8052
`\vskip` 2402, 2403
`\vss` 7416
`\vtex@trans@special` 10205, 10207,
10210, 10214, 10218, 10222,
10224, 10226, 10230, 10236,
10237, 10240
`\VTeXInitMediaSize` . 9895, 9912
`\VTeXOS` ... 10275, 10276, 10277,
10279
`\VTeXversion` . 6116, 6119, 6122,
10267, 10271

W

`\waw` 16343
`\wawhamza` 16312
`\wd` . 9098, 9114, 9135, 9152, 9173,
9190, 12711
`\write` 4517, 5827, 5829, 6230, 6238,
6489, 6517, 7171, 7186, 7202,
7212, 7242, 7265, 7291, 7321,
12317, 12341, 13635, 13714
`\WriteBookmarks`
.... 3970, 4084, 4250, 4272,
13384, 13628, 13660, 13661,
13703, 13707
`\wwwbrowser` ... 9052, 9137, 9154

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, 447, 452, 770,
773, 777, 782, 814, 883, 889,
1647, 1675, 2102, 2104, 2397,

2407, 2416, 2426, 2481, 2482,
2487, 2503, 3223, 3226, 3230,
3243, 3344, 3345, 3348, 3349,
3350, 3354, 3357, 3363, 3752,
3758, 3761, 3764, 3919, 3920,
3925, 3926, 3983, 3984, 3985,
3988, 3991, 3994, 4189, 4192,
4516, 4522, 4715, 4726, 4730,
4733, 4808, 4809, 4810, 4822,
4833, 4834, 4835, 4836, 4839,
4840, 4914, 4928, 4953, 4957,
4960, 4970, 5900, 5901, 5906,
6501, 6508, 6541, 6548, 6589,
6598, 6600, 6612, 7745, 7746,
7968, 7971, 8006, 8007, 8008,
8010, 8012, 8366, 8374, 8661,
8662, 8665, 8667, 8670, 9323,
9324, 9325, 9327, 9328, 9329,
9331, 9332, 9333, 9335, 9336,
9337, 9339, 9340, 9341, 9343,
9344, 9345, 9347, 9348, 9349,
9351, 9352, 9354, 9360, 9369,
10375, 10380, 10384, 10748,
10751, 10757, 10762, 10895,
10896, 11967, 11987, 12441,
12461, 12776, 12796, 13770,
13772, 13841, 13843

`\XeTeXrevision` 4238, 9649
`\XeTeXversion` 4238, 9649
`\XR@CdURL` 2334, 2335
`\XR@addURL` 2334
`\XR@ext`
2589, 2590, 4791, 4794, 6114,
8264, 8948, 9051, 9311, 9776,
11087, 11170, 11229, 11428,
11592

`\XR@URL` 2339
`\xspace` 602, 604

Y

`\y` 785, 788, 791, 794, 797, 800,
2483, 2488, 2493, 3350,
3352, 3353, 3986, 3989,
3995, 3997, 4003, 4811,
4813, 4814, 4822, 5901,
6585, 6587, 6588, 6591,
10753, 10754, 10755, 10756

`\ya`
`\yahamza`

Z

`\z` .. 2485, 2486, 2487, 4814
`\z@` 746, 786, 911
1080, 1102, 1125, 1376,
1429, 1445, 1460, 1468,
1796, 1802, 1808, 1872,
1884, 1888, 2353, 2358,
2411, 2678, 2681, 2823,
3362, 3921, 4246, 6117,
6769, 6770, 6919, 8870,
8879, 8883, 8890, 8893,
8900, 9758, 9759, 9764,
10266, 10290, 10491,
10793, 11152, 11153,
11159, 11957, 12431,
12766, 13160, 13190,
13217, 13223, 13251,
13288, 13307, 13317,
13352, 13357, 13462,
13464, 13465, 13466,
13468, 13469, 13470,
13807

`\z@skip`
`\za`
`\zay`
`\ZWNJ`