

Hypertext marks in \LaTeX

Sebastian Rahtz

Email: `sebastian.rahtz@oucs.ox.ac.uk`

Heiko Oberdiek

Email: `oberdiek@uni-freiburg.de`

processed July 15, 2008

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 hyccheck.tex | 6 |
| 4 | Package options and setup | 9 |
| 4.1 | Save catcodes | 9 |
| 4.2 | Compatibility with format dumps | 11 |
| 4.3 | Switches | 11 |
| 5 | Common help macros | 13 |
| 5.1 | Macros for recursions | 13 |
| 5.2 | Babel's protection of shorthand characters | 13 |
| 5.3 | Coordinate transformations | 13 |
| 6 | Dealing with PDF strings | 15 |
| 6.1 | Description of PDF strings | 15 |
| 6.2 | Definition of <code>\pdfstringdef</code> | 15 |
| 6.2.1 | Preprocessing | 16 |
| 6.2.2 | Expansion | 20 |
| 6.2.3 | Postprocessing | 22 |
| 6.3 | Encodings | 25 |
| 6.3.1 | PD1 encoding | 25 |
| 6.3.2 | PU encoding | 26 |
| 6.4 | Additional user commands | 26 |
| 6.4.1 | <code>\texorpdfstring</code> | 26 |
| 6.4.2 | Hooks for <code>\pdfstringdef</code> | 26 |
| 6.5 | Help macros for expansion | 27 |
| 6.5.1 | Babel languages | 27 |
| 6.5.2 | CJK bookmarks | 31 |
| 6.5.3 | <code>\@inmathwarn-Patch</code> | 33 |
| 6.5.4 | <code>\add@accent-Patch</code> | 34 |
| 6.5.5 | Unexpandable spaces | 34 |
| 6.5.6 | Marker for commands | 35 |
| 6.5.7 | <code>\hspace fix</code> | 35 |
| 6.5.8 | Fix for AMS classes | 35 |
| 6.5.9 | Reference commands | 35 |
| 6.5.10 | Redefining the defining commands | 38 |
| 6.5.11 | <code>\ifnextchar</code> | 39 |
| 6.5.12 | <code>\@protected@testoptifnextchar</code> | 39 |
| 6.6 | Help macros for postprocessing | 39 |
| 6.6.1 | Generic warning. | 39 |
| 6.6.2 | Protecting spaces | 40 |
| 6.6.3 | Remove grouping braces | 41 |
| 6.6.4 | Catcode check | 42 |
| 6.6.5 | Check for wrong glyphs | 45 |
| 6.6.6 | Replacing tokens | 46 |
| 6.6.7 | Support for package <code>xspace</code> | 46 |
| 6.6.8 | Converting to Unicode | 47 |
| 6.6.9 | Support for UTF-8 input encoding | 48 |

| | | |
|-----------|---|------------|
| 7 | Support of other packages | 51 |
| 7.1 | Class memoir | 51 |
| 7.2 | Package subfigure | 51 |
| 7.3 | Package xr and xr-hyper | 52 |
| 8 | Help macros for links | 53 |
| 9 | Options | 54 |
| 9.1 | Help macros | 54 |
| 9.2 | Defining the options | 56 |
| 10 | Options for different drivers | 60 |
| 11 | Options to add extra features | 62 |
| 12 | Language options | 64 |
| 13 | Options to change appearance of links | 70 |
| 14 | Bookmarking | 70 |
| 15 | PDF-specific options | 72 |
| 15.1 | PDF/A | 78 |
| 15.2 | Patch for babel's <code>\texttilde</code> | 79 |
| 15.3 | Patch for babel 3.8j | 79 |
| 15.3.1 | Driver loading | 81 |
| 15.3.2 | Bookmarks | 84 |
| 16 | User hypertext macros | 86 |
| 17 | Underlying basic hypertext macros | 89 |
| 18 | Compatibility with the <i>BT_EX2html</i> package | 92 |
| 19 | Forms creation | 92 |
| 19.1 | Field flags | 93 |
| 19.1.1 | Declarations of field flags | 95 |
| 19.1.2 | Set submit flags | 97 |
| 19.1.3 | Set annot flags in fields | 97 |
| 19.1.4 | Pushbutton field | 98 |
| 19.1.5 | Check box field | 98 |
| 19.1.6 | Radio button field | 98 |
| 19.1.7 | Text fields | 99 |
| 19.1.8 | Choice fields | 99 |
| 19.2 | Choice field | 100 |
| 19.3 | Forms | 102 |
| 20 | Setup | 107 |
| 21 | Low-level utility macros | 107 |
| 22 | Localized nullifying of package | 108 |
| 23 | Package nohyperref | 109 |

| | |
|--|------------|
| 24 The Mangling Of Aux and Toc Files | 110 |
| 25 Title strings | 111 |
| 26 Page numbers | 112 |
| 27 Every page | 112 |
| 27.1 PDF /PageLabels | 113 |
| 27.1.1 pdfTeX and VTeX | 116 |
| 27.1.2 pdfmarkbase, dvipdfm | 118 |
| 28 Automated L^AT_EX hypertext cross-references | 119 |
| 29 Package lastpage support | 122 |
| 30 Package ifthen support | 124 |
| 31 Package titlesec and titletoc support | 124 |
| 32 Package varioref support | 124 |
| 33 Package longtable support | 125 |
| 34 Equations | 125 |
| 35 Footnotes | 128 |
| 36 Float captions | 132 |
| 37 Bibliographic references | 134 |
| 37.1 Package harvard | 137 |
| 37.2 Package chicago | 139 |
| 38 Page numbers | 139 |
| 39 Table of contents | 140 |
| 40 New counters | 142 |
| 41 AMSL^AT_EX compatibility | 143 |
| 41.1 \@addtoreset and \numberwithin patches | 143 |
| 42 Included figures | 145 |
| 43 hyperindex entries | 145 |
| 44 Compatibility with foiltex | 147 |
| 45 Compatibility with seminar slide package | 147 |
| 46 Configuration files | 155 |
| 46.1 PS/PDF strings | 155 |
| 46.2 pdftex | 156 |
| 46.3 hypertext | 168 |
| 46.4 dviwindo | 171 |
| 46.5 dvipdfm dvi to PDF converter | 175 |

| | | |
|-----------|---|------------|
| 46.6 | VTeX typesetting system | 182 |
| 46.7 | Fix for Adobe bug number 466320 | 193 |
| 46.8 | Direct pdfmark support | 194 |
| 46.9 | Rokicki's dvips | 205 |
| 46.10 | VTeX's vtexpdfmark driver | 207 |
| 46.11 | Textures | 208 |
| 46.12 | dvipsone | 212 |
| 46.13 | TeX4ht | 215 |
| 47 | Driver-specific form support | 217 |
| 47.1 | pdfmarks | 217 |
| 47.2 | HyperTeX | 224 |
| 47.3 | TeX4ht | 225 |
| 47.4 | pdfTeX | 227 |
| 47.5 | dvipdfm | 233 |
| 47.6 | Common forms part | 240 |
| 48 | Bookmarks in the PDF file | 247 |
| 48.1 | Bookmarks | 247 |
| 49 | Compatibility with koma-script classes | 254 |
| 50 | Encoding definition files for encodings of PDF strings | 255 |
| 50.1 | PD1 encoding | 255 |
| 50.2 | PU encoding | 259 |
| 50.2.1 | Basic Latin | 259 |
| 50.2.2 | Latin-1 Supplement | 261 |
| 50.2.3 | Latin Extended-A | 263 |
| 50.2.4 | Latin Extended-B | 265 |
| 50.2.5 | Greek | 266 |
| 50.2.6 | Cyrillic | 267 |
| 50.2.7 | Symbols | 271 |
| 50.3 | PU encoding, additions for VnTeX | 272 |
| 50.4 | PU encoding, additions for Arabi | 275 |
| 51 | End of file hycheck.tex | 276 |
| 52 | Index | 277 |

3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```



```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

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

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 Compatibility with format dumps

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

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

```

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

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

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

```

5.1 Macros for recursions

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

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

Example (T_EX):

```

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

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

6.1 Description of PDF strings

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

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

| | |
|---------------------------------|--------------------------------------|
| <code>\\</code> | the backslash itself |
| <code>\), \((</code> | unbalanced parentheses |
| <code>\n, \r, \t, \b, \f</code> | special white space escape sequences |
| <code>\ddd</code> | octal character code <i>ddd</i> |
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISOLatin1` and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

The central macro for dealing with PDF strings is `\pdfstringdef`. It defines a command `#1` to be the result of the conversion from the string in `#2` to a legal `PDFDocEncoded` string. Currently the definition is global, but this can be changed in the future.

Important: In $\text{T}_{\text{E}}\text{X}$'s view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a $\text{T}_{\text{E}}\text{X}$ interpreter!

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

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

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by $\text{T}_{\text{E}}\text{X}$, because the tokens have only catcodes 10 until 12.

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

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

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

```
382 \begingroup
```

6.2.1 Preprocessing

Octal escape sequences. To avoid problems with eight bit or non printable characters, the octal escape notation is supported. So most glyphs in the encoding definitions for PD1 and PU produce these octal escape sequences. All three octal digits have to be used:

- Wrong results are avoided, if digits follow that are not part of the octal sequence.
- Macros rely on the fact that the octal sequences always consist of three digits (vtex driver, Unicode support).

The escape sequences start with a backslash. By `\string` it will be printed. Therefore it is ensured that the \TeX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard \LaTeX behaviour.

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

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

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

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

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

```
387 \edef\3{\string\3}%
```

Setting font encoding. The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

```
388 \ifHy@unicode
```

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

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

```
391 \fontencoding{PU}%
```

```
392 \HyPsd@UTFviii
```

```
393 \else
```

```
394 \fontencoding{PD1}%
```

```
395 \fi
```

```
396 \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).

```
397 \@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).

```
398 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
399 \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.

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

```
412 \def\\{\pdfstringdefWarn\\}%
413 \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.

```
414 \def\TeX{\TeX}%
415 \def\LaTeX{La\TeX}%
416 \def\LaTeXe{LaTeX2e}%
417 \def\eTeX{e-\TeX}%
418 \def\SliTeX{Sli\TeX}%
419 \def\MF{Metafont}%
420 \def\MP{Metapost}%
```

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

```

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

```

Package color.

```

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

```

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

```

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

```

Disable \cyr, used in russianb.ldf.

```

463 \let\cyr\relax

```

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

```

464 \let\es@roman\@Roman

```

Package german.

```

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

473 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

474 \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.

```

475 \let\hspace\HyPsd@hspace

```

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

```

476 \let\label\@gobble
477 \let\index\@gobble
478 \let\glossary\@gobble
479 \let\href\@secondoftwo
480 \let\mkboth\@gobbletwo

```

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

```

481 \let\ref\HyPsd@ref
482 \let\pageref\HyPsd@pageref
483 \let\nameref\HyPsd@nameref
484 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

485 \let\leavevmode\@empty
486 \let\mbox\@empty

```

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

```

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

```

Patch for cjk bookmarks.

```

488 \ifHy@CJKbookmarks
489 \HyPsd@CJKhook
490 \fi

```

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

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

```
491 \Hy@pdfstringtrue
492 \pdfstringdefPreHook
```

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

```
493 \HyPsd@LetUnexpandableSpace\space
494 \HyPsd@LetUnexpandableSpace\ %
495 \HyPsd@LetUnexpandableSpace~%
496 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

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

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

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

A mimicry of `\@ifnextchar` only with 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:

```
506 \let\@ifnextchar\HyPsd@ifnextchar
507 \let\@ifnextchar\HyPsd@new@ifnextchar
508 \let\@protected@testopt\HyPsd@protected@testopt
```

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

`\protected@edef`: The weakest form isn't usable, because it does not expand the font encoding commands. They are made robust and protect themselves.

`\csname`: First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage*

that stomach tokens that aren't allowed in PDF strings are detected by \TeX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. \TeX provides no way to catch the error caused by `\csname` or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

`\edef` This version uses this standard form for expansion. It is stronger than \LaTeX 's `\protected@edef`. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of \LaTeX doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \TeX , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

Generic messages. While expanding via `\xdef` the `\Generic...` messages don't work and causes problems (error messages, invalid .out file). So they are disabled while expanding and removed silently, because a user warning would be too expensive (memory and runtime, `\pdfstringdef` is slow enough).

```
509    \begingroup
510    \let\GenericError\@gobblefour
511    \let\GenericWarning\@gobbletwo
512    \let\GenericInfo\@gobbletwo
```

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

```
513    \ifx\nofrenchguillemets\@undefined
514    \else
515    \nofrenchguillemets
516    \fi
```

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

```
517    \let\Hy@temp\xdef
518    \let\def\HyPsd@DefCommand
519    \let\gdef\HyPsd@DefCommand
520    \let\edef\HyPsd@DefCommand
521    \let\xdef\HyPsd@DefCommand
522    \let\futurelet\HyPsd@LetCommand
523    \let\let\HyPsd@LetCommand
524    \Hy@temp#1{#2}%
525    \endgroup
```

6.2.3 Postprocessing

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

```
526 \ifx#1\@empty
527 \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 take the following item into account, that makes things a little more complicate:

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

```
528 \HyPsd@ProtectSpaces#1%
529 \let\HyPsd@String\@empty
530 \expandafter\HyPsd@RemoveBraces\expandafter{#1}%
531 \global\let#1\HyPsd@String
```

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

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

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

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

```
532 \let\HyPsd@SPACEOPTI\relax
533 {%
534 \let\HyPsd@String\@empty
535 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
536 \global\let#1\HyPsd@String
537 }%
538 \expandafter\HyPsd@RemoveMask\expandafter
539 |\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.

```
540 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
541 \let\HyPsd@String\@empty
542 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
543 \global\let#1\HyPsd@String
```

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

```
544 \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.

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

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

```

567      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
568      \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`.

```

569      \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
570      \@ifundefined{xspace}{%
571      }{%
572      \let\HyPsd@xspace\relax
573      \expandafter\HyPsd@Subst\expandafter
574      {\HyPsd@XSPACE}\HyPsd@xspace#1%
575      \let\HyPsd@xspace\HyPsd@doxspace
576      }%
577      \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.

```

578 %      \HyPsd@Subst{---}\textemdash#1%
579 %      \HyPsd@Subst{--}\textendash#1%
580 %      \HyPsd@Subst{fi}\textfi#1%
581 %      \HyPsd@Subst{fl}\textfl#1%
582 %      \HyPsd@Subst{!'}\texttexclamdown#1%
583 %      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

584      \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.

```

585      \ifHy@unicode
586      \HyPsd@StringSubst{\textparenleft#1%
587      \HyPsd@Subst{\textparenleft#1%
588      \else
589      \HyPsd@StringSubst{\(\050}#1%
590      \HyPsd@Subst{\050}#1%
591      \HyPsd@StringSubst{\050}{\string\)}#1%

```



```
592 \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.

```
593 \ifHy@unicode
594 \edef\HyPsd@SPACEOPTI{\80\040}%
595 \else
596 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
597 \fi
598 \xdef#1{#1\@empty}%
599 \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.

```
600 \endgroup
601 \begingroup
602 \ifHy@unicode
603 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
604 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
605 \ifundefined{StringEncodingConvertTest}{%
606 }{%
607 \EdefUnescapeString\HyPsd@temp#1%
608 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
609 {utf16be}{pdfdoc}{%
610 \EdefEscapeString\HyPsd@temp\HyPsd@temp
611 \global\let#1\HyPsd@temp
612 \Hy@unicodedefalse
613 }{}%
614 }%
615 \fi
616 \fi
```

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

```
617 \pdfstringdefPostHook#1%
618 \endgroup
619 }
```

```
\Hy@pdfstringdef
```

```
620 \def\Hy@pdfstringdef#1#2{%
621 \pdfstringdef\Hy@gtemp{#2}%
622 \let#1\Hy@gtemp
623 }
```

6.3 Encodings

6.3.1 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for inter-

preting 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.

```
624 \ifundefined{T@PD1}{\input{pd1enc.def}}{}
625 \DeclareFontFamily{PD1}{pdf}{}
626 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
627 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.2 PU encoding

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

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

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

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.

```
635 \newcommand*{\texorpdfstring}{%
636   \ifHy@pdfstring
637     \expandafter\@secondoftwo
638   \else
639     \expandafter\@firstoftwo
640   \fi
641 }
```

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`.

```
642 \ifundefined{pdfstringdefPreHook}{%
643   \let\pdfstringdefPreHook\empty
644 }{}
645 \ifundefined{pdfstringdefPostHook}{%
646   \let\pdfstringdefPostHook\@gobble
647 }{}
```

`\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`.

```
648 \def\pdfstringdefDisableCommands{%
649   \begingroup
650     \makeatletter
651     \HyPsd@DisableCommands
652 }
```

`\HyPsd@DisableCommands`

```
653 \long\def\HyPsd@DisableCommands#1{%
654   \toks0=\expandafter{\pdfstringdefPreHook}%
655   \toks1={#1}%
656   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
657   \endgroup
658 }
```

`\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`.

```
659 \def\pdfstringdefWarn#1{%
660   \expandafter\noexpand\csname<>-string#1\endcsname
661 }
```

6.5 Help macros for expansion

6.5.1 Babel languages

```
662 \newif\ifHy@next
```

Nothing to do for english.

```
663 \@ifundefined{danish@sh@"@sel}{-}{-}%
664 \def\HyPsd@babel@danish{%
665   \declare@shorthand{danish}{|}{-}%
666   \declare@shorthand{danish}{~}{-}%
667 }%
668 }
669 \@ifundefined{dutch@sh@"@sel}{-}{-}%
670 \def\HyPsd@babel@dutch{%
```

```

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

```

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

```

720 \@ifundefined{spanish@sh@sel}{}{}%
721 \def\HyPsd@babel@spanish{%
722 \declare@shorthand{spanish}{<<}{\guillemotleft}%
723 \declare@shorthand{spanish}{>>}{\guillemotright}%
724 \declare@shorthand{spanish}{=}{-}%
725 \declare@shorthand{spanish}{"}{}%
726 \declare@shorthand{spanish}{!}{\textexclamdown}%

```

```

727 \declare@shorthand{spanish}{"}{\textquestiondown}%
728 }%
729 }
730 \@ifundefined{swedish@sh@"@sel}{}{%
731 \def\HyPsd@babel@swedish{%
732 \declare@shorthand{swedish}{"}{}%
733 \declare@shorthand{swedish}{"}{-}%
734 }%
735 }
736 \@ifundefined{ukrainian@sh@"@sel}{}{%
737 \def\HyPsd@babel@ukrainian{%
738 \declare@shorthand{ukrainian}{"}{}%
739 \declare@shorthand{ukrainian}{"}{-}%
740 }%
741 }
742 \@ifundefined{usorbian@sh@"@sel}{}{%
743 \def\HyPsd@babel@usorbian{%
744 \declare@shorthand{usorbian}{f}{f}%
745 \declare@shorthand{usorbian}{"}{}%
746 }%
747 }
748 \@ifundefined{greek@sh@\string~@sel}{%
749 \let\HyPsd@GreekPatch\@empty
750 }{%
751 \def\HyPsd@GreekPatch{%
752 \let\greeknumeral\HyPsd@greeknumeral
753 \let\Greeknnumeral\HyPsd@Greeknnumeral
754 }%
755 }
756 \def\HyPsd@greeknumeral#1{%
757 \HyPsd@GreekNum\@firstoftwo{#1}%
758 }
759 \def\HyPsd@Greeknnumeral#1{%
760 \HyPsd@GreekNum\@secondoftwo{#1}%
761 }
762 \def\HyPsd@GreekNum#1#2{%
763 \ifHy@unicode
764 \ifnum#2<\@one
765 \@arabic{#2}%
766 \else
767 \ifnum#2<1000000 %
768 \HyPsd@@GreekNum#1{#2}%
769 \else
770 \@arabic{#2}%
771 \fi
772 \fi
773 \else
774 \@arabic{#2}%
775 \fi
776 }
777 \def\HyPsd@@GreekNum#1#2{%
778 \ifnum#2<\@m
779 \ifnum#2<10 %
780 \expandafter\HyPsd@GreekNumI
781 \expandafter\@gobble\expandafter#1\number#2%
782 \else
783 \ifnum#2<100 %

```

```

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

```

```

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

```

6.5.2 CJK bookmarks

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

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

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

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

```

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

```

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

```

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

```

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

```

925 \def\HyPsd@DecimalToOctal#1{%
926   \ifcase #1 %
927     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
928     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
929     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
930     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
931     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
932     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
933     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
934     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
935     \or @\or A\or B\or C\or D\or E\or F\or G%
936     \or H\or I\or J\or K\or L\or M\or N\or O%
937     \or P\or Q\or R\or S\or T\or U\or V\or W%

```



```

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

```

6.5.3 \@inmathwarn-Patch

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

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

```

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

```

```

\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}

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

```

6.5.4 \add@accent-Patch

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

```

\HyPsd@add@accent
977 \def\HyPsd@add@accent#1#2{%
978   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
979   #2%
980 }%

```

6.5.5 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

981 \def\HyPsd@LetUnexpandableSpace#1{%
982   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
983 }

```

\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.

```

984 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

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

```
985 \edef\HyPsd@XSPACE{\string#\string X}
986 \edef\HyPsd@ITALCORR{\string#\string I}
987 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.7 `\hspace` fix

`\HyPsd@hspace`

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

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

```
989 \def\HyPsd@@hspace#1*#2\END{%
990   \ifx\#2\%
991     \HyPsd@hspacetest{#1}%
992   \else
993     \expandafter\HyPsd@hspacetest
994   \fi
995 }
```

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

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

6.5.8 Fix for AMS classes

```
997 \@ifundefined{tocsection}{%
998   \let\HyPsd@AMSclassfix\relax
999 }{%
1000   \def\HyPsd@AMSclassfix{%
1001     \let\tocpart\HyPsd@tocsection
1002     \let\tocchapter\HyPsd@tocsection
1003     \let\tocappendix\HyPsd@tocsection
1004     \let\tocsection\HyPsd@tocsection
1005     \let\tocsubsection\HyPsd@tocsection
1006     \let\tocsubsubsection\HyPsd@tocsection
1007     \let\tocparagraph\HyPsd@tocsection
1008   }%
1009   \def\HyPsd@tocsection#1#2#3{%
1010     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1011     #3%
1012   }%
1013 }
```

6.5.9 Reference commands

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

```
1014 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1015 \def\HyPsd@@ref#1*#2\END{%
```

```

1016 \ifx\#2\%
1017 \HyPsd@@@ref{#1}%
1018 \else
1019 \expandafter\HyPsd@@@ref
1020 \fi
1021 }%

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

1022 \def\HyPsd@@@ref#1{%
1023 \expandafter\ifx\csname r@#1\endcsname\relax
1024 ??%
1025 \else
1026 \expandafter\expandafter\expandafter
1027 \@car\csname r@#1\endcsname\@nil
1028 \fi
1029 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1030 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

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

1031 \def\HyPsd@@pageref#1*#2END{%
1032 \ifx\#2\%
1033 \HyPsd@@@pageref{#1}%
1034 \else
1035 \expandafter\HyPsd@@@pageref
1036 \fi
1037 }

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

1038 \def\HyPsd@@@pageref#1{%
1039 \expandafter\ifx\csname r@#1\endcsname\relax
1040 ??%
1041 \else
1042 \expandafter\expandafter\expandafter\expandafter
1043 \expandafter\expandafter\expandafter\@car
1044 \expandafter\expandafter\expandafter\@gobble
1045 \csname r@#1\endcsname{}\@nil
1046 \fi
1047 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1048 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

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

1049 \def\HyPsd@@nameref#1*#2END{%
1050 \ifx\#2\%
1051 \HyPsd@@@nameref{#1}%
1052 \else
1053 \expandafter\HyPsd@@@nameref
1054 \fi
1055 }

```

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

```

1056 \def\HyPsd@@@nameref#1{%
1057   \expandafter\ifx\csname r@#1\endcsname\relax
1058     ??%
1059   \else
1060     \expandafter\expandafter\expandafter\expandafter
1061     \expandafter\expandafter\expandafter\@car
1062     \expandafter\expandafter\expandafter\@gobbletwo
1063     \csname r@#1\endcsname\}\}\@nil
1064   \fi
1065 }

```

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

```

1066 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1067 \def\HyPsd@@autoref#1*#2\END{%
1068   \ifx\#2\%
1069     \HyPsd@@@autoref{#1}%
1070   \else
1071     \expandafter\HyPsd@@@autoref
1072   \fi
1073 }

```

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

```

1074 \def\HyPsd@@@autoref#1{%
1075   \expandafter\ifx\csname r@#1\endcsname\relax
1076     ??%
1077   \else
1078     \expandafter\expandafter\expandafter\HyPsd@autorefname
1079     \csname r@#1\endcsname\}\}\}\@nil
1080     \expandafter\expandafter\expandafter
1081     \@car\csname r@#1\endcsname\@nil
1082   \fi
1083 }

```

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

```

1084 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1085   \ifx\#4\%
1086   \else
1087     \HyPsd@@autorefname#4.\@nil
1088   \fi
1089 }

```

`\HyPsd@@autorefname`

```

1090 \def\HyPsd@@autorefname#1.#2\@nil{%
1091   \@ifundefined{#1autorefname}\%
1092   \@ifundefined{#1name}\%
1093   }\%
1094   \csname#1name\endcsname\space
1095   }\%
1096   }\%
1097   \csname#1autorefname\endcsname\space
1098   }\%
1099 }

```

6.5.10 Redefining the defining commands

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

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

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

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

The difference between `\HyPsd@DefCommand` and `\HyPsd@LetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand
1100 \begingroup
1101   \def\x#1#2{%
1102     \endgroup
1103     \let#1\def
1104     \def\HyPsd@DefCommand##1##2##{%
1105       #1%
1106       \expandafter\noexpand
1107       \csname\expandafter\@gobble\string##1\@empty\endcsname
1108       \@gobble
1109     }%
1110     \let#2\let
1111     \def\HyPsd@@LetCommand##1{%
1112       \expandafter\ifx\csname##1\expandafter\endcsname
1113         \csname iftrue\endcsname
1114       \pdfstringdefWarn\let
1115       \expandafter\@gobble
1116     \else
1117       \expandafter\ifx\csname##1\expandafter\endcsname
1118         \csname iffalse\endcsname
1119       \pdfstringdefWarn\let
1120       \expandafter\expandafter\expandafter\@gobble
1121     \else
1122       #2%
1123       \expandafter\noexpand
1124       \csname##1\expandafter\expandafter\expandafter\endcsname
```

```

1125      \fi
1126      \fi
1127    }%
1128  }%
1129 \expandafter\x\csname <def>-command\expandafter\endcsname
1130      \csname <let>-command\endcsname
1131 \def\HyPsd@LetCommand#1{%
1132   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1133   \expandafter\expandafter\expandafter{%
1134     \expandafter\@gobble\string#1\@empty
1135   }%
1136 }

```

6.5.11 \ifnextchar

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

```

1137 \def\HyPsd@ifnextchar{%
1138   \pdfstringdefWarn\@ifnextchar
1139   \expandafter\@gobbletwo\@gobble
1140 }

```

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

```

1141 \def\HyPsd@new@ifnextchar{%
1142   \pdfstringdefWarn\new@ifnextchar
1143   \expandafter\@gobbletwo\@gobble
1144 }

```

6.5.12 \@protected@testoptifnextchar

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

```

1145 \def\HyPsd@protected@testopt#1{%
1146   \pdfstringdefWarn#1%
1147   \@gobbletwo
1148 }

```

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:

```

1149 \def\HyPsd@Warning#1{%
1150   \begingroup
1151     \def\space{ }%
1152     \Hy@Warning{#1}%
1153   \endgroup
1154 }

```

6.6.2 Protecting spaces

```

1155 \RequirePackage{etexcmds}[2007/09/09]
1156 \ifetex@unexpanded
1157   \expandafter\@secondoftwo
1158 \else
1159   \expandafter\@firstoftwo
1160 \fi
1161 {%

```

`\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`.

```

1162   \def\HyPsd@ProtectSpaces#1{%
1163     \iftrue
1164       \expandafter\HyPsd@@ProtectSpacesFi
1165       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1166     \fi
1167   }%

```

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

```

1168   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1169     \fi
1170     \ifx\scrollmode#2\scrollmode
1171       \HyPsd@RemoveMask#1\HyPsd@End#3%
1172     \else
1173       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1174       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1175     \fi
1176   }%

```

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.

```

1177   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1178     \toks@\expandafter{#1}%
1179     \xdef#2{\the\toks@}%
1180   }%

1181 }{%
1182   \let\HyPsd@fi\fi
1183   \def\HyPsd@ProtectSpaces#1{%
1184     \xdef#1{%
1185       \iftrue
1186         \expandafter\HyPsd@@ProtectSpacesFi
1187         \expandafter|\expandafter\@empty#1| %
1188       \HyPsd@fi
1189     }%
1190     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1191   }%
1192   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1193     \fi
1194     \etex@unexpanded{#1}%
1195     \ifx\scrollmode#2\scrollmode
1196     \else
1197       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```



```

1198 \HyPsd@fi
1199 }%
1200 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1201 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1202 }%
1203 }

```

6.6.3 Remove grouping braces

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

```

1204 \def\HyPsd@RemoveBraces#1{%
1205 \ifx\scrollmode#1\scrollmode
1206 \else
1207 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1208 \fi
1209 }

```

`\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`.

```

1210 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1211 \fi
1212 \def\Hy@temp@A{#1#2}%
1213 \def\Hy@temp@B{#3}%
1214 \ifx\Hy@temp@A\Hy@temp@B
1215 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1216 \HyPsd@String#1%
1217 }%
1218 \ifx\scrollmode#2\scrollmode
1219 \else
1220 \Hy@ReturnAfterFiFiEnd{%
1221 \HyPsd@RemoveBraces{#2}%
1222 }%
1223 \fi
1224 \else
1225 \def\Hy@temp@A{#1}%
1226 \HyPsd@AppendItalcorr\HyPsd@String
1227 \ifx\Hy@temp@A\empty
1228 \Hy@ReturnAfterElseFiFiEnd{%
1229 \HyPsd@RemoveBraces{#2}%
1230 }%
1231 \else
1232 \HyPsd@ProtectSpaces\Hy@temp@A
1233 \HyPsd@AppendItalcorr\Hy@temp@A
1234 \Hy@ReturnAfterFiFiEnd{%
1235 \expandafter\HyPsd@RemoveBraces\expandafter
1236 {\Hy@temp@A#2}%
1237 }%
1238 \fi
1239 \fi

```

```

1240 \Hy@ReturnEnd
1241 }

```

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

```

1242 \def\HyPsd@AppendItalcorr#1{%
1243 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1244 }
1245 \def\HyPsd@@AppendItalcorr#1#2{%
1246 \expandafter\def\expandafter#2\expandafter{#2#1}%
1247 }

```

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).

```

1248 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1249 \global\let\HyPsd@Rest\relax
1250 \ifcat\relax\noexpand#1\relax
1251 \ifx#1\protect
1252 \else
1253 \ifx#1\penalty
1254 \setbox\z@=\hbox{%
1255 \afterassignment\HyPsd@AfterCountRemove
1256 \count@=#2\HyPsd@End
1257 }%
1258 \else
1259 \ifx#1\kern
1260 \setbox\z@=\hbox{%
1261 \afterassignment\HyPsd@AfterDimenRemove
1262 \dimen@=#2\HyPsd@End
1263 }%
1264 \else
1265 \ifx#1\hskip
1266 \setbox\z@=\hbox{%
1267 \afterassignment\HyPsd@AfterSkipRemove
1268 \skip@=#2\HyPsd@End
1269 }%
1270 \else
1271 \HyPsd@CatcodeWarning{#1}%
1272 \fi
1273 \fi
1274 \fi
1275 \fi
1276 \else
1277 \ifcat#1A% letter
1278 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1279     \HyPsd@String#1%
1280   }%
1281   \else
1282     \ifcat#1 % SPACE
1283       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1284         \HyPsd@String\HyPsd@SPACEOPTI
1285       }%
1286   \else
1287     \ifcat$#1%
1288       \HyPsd@CatcodeWarning{math shift}%
1289   \else
1290     \ifcat&#1%
1291       \HyPsd@CatcodeWarning{alignment tab}%
1292   \else
1293     \ifcat^#1%
1294       \HyPsd@CatcodeWarning{superscript}%
1295   \else
1296     \ifcat_#1%
1297       \HyPsd@CatcodeWarning{subscript}%
1298   \else
1299     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1300       \HyPsd@String#1%
1301     }%
1302   \fi
1303 \fi
1304 \fi
1305 \fi
1306 \fi
1307 \fi
1308 \fi
1309 \ifx\HyPsd@Rest\relax
1310   \ifx\scrollmode#2\scrollmode
1311   \else
1312     \Hy@ReturnAfterFiFiEnd{%
1313       \HyPsd@CheckCatcodes#2\HyPsd@End
1314     }%
1315   \fi
1316 \else
1317   \ifx\HyPsd@Rest\@empty
1318   \else
1319     \Hy@ReturnAfterFiFiEnd{%
1320       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1321     }%
1322   \fi
1323 \fi
1324 \Hy@ReturnEnd
1325 }

```

Remove counts, dimens, skips.

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

```

1326 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1327   \gdef\HyPsd@Rest{#1}%
1328 }

```

\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.

```

1329 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1330   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1331     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1332     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1333   \else
1334     \ifdim\dimen@=\z@
1335     \else
1336       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1337     \fi
1338     \gdef\HyPsd@Rest{#1}%
1339   \fi
1340 }

```

`\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).

```

1341 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1342   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1343     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1344     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1345   \else
1346     \ifdim\skip@=\z@
1347     \else
1348       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1349     \fi
1350     \gdef\HyPsd@Rest{#1}%
1351   \fi
1352 }

```

Catcode warnings.

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

```

1353 \def\HyPsd@CatcodeWarning#1{%
1354   \HyPsd@Warning{%
1355     Token not allowed in a PDF string (%
1356     \ifHy@unicode
1357       Unicode%
1358     \else
1359       PDFDocEncoding%
1360     \fi
1361     ),%
1362     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1363   }%
1364 }
1365 \begingroup
1366   \catcode‘\|=0 %
1367   \catcode‘\|=12 %
1368   \gdef\HyPsd@RemoveCmdPrefix#1{%
1369     \expandafter\HyPsd@@RemoveCmdPrefix
1370     \string#1\@empty\<>-|\@empty|\@empty
1371   }%
1372   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1373 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1374 \def\HyPsd@RemoveSpaceWarning#1{%
1375   \HyPsd@Warning{%
1376     Token not allowed in a PDFDocEncoded string:%
1377     \MessageBreak #1\MessageBreak
1378     removed%
1379   }%
1380 }

```

\HyPsd@ReplaceSpaceWarning

```

1381 \def\HyPsd@ReplaceSpaceWarning#1{%
1382   \HyPsd@Warning{%
1383     Token not allowed in a PDFDocEncoded string:%
1384     \MessageBreak #1\MessageBreak
1385     replaced by space%
1386   }%
1387 }

```

6.6.5 Check for wrong glyphs

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

```

1388 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1389   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1390     \HyPsd@String#1%
1391   }%
1392   \ifx\#2\%
1393   \else
1394     \Hy@ReturnAfterFi{%
1395       \HyPsd@GlyphProcessWarning#2\@empty
1396     }%
1397   \fi
1398 }
1399 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1400   \HyPsd@Warning{%
1401     Glyph not defined in %
1402     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1403     removing '@backslashchar#1'%
1404   }%
1405   \HyPsd@GlyphProcess#2\@empty
1406 }

```

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 a protected space \040.

```

1407 \def\HyPsd@spaceopti#1{ % first space
1408   \ifx\HyPsd@spaceopti#1%
1409     \040%
1410   \else
1411     #1%
1412   \fi
1413 }%

```

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.

```

1414 \def\HyPsd@Subst#1#2#3{%
1415   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1416     \fi
1417     ##1%
1418     \ifx\scrollmode##2\scrollmode
1419     \else
1420       #2%
1421     \HyPsd@@ReplaceFi##2\END
1422     \fi
1423   }%
1424   \xdef#3{%
1425     \iftrue
1426       \expandafter\HyPsd@@ReplaceFi#3#1\END
1427     \fi
1428   }%
1429 }
```

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

```

1430 \def\HyPsd@StringSubst#1{%
1431   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1432 }
```

6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in \TeX 's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused `\@xspace`, but this version is shorter and easier to understand.

```

1433 \def\HyPsd@doxspace#1{%
1434   \ifx#1\relax\else
1435     \ifx#1.\else
1436       \ifx#1:\else
1437         \ifx#1,\else
1438         \ifx#1;\else
1439         \ifx#1!\else
1440         \ifx#1?\else
1441         \ifx#1/\else
1442         \ifx#1-\else
1443         \ifx#1'\else
1444           \HyPsd@SPACEOPTI
1445         \fi
1446       \fi
1447     \fi
1448   \fi
1449   \fi
1450   \fi
1451   \fi
1452   \fi
1453   \fi
```

```

1454 \fi
1455 #1%
1456 }%

```

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.

```

1457 \beginngroup
1458 \catcode'\|=0 %
1459 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1460 |gdef|HyPsd@ConvertToUnicode#1{%
1461   |xdef#1{%
1462     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1463   }%
1464   |ifx#1|@empty
1465   |else
1466     |xdef#1{%
1467       \376\377%
1468       #1%
1469     }%
1470   |fi
1471 }%

```

\HyPsd@DoConvert

```

1472 |gdef|HyPsd@DoConvert#1{%
1473   |ifx#1|@empty
1474   |else
1475     |Hy@ReturnAfterFi{%
1476       |ifx#1\%%
1477       \%%
1478       |expandafter|HyPsd@DoEscape
1479     |else
1480       \000#1%
1481       |expandafter|HyPsd@DoConvert
1482     |fi
1483   }%
1484   |fi
1485 }%

```

\HyPsd@DoEscape

```

1486 |gdef|HyPsd@DoEscape#1{%
1487   |ifx#19%
1488   |expandafter|HyPsd@GetTwoBytes
1489   |else
1490     |Hy@ReturnAfterFi{%
1491       |ifx#18%
1492       00%
1493       |expandafter|HyPsd@GetTwoBytes
1494     |else
1495       #1%
1496       |expandafter|HyPsd@GetOneByte
1497     |fi

```

```

1498     }%
1499     |fi
1500 }%

```

`\HyPsd@GetTwoBytes`

```

1501 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1502     #1\#2#3#4%
1503     |HyPsd@DoConvert
1504 }%

```

`\HyPsd@GetOneByte`

```

1505 |gdef|HyPsd@GetOneByte#1#2{%
1506     #1#2%
1507     |HyPsd@DoConvert
1508 }%
1509 |endgroup

```

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

```

1510 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1511     \xdef#4{#4#1#2}%
1512     \HyPsd@@ConvertToUnicode#3\END#4%
1513 }

```

6.6.9 Support for UTF-8 input encoding

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

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

```

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

```

```

1514 \begingroup\expandafter\expandafter\expandafter\endgroup
1515 \expandafter\ifx\csname numexpr\endcsname\relax
1516     \let\HyPsd@UTFviii\relax
1517 \else
1518     \begingroup
1519     \lccode'\~='^f4\relax
1520     \lowercase{\endgroup
1521     \def\HyPsd@UTFviii{%
1522         \let\UTFviii@two@octets\HyPsd@UTFviii@two
1523         \let\UTFviii@three@octets\HyPsd@UTFviii@three
1524         \let\UTFviii@four@octets\HyPsd@UTFviii@four
1525         \ifx~\HyPsd@UTFviii@ccxliv@undef
1526             \let~\HyPsd@UTFviii@ccxliv@def
1527         \fi
1528         \let\unichar\HyPsd@unichar
1529     }%
1530 }%
1531 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1532 \edef\HyPsd@UTFviii@ccxliv@def{%
1533     \noexpand\UTFviii@four@octets\string ~^f4%
1534 }%

```


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.

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

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

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

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

$$(5)$$

```

1535 \def\HyPsd@UTFviii@two#1#2{%
1536   \expandafter\HyPsd@UTFviii@two
1537   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1538   \number'#1\expandafter|
1539   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1540   \number'#2 \@nil
1541 }%
1542 \def\HyPsd@UTFviii@two#1#2#3#4\@nil{%
1543   \expandafter\8%
1544   \number\numexpr #1-48\expandafter\relax
1545   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1546   \number\numexpr #3-8*%
1547   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1548   \number\numexpr #4-8*#3\relax
1549 }%
```

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

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

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

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

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

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

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

$$(12)$$

```

1550 \def\HyPsd@UTFviii@three#1#2#3{%
1551   \expandafter\HyPsd@UTFviii@three
1552   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1553   \number'#1\expandafter|
1554   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1555   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1556   \number'#2\expandafter|
1557   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1558   \number'#3 \@nil
1559 }%
1560 \def\HyPsd@UTFviii@three#1#2#3#4#5#6#7\@nil{%
1561   \expandafter\9%
1562   \number\numexpr #1-56\expandafter\relax
1563   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1564   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1565   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1566   \number\numexpr #6-16\expandafter\relax
1567   \number\numexpr #7-8*#6\relax
1568 }%
```

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

```
UTF-8:  11110uuu    10uuzzzz    10yyyyyy    10xxxxxx
www =  uuuu - 1
UTF-16: 110110ww    wwzzzzyy    110111yy    yyxxxxxx
octal:  011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx
```

```
1569 \def\HyPsd@UTFviii@four#1#2{%
1570   \expandafter\HyPsd@UTFviii@four\number
1571   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1572   \expandafter|\number
1573   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|%
1574 }%
1575 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1576   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1577   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1578   \ifodd#2 %
1579     \number\dimexpr(#2-1)/2\relax
1580   \else
1581     \number\dimexpr#2/2\relax
1582   \fi
1583   \number\dimexpr\ifodd#2 4+\fi
1584   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1585   \933%
1586   \expandafter\HyPsd@@@UTFviii@four\number
1587   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1588 }%
1589 \def\HyPsd@@@UTFviii@four#1|#2{%
1590   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1591   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1592   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1593   \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1594 }%
```

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

```
1595 \def\HyPsd@unichar#1{%
1596   \ifHy@unicode
1597     \ifnum#1>"10FFFF %
1598       \HyPsd@UnicodeReplacementCharacter % illegal
1599     \else
1600       \ifnum#1>"FFFF %
```

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

```
1601   \expandafter\HyPsd@unichar\expandafter{%
1602     \number\dimexpr 55296+%
1603     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1604     \relax\relax\relax
1605   }%
```

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

```
1606   \expandafter\HyPsd@unichar\expandafter{%
1607     \number\dimexpr#1-9216%
1608     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1609     \relax\relax\relax
1610   }%
1611   \else
1612     \ifnum#1>"7FF %
```

```

1613         \9%
1614         \expandafter\HyPsd@unichar@first@byte\expandafter{%
1615             \number
1616             \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1617         }%
1618     \else
1619         \8%
1620         \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1621     \fi
1622     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1623         \number
1624         \numexpr#1-256*\number
1625         \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1626     }%
1627 \fi
1628 \fi
1629 \else
1630     .% unsupported (Unicode -> PDF Doc Encoding)
1631 \fi
1632 }%
1633 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1634 \def\HyPsd@unichar@first@byte#1{%
1635     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1636     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1637         \number
1638         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1639         \relax\relax\relax
1640     }%
1641 }%
1642 \def\HyPsd@unichar@second@byte#1{%
1643     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1644     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1645         \number
1646         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1647         \relax\relax\relax
1648     }%
1649 }%
1650 \def\HyPsd@unichar@octtwo#1{%
1651     \number\dimexpr.125\dimexpr#1sp\relax\relax
1652     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1653     \relax\relax\relax
1654 }%
1655 \fi

```

7 Support of other packages

7.1 Class memoir

```

1656 \@ifclassloaded{memoir}{%
1657     \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1658 }{}

```

7.2 Package subfigure

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

```

1659 \@ifpackageloaded{subfigure}{%
1660     \@ifundefined{sub@label}{%

```



```

1708 \def\Acrobatmenu#1#2{\leavevmode#2}
1709 \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

```

1710 \let\HyperRaiseLinkHook\@empty
1711 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1712 \def\Hy@raisedlink#1{%
1713   \ifvmode
1714     #1%
1715   \else
1716     \penalty\@M
1717     \smash{%
1718       \begingroup
1719         \let\HyperRaiseLinkLength\@tempdima
1720         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1721         \HyperRaiseLinkHook
1722       \expandafter\endgroup
1723       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1724     }%
1725   \fi
1726 }

```

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

```

1727 \def\Hy@SaveLastskip{%
1728   \let\Hy@RestoreLastskip\relax
1729   \ifvmode
1730     \ifdim\lastskip=\z@
1731       \let\Hy@RestoreLastskip\nobreak
1732     \else
1733       \begingroup
1734         \skip@=-\lastskip
1735         \edef\x{%
1736           \endgroup
1737           \def\noexpand\Hy@RestoreLastskip{%
1738             \noexpand\ifvmode
1739               \noexpand\nobreak
1740               \vskip\the\skip@
1741               \vskip\the\lastskip\relax
1742             \noexpand\fi
1743           }%
1744         }%

```

```

1745     \x
1746     \fi
1747   \else
1748     \ifhmode
1749       \ifdim\lastskip=\z@
1750         \let\Hy@RestoreLastskip\nobreak
1751       \else
1752         \begingroup
1753           \skip@=-\lastskip
1754           \edef\x{%
1755             \endgroup
1756             \def\noexpand\Hy@RestoreLastskip{%
1757               \noexpand\ifhmode
1758                 \noexpand\nobreak
1759                 \hskip\the\skip@
1760                 \hskip\the\lastskip\relax
1761             \noexpand\fi
1762           }%
1763         }%
1764       \x
1765     \fi
1766   \fi
1767 \fi
1768 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1769 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1770 \def\Hy@boolkey[#1]#2#3{%
1771   \lowercase{\def\Hy@tempa{#3}}%
1772   \ifx\Hy@tempa\@empty
1773     \let\Hy@tempa\Hy@true
1774   \fi
1775   \ifx\Hy@tempa\Hy@true
1776   \else
1777     \ifx\Hy@tempa\Hy@false
1778     \else
1779       \let\Hy@tempa\relax
1780     \fi
1781   \fi
1782   \ifx\Hy@tempa\relax
1783     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1784   \else
1785     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1786     \csname Hy@#2\Hy@tempa\endcsname
1787   \fi
1788 }

```

\Hy@WarnOptionValue

```

1789 \def\Hy@WarnOptionValue#1#2#3{%
1790   \Hy@Warning{%
1791     Unexpected value ‘#1’\MessageBreak
1792     of option ‘#2’ instead of\MessageBreak

```

```

1793     #3%
1794 }%
1795 }

```

`\Hy@DisableOption`

```

1796 \def\Hy@DisableOption#1{%
1797   \@ifundefined{KV@Hyp@#1@default}{%
1798     \define@key{Hyp}{#1}%
1799   }{%
1800     \define@key{Hyp}{#1}[]%
1801   }%
1802   {\Hy@WarnOptionDisabled{#1}}%
1803 }

```

`\Hy@WarnOptionDisabled`

```

1804 \def\Hy@WarnOptionDisabled#1{%
1805   \Hy@Warning{%
1806     Option ‘#1’ has already been used,\MessageBreak
1807     setting the option has no effect%
1808   }%
1809 }

```

`\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.

```

1810 \def\Hy@CheckOptionValue#1#2#3{%
1811   \begingroup
1812     \edef\x{#1}%
1813     \@onelevel@sanitize\x
1814     \let\y=y%
1815     \def\do##1##2{%
1816       \def\z{##1}%
1817       \@onelevel@sanitize\z
1818       \ifx\x\z
1819         \let\y=n%
1820         \let\do\@gobbletwo
1821       \fi
1822     }%
1823     #3%
1824     \ifx\y y%
1825       \def\do##1##2{%
1826         * ‘##1’%
1827         \ifx\\##2\\else\space(##2)\fi
1828         \MessageBreak
1829       }%
1830       \Hy@Warning{%
1831         Values of option ‘#2’:\MessageBreak
1832         #3%
1833         * An empty value disables the option.\MessageBreak
1834         Unknown value ‘\x’%
1835       }%
1836     \fi
1837   \endgroup
1838 }

```

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

```

1839 \def\Hy@DefNameKey#1{%
1840   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1841 }

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

1842 \def\Hy@@DefNameKey#1#2#3{%
1843   \define@key{Hyp}{#2}{%
1844     \edef#1{##1}%
1845     \ifx#1\@empty
1846     \else
1847       \Hy@CheckOptionValue{##1}{#2}{#3}%
1848     \fi
1849   }%
1850   \let#1\@empty
1851 }

\Hy@UseNameKey

1852 \def\Hy@UseNameKey#1#2{%
1853   \ifx#2\@empty
1854   \else
1855     /#1/#2%
1856   \fi
1857 }

```

9.2 Defining the options

```

1858 \define@key{Hyp}{implicit}[true]{%
1859   \Hy@boolkey{implicit}{#1}%
1860 }
1861 \define@key{Hyp}{draft}[true]{%
1862   \Hy@boolkey{draft}{#1}%
1863 }
1864 \define@key{Hyp}{final}[true]{%
1865   \Hy@boolkey{final}{#1}%
1866 }
1867 \let\KV@Hyp@nolinks\KV@Hyp@draft
1868 \define@key{Hyp}{a4paper}[true]{%
1869   \def\special@paper{210mm,297mm}%
1870   \def\Hy@pageheight{842}%
1871 }
1872 \define@key{Hyp}{a5paper}[true]{%
1873   \def\special@paper{148mm,210mm}%
1874   \def\Hy@pageheight{595}%
1875 }
1876 \define@key{Hyp}{b5paper}[true]{%
1877   \def\special@paper{176mm,250mm}%
1878   \def\Hy@pageheight{709}%
1879 }
1880 \define@key{Hyp}{letterpaper}[true]{%
1881   \def\special@paper{8.5in,11in}%
1882   \def\Hy@pageheight{792}%
1883 }
1884 \define@key{Hyp}{legalpaper}[true]{%
1885   \def\special@paper{8.5in,14in}%
1886   \def\Hy@pageheight{1008}%

```



```

1887 }
1888 \define@key{Hyp}{executivepaper}[true]{%
1889   \def\special@paper{7.25in,10.5in}%
1890   \def\Hy@pageheight{720}%
1891 }
1892 \define@key{Hyp}{setpagesize}[true]{%
1893   \Hy@boolkey{setpagesize}{#1}%
1894 }
1895 \define@key{Hyp}{debug}[true]{%
1896   \Hy@boolkey[debug]{verbose}{#1}%
1897 }
1898 \define@key{Hyp}{linktocpage}[true]{%
1899   \Hy@boolkey{linktocpage}{#1}%
1900   \ifHy@linktocpage
1901     \let\Hy@linktoc\Hy@linktoc@page
1902   \else
1903     \let\Hy@linktoc\Hy@linktoc@section
1904   \fi
1905 }
1906 \chardef\Hy@linktoc@none=0 %
1907 \chardef\Hy@linktoc@section=1 %
1908 \chardef\Hy@linktoc@page=2 %
1909 \chardef\Hy@linktoc@all=3 %
1910 \ifHy@linktocpage
1911   \let\Hy@linktoc\Hy@linktoc@page
1912 \else
1913   \let\Hy@linktoc\Hy@linktoc@section
1914 \fi
1915 \define@key{Hyp}{linktoc}{%
1916   \@ifundefined{Hy@linktoc@#1}{%
1917     \Hy@Warning{%
1918       Unexpected value ‘#1’ of\MessageBreak
1919       option ‘linktoc’ instead of ‘none’,\MessageBreak
1920       ‘section’, ‘page’ or ‘all’%
1921     }%
1922   }{%
1923     \expandafter\let\expandafter\Hy@linktoc
1924       \csname Hy@linktoc@#1\endcsname
1925   }%
1926 }
1927 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1928 \let\XR@ext\relax
1929 \define@key{Hyp}{verbose}[true]{%
1930   \Hy@boolkey{verbose}{#1}%
1931 }
1932 \define@key{Hyp}{typexml}[true]{%
1933   \Hy@boolkey{typexml}{#1}%
1934 }

```

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.

```

1935 \define@key{Hyp}{raiselinks}[true]{%
1936   \Hy@boolkey{raiselinks}{#1}%
1937 }

```

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

```

1938 \def\Hy@setbreaklinks#1{%
1939   \csname breaklinks#1\endcsname
1940 }

1941 \def\Hy@breaklinks@unsupported{%
1942   \ifx\Hy@setbreaklinks\@gobble
1943     \ifHy@breaklinks
1944       \Hy@WarningNoLine{%
1945         You have enabled option 'breaklinks'.\MessageBreak
1946         But driver '\Hy@driver.def' does not support this.\MessageBreak
1947         Expect trouble with the link areas of broken links%
1948       }%
1949     \fi
1950   \fi
1951 }

1952 \define@key{Hyp}{breaklinks}[true]{%
1953   \Hy@boolkey{breaklinks}{#1}%
1954   \let\Hy@setbreaklinks\@gobble
1955 }

```

Determines whether an automatic anchor is put on each page

```

1956 \define@key{Hyp}{pageanchor}[true]{%
1957   \Hy@boolkey{pageanchor}{#1}%
1958 }

```

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.

```

1959 \define@key{Hyp}{plainpages}[true]{%
1960   \Hy@boolkey{plainpages}{#1}%
1961 }

```

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

```

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

```

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

```

1965 \define@key{Hyp}{hypertexnames}[true]{%
1966   \Hy@boolkey{hypertexnames}{#1}%
1967 }

```

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

```

1968 \define@key{Hyp}{nesting}[true]{%
1969   \Hy@boolkey{nesting}{#1}%
1970 }

```

```

1971 \define@key{Hyp}{unicode}[true]{%
1972   \Hy@boolkey{unicode}{#1}%
1973   \ifHy@unicode
1974     \def\HyPsd@pdfencoding{unicode}%
1975   \else
1976     \def\HyPsd@pdfencoding{pdfdoc}%
1977   \fi
1978   \HyPsd@LoadUnicode
1979 }

1980 \def\HyPsd@LoadUnicode{%
1981   \@ifundefined{T@PU}{\input{puenc.def}}{}%
1982   \DeclareFontFamily{PU}{pdf}{}%
1983   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%

```

```

1984 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
1985 \global\let\HyPsd@LoadUnicode\relax
1986 }
1987 \AtBeginDocument{%
1988 \ifx\HyPsd@LoadUnicode\relax
1989 \else
1990 \def\HyPsd@LoadUnicode{%
1991 \PackageError{hyperref}{%
1992 Unicode support for bookmarks is not available.\MessageBreak
1993 Activate unicode support by using one of the options\MessageBreak
1994 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
1995 in the preamble%
1996 } \@ehc
1997 \global\let\HyPsd@LoadUnicode\relax
1998 \global\Hy@unicodedefalse
1999 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2000 }%
2001 \fi
2002 }

2003 \define@key{Hyp}{pdfencoding}{%
2004 \edef\HyPsd@temp{#1}%
2005 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2006 \let\HyPsd@pdfencoding\HyPsd@temp
2007 \Hy@unicodedefalse
2008 \else
2009 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2010 \z@
2011 \else
2012 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2013 \z@
2014 \else
2015 \@ne
2016 \fi
2017 \fi
2018 \let\HyPsd@pdfencoding\HyPsd@temp
2019 \hypersetup{unicode}%
2020 \ifHy@unicode
2021 \def\HyPsd@pdfencoding{#1}%
2022 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2023 \HyPsd@LoadStringEncoding
2024 \fi
2025 \else
2026 \Hy@Warning{Cannot switch to unicode bookmarks}%
2027 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2028 \fi
2029 \else
2030 \@onelevel@sanitize\HyPsd@temp
2031 \Hy@Warning{%
2032 Values of option 'pdfencoding':\MessageBreak
2033 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2034 Ignoring unknown value '\HyPsd@temp'%
2035 }%
2036 \fi
2037 \fi
2038 }
2039 \def\HyPsd@pdfencoding@auto{auto}
2040 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}

```

```

2041 \def\HyPsd@pdfencoding@unicode{unicode}
2042 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2043 \def\HyPsd@LoadStringEnc{%
2044   \RequirePackage{stringenc}[2007/06/14]%
2045   \let\HyPsd@LoadStringEnc\relax
2046 }
2047 \AtBeginDocument{%
2048   \ifpackageloaded{stringenc}{%
2049     \let\HyPsd@LoadStringEnc\relax
2050   }{%
2051     \def\HyPsd@LoadStringEnc{%
2052       \Hy@WarningNoLine{%
2053         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2054         in the preamble or load the package there%
2055       }%
2056     }%
2057   }%
2058 }

2059 \newif\ifHy@setpdfversion
2060 \define@key{Hyp}{pdfversion}{%
2061   \ifundefined{Hy@pdfversion@#1}{%
2062     \PackageWarning{hyperref}{%
2063       Unsupported PDF version ‘#1’.\MessageBreak
2064       Valid values: 1.2 until 1.7%
2065     }%
2066   }{%
2067     \Hy@setpdfversiontrue
2068     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2069   }%
2070 }
2071 \@namedef{Hy@pdfversion@1.2}{2}%
2072 \@namedef{Hy@pdfversion@1.3}{3}%
2073 \@namedef{Hy@pdfversion@1.4}{4}%
2074 \@namedef{Hy@pdfversion@1.5}{5}%
2075 \@namedef{Hy@pdfversion@1.6}{6}%
2076 \@namedef{Hy@pdfversion@1.7}{7}%
2077 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2078 \define@key{Hyp}{hyperref}[true]{%
2079 \define@key{Hyp}{tex4ht}[true]{%
2080   \Hy@texhttrue
2081   \setkeys{Hyp}{colorlinks=true}%
2082   \def\BeforeTeXIVht{\usepackage{color}}%
2083   \def\Hy@driver{htex4ht}%
2084   \def\MaybeStopEarly{%
2085     \typeout{Hyperref stopped early}%
2086     \AfterBeginDocument{%
2087       \PDF@FinishDoc
2088       \gdef\PDF@FinishDoc{}}%
2089     }%
2090   \endinput
2091 }%
2092 }
2093 \define@key{Hyp}{pdftex}[true]{%
2094   \def\Hy@driver{hpdftex}%

```

```

2095 }
2096 \define@key{Hyp}{nativepdf}[true]{%
2097   \def\Hy@driver{hdvips}%
2098 }
2099 \define@key{Hyp}{dvipdfm}[true]{%
2100   \def\Hy@driver{hdvipdfm}%
2101 }
2102 \define@key{Hyp}{dvipdfmx}[true]{%
2103   \def\Hy@driver{hdvipdfm}%
2104 }
2105 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2106   \expandafter\ifx\csname if#1\expandafter\endcsname
2107     \csname iftrue\endcsname
2108     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2109   \else
2110     \chardef\SpecialDvipdfmxOutlineOpen\z@
2111   \fi
2112 }
2113 \define@key{Hyp}{xetex}[true]{%
2114   \def\Hy@driver{hdvipdfm}%
2115 }
2116 \define@key{Hyp}{pdfmark}[true]{%
2117   \def\Hy@driver{hdvips}%
2118 }
2119 \define@key{Hyp}{dvips}[true]{%
2120   \def\Hy@driver{hdvips}%
2121 }
2122 \define@key{Hyp}{hypertex}[true]{%
2123   \def\Hy@driver{hypertex}%
2124 }
2125 \let\Hy@MaybeStopNow\relax
2126 \define@key{Hyp}{vtex}[true]{%
2127   \begingroup\expandafter\expandafter\expandafter\endgroup
2128   \expandafter\ifx\csname OpMode\endcsname\relax
2129     \@latex@error{Non-VTeX processor}{}%
2130     \global\let\Hy@MaybeStopNow\endinput
2131   \endinput
2132   \else
2133     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2134     \def\Hy@driver{hvtex}%
2135     \else
2136       \ifnum\OpMode=10\relax
2137         \def\Hy@driver{hvtexhtm}%
2138         \def\MaybeStopEarly{%
2139           \typeout{Hyperref stopped early}%
2140           \AfterBeginDocument{%
2141             \PDF@FinishDoc
2142             \gdef\PDF@FinishDoc{}}%
2143         }%
2144         \endinput
2145       }%
2146     \else
2147       \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2148       \global\let\Hy@MaybeStopNow\endinput
2149     \endinput
2150   \fi
2151   \fi

```

```

2152 \fi
2153 }
2154 \define@key{Hyp}{vtexpdfmark}[true]{%
2155 \begingroup\expandafter\expandafter\expandafter\endgroup
2156 \expandafter\ifx\csname OpMode\endcsname\relax
2157 \latexerror{Non-VTeX processor}{}%
2158 \let\Hy@MaybeStopNow\endinput
2159 \endinput
2160 \else
2161 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2162 \def\Hy@driver{hvtexmrk}%
2163 \else
2164 \latexerror{Mode (\the\OpMode) has no hyperref driver}{}%
2165 \let\Hy@MaybeStopNow\endinput
2166 \endinput
2167 \fi
2168 \fi
2169 }
2170 \define@key{Hyp}{dviwindo}[true]{%
2171 \def\Hy@driver{hdviwind}%
2172 \setkeys{Hyp}{colorlinks}%
2173 \PassOptionsToPackage{dviwindo}{color}%
2174 }
2175 \define@key{Hyp}{dvipsone}[true]{%
2176 \def\Hy@driver{hdvipson}%
2177 }
2178 \define@key{Hyp}{textures}[true]{%
2179 \def\Hy@driver{htexture}%
2180 }
2181 \define@key{Hyp}{latex2html}[true]{%
2182 \AtBeginDocument{\@@latextohtmlX}%
2183 }

```

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

```

2184 \define@key{Hyp}{ps2pdf}[true]{%
2185 \def\Hy@driver{hdvips}%
2186 \providecommand*\pdfborder{0 0 1}%
2187 }

```

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.

```

2188 \define@key{Hyp}{hyperfigures}[true]{%
2189 \Hy@boolkey[hyperfigures]{figures}{#1}%
2190 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2191 \define@key{Hyp}{hyperfootnotes}[true]{%
2192 \Hy@boolkey{hyperfootnotes}{#1}%
2193 }

```

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

```

2194 \def\back@none{none}
2195 \def\back@section{section}
2196 \def\back@page{page}
2197 \def\back@slide{slide}
2198 \define@key{Hyp}{backref}[section]{%

```

```

2199 \lowercase{\def\Hy@tempa{#1}}%
2200 \ifx\Hy@tempa\@empty
2201   \let\Hy@tempa\back@section
2202 \fi
2203 \ifx\Hy@tempa\Hy@false
2204   \let\Hy@tempa\back@none
2205 \fi
2206 \ifx\Hy@tempa\back@slide
2207   \let\Hy@tempa\back@section
2208 \fi
2209 \ifx\Hy@tempa\back@page
2210   \PassOptionsToPackage{hyperpageref}{backref}%
2211   \Hy@backreftrue
2212 \else
2213   \ifx\Hy@tempa\back@section
2214     \PassOptionsToPackage{hyperref}{backref}%
2215     \Hy@backreftrue
2216   \else
2217     \ifx\Hy@tempa\back@none
2218       \Hy@backreffalse
2219     \else
2220       \Hy@WarnOptionValue{#1}{backref}{%
2221         'section', 'slide', 'page', 'none', \MessageBreak
2222         or 'false'}%
2223     \fi
2224   \fi
2225 \fi
2226 }
2227 \define@key{Hyp}{pagebackref}[true]{%
2228   \lowercase{\def\Hy@tempa{#1}}%
2229   \ifx\Hy@tempa\@empty
2230     \let\Hy@tempa\Hy@true
2231   \fi
2232   \ifx\Hy@tempa\Hy@true
2233     \PassOptionsToPackage{hyperpageref}{backref}%
2234     \Hy@backreftrue
2235   \else
2236     \ifx\Hy@tempa\Hy@false
2237       \Hy@backreffalse
2238     \else
2239       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2240     \fi
2241   \fi
2242 }

```

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

```

2243 \define@key{Hyp}{hyperindex}[true]{%
2244   \Hy@boolkey{hyperindex}{#1}%
2245 }

```

Configuration of encap char.

```

2246 \define@key{Hyp}{encap}[|]{%
2247   \def\HyInd@EncapChar{#1}%
2248 }

```

12 Language options

The `\autoref` feature depends on the language.

```
2249 \def\HyLang@afrikaans{%
2250   \def\equationautorefname{Vergelyking}%
2251   \def\footnoteautorefname{Voetnota}%
2252   \def\itemautorefname{Item}%
2253   \def\figureautorefname{Figuur}%
2254   \def\tableautorefname{Tabel}%
2255   \def\partautorefname{Deel}%
2256   \def\appendixautorefname{Bylae}%
2257   \def\chapterautorefname{Hoofstuk}%
2258   \def\sectionautorefname{Afdeling}%
2259   \def\subsectionautorefname{Subafdeling}%
2260   \def\subsubsectionautorefname{Subsubafdeling}%
2261   \def\paragraphautorefname{Paragraaf}%
2262   \def\subparagraphautorefname{Subparagraaf}%
2263   \def\FancyVerbLineautorefname{Lyn}%
2264   \def\theoremautorefname{Teorema}%
2265   \def\pageautorefname{Bladsy}%
2266 }
2267 \def\HyLang@english{%
2268   \def\equationautorefname{Equation}%
2269   \def\footnoteautorefname{footnote}%
2270   \def\itemautorefname{item}%
2271   \def\figureautorefname{Figure}%
2272   \def\tableautorefname{Table}%
2273   \def\partautorefname{Part}%
2274   \def\appendixautorefname{Appendix}%
2275   \def\chapterautorefname{chapter}%
2276   \def\sectionautorefname{section}%
2277   \def\subsectionautorefname{subsection}%
2278   \def\subsubsectionautorefname{subsubsection}%
2279   \def\paragraphautorefname{paragraph}%
2280   \def\subparagraphautorefname{subparagraph}%
2281   \def\FancyVerbLineautorefname{line}%
2282   \def\theoremautorefname{Theorem}%
2283   \def\pageautorefname{page}%
2284 }
2285 \def\HyLang@french{%
2286   \def\equationautorefname{\`Equation}%
2287   \def\footnoteautorefname{note}%
2288   \def\itemautorefname{item}%
2289   \def\figureautorefname{Figure}%
2290   \def\tableautorefname{Tableau}%
2291   \def\partautorefname{Partie}%
2292   \def\appendixautorefname{Appendice}%
2293   \def\chapterautorefname{chapitre}%
2294   \def\sectionautorefname{section}%
2295   \def\subsectionautorefname{sous-section}%
2296   \def\subsubsectionautorefname{sous-sous-section}%
2297   \def\paragraphautorefname{paragraphe}%
2298   \def\subparagraphautorefname{sous-paragraphe}%
2299   \def\FancyVerbLineautorefname{ligne}%
2300   \def\theoremautorefname{Th\'eor\`eme}%
2301   \def\pageautorefname{page}%
2302 }
```



```

2303 \def\HyLang@german{%
2304   \def\equationautorefname{Gleichung}%
2305   \def\footnoteautorefname{Fu\ss note}%
2306   \def\itemautorefname{Punkt}%
2307   \def\figureautorefname{Abbildung}%
2308   \def\tableautorefname{Tabelle}%
2309   \def\partautorefname{Teil}%
2310   \def\appendixautorefname{Anhang}%
2311   \def\chapterautorefname{Kapitel}%
2312   \def\sectionautorefname{Abschnitt}%
2313   \def\subsectionautorefname{Unterabschnitt}%
2314   \def\subsubsectionautorefname{Unterunterabschnitt}%
2315   \def\paragraphautorefname{Absatz}%
2316   \def\subparagraphautorefname{Unterabsatz}%
2317   \def\FancyVerbLineautorefname{Zeile}%
2318   \def\theoremautorefname{Theorem}%
2319   \def\pageautorefname{Seite}%
2320 }
2321 \def\HyLang@italian{%
2322   \def\equationautorefname{Equazione}%
2323   \def\footnoteautorefname{nota}%
2324   \def\itemautorefname{punto}%
2325   \def\figureautorefname{Figura}%
2326   \def\tableautorefname{Tabella}%
2327   \def\partautorefname{Parte}%
2328   \def\appendixautorefname{Appendice}%
2329   \def\chapterautorefname{Capitolo}%
2330   \def\sectionautorefname{sezione}%
2331   \def\subsectionautorefname{sottosezione}%
2332   \def\subsubsectionautorefname{sottosottosezione}%
2333   \def\paragraphautorefname{paragrafo}%
2334   \def\subparagraphautorefname{sottoparagrafo}%
2335   \def\FancyVerbLineautorefname{linea}%
2336   \def\theoremautorefname{Teorema}%
2337   \def\pageautorefname{Pag.\@}%
2338 }
2339 \def\HyLang@magyar{%
2340   \def\equationautorefname{Egyenlet}%
2341   \def\footnoteautorefname{l\'abjegyzet}%
2342   \def\itemautorefname{Elem}%
2343   \def\figureautorefname{\`Abra}%
2344   \def\tableautorefname{T\'abl\'azat}%
2345   \def\partautorefname{R\'esz}%
2346   \def\appendixautorefname{F\'uggel\'ek}%
2347   \def\chapterautorefname{fejezet}%
2348   \def\sectionautorefname{szakasz}%
2349   \def\subsectionautorefname{alszakasz}%
2350   \def\subsubsectionautorefname{alalszakasz}%
2351   \def\paragraphautorefname{bekezd\'es}%
2352   \def\subparagraphautorefname{albekezd\'es}%
2353   \def\FancyVerbLineautorefname{sor}%
2354   \def\theoremautorefname{T\'etel}%
2355   \def\pageautorefname{oldal}%
2356 }
2357 \def\HyLang@portuges{%
2358   \def\equationautorefname{Equa\c c\~ao}%
2359   \def\footnoteautorefname{Nota de rodap\'e}%

```

```

2360 \def\itemautorefname{Item}%
2361 \def\figureautorefname{Figura}%
2362 \def\tableautorefname{Tabela}%
2363 \def\partautorefname{Parte}%
2364 \def\appendixautorefname{Ap\`endice}%
2365 \def\chapterautorefname{Cap\`itulo}%
2366 \def\sectionautorefname{Se\`c\`ao}%
2367 \def\subsectionautorefname{Subse\`c\`ao}%
2368 \def\subsubsectionautorefname{Subsubse\`c\`ao}%
2369 \def\paragraphautorefname{par\`agrafo}%
2370 \def\subparagraphautorefname{subpar\`agrafo}%
2371 \def\FancyVerbLineautorefname{linha}%
2372 \def\theoremautorefname{Teorema}%
2373 \def\pageautorefname{P\`agina}%
2374 }

```

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`.

```

2375 \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`?

```

2376 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2377 % \def\equationautorefname{%
2378 %     \cyr\cyrv\cyrery\cyr\cyrz\cyre\cyrn\cyri\cyre
2379 % }%

```

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

```

2380 \def\footnoteautorefname{%
2381     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr.\ \cyrp\cyr\cyri\cyrm.%
2382 }%

```

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}`”

```

2383 % \def\footnoteautorefname{%
2384 %     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr\cyrh\cyrn\cyro\cyre\ %
2385 %     \cyrp\cyr\cyri\cyrm\cyre\cyrh\cyra\cyrn\cyri\cyre
2386 % }%

```

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

```

2387 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2388 % \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.

```

2389 \def\itemautorefname{\cyr\cyrp.}%
2390 % \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.

```

2391 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2392 \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.

```

2393 \def\partautorefname{\cyr\cyrch.}%
2394 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2395 \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.

```

2396 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2397 % \def\appendixautorefname{%
2398 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
2399 % }%

```

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.

```

2400 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2401 \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.

```

2402 \def\paragraphautorefname{\cyr\cyrp.}%
2403 \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.

```

2404 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2405 % \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.

```

2406 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

2407 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2408 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

2409 % \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 ...

```

2410 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```
2411 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2412 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2413 \def\pageautorefname{\cyr\cyrs.}%
2414 }

2415 \def\HyLang@spanish{%
2416 \def\equationautorefname{Ecuaci\'on}%
2417 \def\footnoteautorefname{Nota a pie de p\'agina}%
2418 \def\itemautorefname{Elemento}%
2419 \def\figureautorefname{Figura}%
2420 \def\tableautorefname{Tabla}%
2421 \def\partautorefname{Parte}%
2422 \def\appendixautorefname{Ap\'endice}%
2423 \def\chapterautorefname{Cap\'itulo}%
2424 \def\sectionautorefname{Secci\'on}%
2425 \def\subsectionautorefname{Subsecci\'on}%
2426 \def\subsubsectionautorefname{Subsubsecci\'on}%
2427 \def\paragraphautorefname{P\'arrafo}%
2428 \def\subparagraphautorefname{Subp\'arrafo}%
2429 \def\FancyVerbLineautorefname{L\'inea}%
2430 \def\theoremautorefname{Teorema}%
2431 \def\pageautorefname{P\'agina}%
2432 }

2433 \def\HyLang@vietnamese{%
2434 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\'inh}%
2435 \def\footnoteautorefname{Ch\'u th\'ich}%
2436 \def\itemautorefname{m\du{c}}%
2437 \def\figureautorefname{H\'inh}%
2438 \def\tableautorefname{B\h{a}ng}%
2439 \def\partautorefname{Ph\'acircumflex{}n}%
2440 \def\appendixautorefname{Ph\du{} l\du{c}}%
2441 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2442 \def\sectionautorefname{m\du{c}}%
2443 \def\subsectionautorefname{m\du{c}}%
2444 \def\subsubsectionautorefname{m\du{c}}%
2445 \def\paragraphautorefname{\dj{}o\da{n}}%
2446 \def\subparagraphautorefname{\dj{}o\da{n}}%
2447 \def\FancyVerbLineautorefname{d\'ong}%
2448 \def\theoremautorefname{DJ{}\di{nh} l\'y}%
2449 \def\pageautorefname{Trang}%
2450 }
```

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

```
2451 \def\HyLang@addto#1#2{%
2452 #2%
2453 \@temptokena{#2}%
2454 \ifx#1\relax
2455 \let#1\@empty
2456 \fi
2457 \ifx#1\undefined
2458 \edef#1{\the\@temptokena}%
2459 \else
2460 \toks@\expandafter{#1}%
```

```

2461 \edef#1{\the\toks@\the\@temptokena}%
2462 \fi
2463 \@temptokena{\toks@\@temptokena
2464 }

2465 \def\HyLang@DeclareLang#1#2#3{%
2466 \begingroup
2467 \edef\x##1##2{%
2468 \noexpand\ifx##2\relax
2469 \errmessage{No definitions for language #2' found!}%
2470 \noexpand\fi
2471 \endgroup
2472 \noexpand\define@key{Hyp}{#1}[]{%
2473 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2474 #3%
2475 }%
2476 }%
2477 \expandafter\x\csname extras#1\expandafter\endcsname
2478 \csname HyLang@#2\endcsname
2479 }

2480 \HyLang@DeclareLang{english}{english}{}
2481 \HyLang@DeclareLang{UKenglish}{english}{}
2482 \HyLang@DeclareLang{british}{english}{}
2483 \HyLang@DeclareLang{USenglish}{english}{}
2484 \HyLang@DeclareLang{american}{english}{}
2485 \HyLang@DeclareLang{german}{german}{}
2486 \HyLang@DeclareLang{austrian}{german}{}
2487 \HyLang@DeclareLang{ngerman}{german}{}
2488 \HyLang@DeclareLang{naustrian}{german}{}
2489 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2490 \HyLang@DeclareLang{brazil}{portuges}{}
2491 \HyLang@DeclareLang{brazilian}{portuges}{}
2492 \HyLang@DeclareLang{portuguese}{portuges}{}
2493 \HyLang@DeclareLang{spanish}{spanish}{}
2494 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2495 \HyLang@DeclareLang{french}{french}{}
2496 \HyLang@DeclareLang{frenchb}{french}{}
2497 \HyLang@DeclareLang{francais}{french}{}
2498 \HyLang@DeclareLang{acadian}{french}{}
2499 \HyLang@DeclareLang{canadien}{french}{}
2500 \HyLang@DeclareLang{italian}{italian}{}
2501 \HyLang@DeclareLang{magyar}{magyar}{}
2502 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2503 \define@key{Hyp}{vietnamese}[]{%
2504 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2505 \AtEndOfPackage{%
2506 \ifundefined{T@PU}{}{%
2507 \input{puvnenc.def}%
2508 }%
2509 }%
2510 }
2511 \define@key{Hyp}{vietnam}[]{%
2512 \HyLang@addto\extravietnam\HyLang@vietnamese
2513 \AtEndOfPackage{%
2514 \ifundefined{T@PU}{}{%
2515 \input{puvnenc.def}%

```

```

2516 }%
2517 }%
2518 }

```

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

```

2519 \define@key{Hyp}{arabic}[]{%
2520   \AtEndOfPackage{%
2521     \ifundefined{T@PU}{-}{%
2522       \input{puarenc.def}%
2523     }%
2524   }%
2525 }

```

13 Options to change appearance of links

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

```

2526 \define@key{Hyp}{colorlinks}[true]{%
2527   \Hy@boolkey{colorlinks}{#1}%
2528 }
2529 \define@key{Hyp}{ocgcolorlinks}[true]{%
2530   \Hy@boolkey{ocgcolorlinks}{#1}%
2531 }
2532 \AtBeginDocument{%
2533   \begingroup
2534     \ifundefined{OBJ@OCG@view}{%
2535       \ifHy@ocgcolorlinks
2536         \Hy@Warning{%
2537           Driver does not support ‘ocgcolorlinks’,\MessageBreak
2538           using ‘colorlinks’ instead%
2539         }%
2540       \fi
2541     }{}%
2542   \endgroup
2543 }
2544 \define@key{Hyp}{frenchlinks}[true]{%
2545   \Hy@boolkey{frenchlinks}{#1}%
2546 }

```

14 Bookmarking

```

2547 \define@key{Hyp}{bookmarks}[true]{%
2548   \Hy@boolkey{bookmarks}{#1}%
2549 }
2550 \define@key{Hyp}{bookmarksopen}[true]{%
2551   \Hy@boolkey{bookmarksopen}{#1}%
2552 }

```

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.

```

2553 \let\Hy@bookmarksdepth\c@tocdepth
2554 \define@key{Hyp}{bookmarksdepth}[]{%
2555   \begingroup
2556     \edef\x{#1}%
2557     \ifx\x\empty
2558       \global\let\Hy@bookmarksdepth\c@tocdepth
2559     \else
2560       \@ifundefined{toclevel@x}{%
2561         \@onelevel@sanitize\x
2562         \edef\y{\expandafter\@car\x\@nil}%
2563         \ifcase 0\expandafter\ifx\y-1\fi
2564           \expandafter\ifnum\expandafter'\y>47 %
2565             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2566           \Hy@Warning{Unknown document division name (\x)}%
2567         \else
2568           \setbox\z@=\hbox{%
2569             \count@=\x
2570             \xdef\Hy@bookmarksdepth{\the\count@}%
2571           }%
2572         \fi
2573       }{%
2574         \setbox\z@=\hbox{%
2575           \count@=\csname toclevel@x\endcsname
2576           \xdef\Hy@bookmarksdepth{\the\count@}%
2577         }%
2578       }%
2579     \fi
2580 \endgroup
2581 }

```

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

```

2582 \define@key{Hyp}{bookmarksopenlevel}{%
2583   \def\@bookmarksopenlevel{#1}%
2584 }
2585 \def\@bookmarksopenlevel{\maxdimen}
2586 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2587 \define@key{Hyp}{bookmarkstype}{%
2588   \def\Hy@bookmarkstype{#1}%
2589 }
2590 \def\Hy@bookmarkstype{toc}

```

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

```

2591 \define@key{Hyp}{bookmarksnumbered}[true]{%
2592   \Hy@boolkey{bookmarksnumbered}{#1}%
2593 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

2594 \define@key{Hyp}{CJKbookmarks}[true]{%
2595   \Hy@boolkey{CJKbookmarks}{#1}%
2596 }

2597 \def\Hy@temp#1{%
2598   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2599 }

```

```

2600 \def\Hy@temp#1#2#3{%
2601   \define@key{Hyp}{#2color}{%
2602     \HyColor@HyperrefColor{##1}#1%
2603   }%
2604   \def#1{#3}%
2605 }
2606 \Hy@temp{link}{red}
2607 \Hy@temp{anchor}{black}
2608 \Hy@temp{cite}{green}
2609 \Hy@temp{file}{cyan}
2610 \Hy@temp{url}{magenta}
2611 \Hy@temp{menu}{red}
2612 \Hy@temp{run}{\@filecolor}
2613 \define@key{Hyp}{pagecolor}{%
2614   \Hy@WarningPageColor
2615 }
2616 \def\Hy@WarningPageColor{%
2617   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2618   \global\let\Hy@WarningPageColor\relax
2619 }

2620 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2621 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2622 \let\@baseurl\empty
2623 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2624 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2625 \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.

```

2626 \let\@pdfpagetransition\relax
2627 \define@key{Hyp}{pdfpagetransition}{\def\@pdfpagetransition{#1}}

```

`\@pdfpageduration` The value of option `pdfpageduration` is stored in `\@pdfpageduration`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

2628 \let\@pdfpageduration\relax
2629 \define@key{Hyp}{pdfpageduration}{\def\@pdfpageduration{#1}}

```

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

```

2630 \newif\ifHy@useHidKey
2631 \Hy@useHidKeyfalse
2632 \define@key{Hyp}{pdfpagehidden}[true]{%
2633   \Hy@boolkey{pdfpagehidden}{#1}%
2634   \ifHy@pdfpagehidden
2635     \global\Hy@useHidKeytrue
2636   \fi
2637 }

```

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).

```

2638 \def\Hy@ColorList{cite,file,link,menu,run,url}
2639 \@for\Hy@temp:=\Hy@ColorList\do{%
2640   \edef\Hy@temp{%
2641     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2642       \noexpand\HyColor@HyperrefBorderColor
2643       {##1}%
2644       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2645       {hyperref}%
2646       {\Hy@temp bordercolor}%
2647     }%
2648   }%
2649   \Hy@temp
2650 }
2651 \define@key{Hyp}{pagebordercolor}{%
2652   \Hy@WarningPageBorderColor
2653 }
2654 \def\Hy@WarningPageBorderColor{%
2655   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2656   \global\let\Hy@WarningPageBorderColor\relax
2657 }
2658 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2659 \Hy@DefNameKey{pdfhighlight}{%
2660   \do{/I}{Invert}%
2661   \do{/N}{None}%
2662   \do{/O}{Outline}%
2663   \do{/P}{Push}%
2664 }
2665 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2666 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2667 \def\Hy@setpdfborder{%
2668   \ifx\@pdfborder\@empty
2669   \else
2670     /Border[\@pdfborder]%
2671   \fi
2672   \ifx\@pdfborderstyle\@empty
2673   \else
2674     /BS<<\@pdfborderstyle>>%
2675   \fi
2676 }
2677 \Hy@DefNameKey{pdfpagemode}{%
2678   \do{UseNone}{}%
2679   \do{UseOutlines}{}%
2680   \do{UseThumbs}{}%
2681   \do{FullScreen}{}%
2682   \do{UseOC}{PDF 1.5}%
2683   \do{UseAttachments}{PDF 1.6}%
2684 }
2685 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2686   \do{UseNone}{}%
2687   \do{UseOutlines}{}%
2688   \do{UseThumbs}{}%
2689   \do{FullScreen}{}%

```

```

2690 \do{UseOC}{PDF 1.5}%
2691 \do{UseAttachments}{PDF 1.6}%
2692 }
2693 \Hy@DefNameKey{pdfdirection}{%
2694 \do{L2R}{Left to right}%
2695 \do{R2L}{Right to left}%
2696 }
2697 \Hy@DefNameKey{pdfviewarea}{%
2698 \do{MediaBox}{}%
2699 \do{CropBox}{}%
2700 \do{BleedBox}{}%
2701 \do{TrimBox}{}%
2702 \do{ArtBox}{}%
2703 }
2704 \Hy@DefNameKey{pdfviewclip}{%
2705 \do{MediaBox}{}%
2706 \do{CropBox}{}%
2707 \do{BleedBox}{}%
2708 \do{TrimBox}{}%
2709 \do{ArtBox}{}%
2710 }
2711 \Hy@DefNameKey{pdfprintarea}{%
2712 \do{MediaBox}{}%
2713 \do{CropBox}{}%
2714 \do{BleedBox}{}%
2715 \do{TrimBox}{}%
2716 \do{ArtBox}{}%
2717 }
2718 \Hy@DefNameKey{pdfprintclip}{%
2719 \do{MediaBox}{}%
2720 \do{CropBox}{}%
2721 \do{BleedBox}{}%
2722 \do{TrimBox}{}%
2723 \do{ArtBox}{}%
2724 }
2725 \Hy@DefNameKey{pdfprintscaling}{%
2726 \do{AppDefault}{}%
2727 \do{None}{}%
2728 }
2729 \Hy@DefNameKey{pdfduplex}{%
2730 \do{Simplex}{}%
2731 \do{DuplexFlipShortEdge}{}%
2732 \do{DuplexFlipLongEdge}{}%
2733 }
2734 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2735 \do{true}{}%
2736 \do{false}{}%
2737 }
2738 \define@key{Hyp}{pdfprintpagerange}{%
2739 \def\@pdfprintpagerange{#1}%
2740 }
2741 \Hy@DefNameKey{pdfnumcopies}{%
2742 \do{2}{two copies}%
2743 \do{3}{three copies}%
2744 \do{4}{four copies}%
2745 \do{5}{five copies}%
2746 }

```

```

2747 \define@key{Hyp}{pdfusetitle}[true]{%
2748   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2749 }
2750 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2751 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2752 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2753 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2754 \define@key{Hyp}{pdfcreationdate}{%
2755   \beginngroup
2756     \Hy@unicodedefalse
2757     \pdfstringdef\@pdfcreationdate{#1}%
2758   \endgroup
2759 }
2760 \define@key{Hyp}{pdfmoddate}{%
2761   \beginngroup
2762     \Hy@unicodedefalse
2763     \pdfstringdef\@pdfmoddate{#1}%
2764   \endgroup
2765 }
2766 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2767 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2768 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2769 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2770 \let\setpdflinkmargin@gobble
2771 \def\calculate@pdfview#1 #2\{%
2772   \def\@pdfview{#1}%
2773   \ifx\#2\%
2774     \def\@pdfviewparams{ -32768}%
2775   \else
2776     \def\@pdfviewparams{ #2}%
2777   \fi
2778 }
2779 \beginngroup\expandafter\expandafter\expandafter\endgroup
2780 \expandafter\ifx\csname numexpr\endcsname\relax
2781   \def\Hy@number#1{%
2782     \expandafter\@firstofone\expandafter{\number#1}%
2783   }%
2784 \else
2785   \def\Hy@number#1{%
2786     \the\numexpr#1\relax
2787   }%
2788 \fi
2789 \define@key{Hyp}{pdfstartpage}{%
2790   \ifx\#1\%
2791     \def\@pdfstartpage{}%
2792   \else
2793     \edef\@pdfstartpage{\Hy@number{#1}}%
2794   \fi
2795 }%
2796 \define@key{Hyp}{pdfstartview}{%
2797   \ifx\#1\%
2798     \def\@pdfstartview{}%
2799   \else
2800     \hypercalcbpdef\@pdfstartview{ /#1 }%
2801   \fi
2802 }
2803 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}

```

```

2804 \define@key{Hyp}{pdftoolbar}[true]{%
2805   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2806 }
2807 \define@key{Hyp}{pdfmenubar}[true]{%
2808   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2809 }
2810 \define@key{Hyp}{pdfwindowui}[true]{%
2811   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2812 }
2813 \define@key{Hyp}{pdffitwindow}[true]{%
2814   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2815 }
2816 \define@key{Hyp}{pdfcenterwindow}[true]{%
2817   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2818 }
2819 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2820   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2821 }
2822 \define@key{Hyp}{pdfa}[true]{%
2823   \Hy@boolkey[pdfa]{#1}%
2824 }
2825 \define@key{Hyp}{pdfnewwindow}[true]{%
2826   \def\Hy@temp{#1}%
2827   \ifx\Hy@temp\empty
2828     \Hy@newwindowsetfalse
2829   \else
2830     \Hy@newwindowsettrue
2831     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2832   \fi
2833 }
2834 \def\Hy@SetNewWindow{%
2835   \ifHy@newwindowset
2836     /NewWindow %
2837   \ifHy@newwindow true\else false\fi
2838   \fi
2839 }
2840 \Hy@DefNameKey{pdfpagelayout}{%
2841   \do{SinglePage}{}%
2842   \do{OneColumn}{}%
2843   \do{TwoColumnLeft}{}%
2844   \do{TwoColumnRight}{}%
2845   \do{TwoPageLeft}{PDF 1.5}%
2846   \do{TwoPageRight}{PDF 1.5}%
2847 }
2848 \define@key{Hyp}{pdflang}{%
2849   \def\@pdflang{#1}%
2850 }
2851 \define@key{Hyp}{pdfpagelabels}[true]{%
2852   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2853 }
2854 \define@key{Hyp}{pdfescapeform}[true]{%
2855   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2856 }

```

Default values:

```

2857 \def\@linkbordercolor{1 0 0}
2858 \def\@urlbordercolor{0 1 1}
2859 \def\@menubordercolor{1 0 0}

```

```

2860 \def\@filebordercolor{0 .5 .5}
2861 \def\@runbordercolor{0 .7 .7}
2862 \def\@citebordercolor{0 1 0}
2863 \def\@pdfhighlight{/I}
2864 \def\@pdftitle{}
2865 \def\@pdfauthor{}
2866 \let\@pdfproducer\relax
2867 \def\@pdfcreator{LaTeX with hyperref package}
2868 \def\@pdfcreationdate{}
2869 \def\@pdfmoddate{}
2870 \def\@pdfsubject{}
2871 \def\@pdfkeywords{}
2872 \def\@pdfpagescrop{}
2873 \def\@pdfstartview{ /Fit }
2874 \def\@pdfstartpage{1}
2875 \def\@pdfprintpagerange{}
2876 \def\@pdflang{}
2877 \let\PDF@SetupDoc\@empty
2878 \let\PDF@FinishDoc\@empty
2879 \let\phantomsection\@empty
2880 \let\special@paper\@empty
2881 \ifundefined{stockwidth}{%
2882   \ifdim\paperwidth>\z@
2883     \ifdim\paperheight>\z@
2884       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2885     \fi
2886   \fi
2887 }{%
2888   \ifdim\stockwidth>\z@
2889     \ifdim\stockheight>\z@
2890       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2891     \fi
2892   \fi
2893 }
2894 \begingroup
2895   \edef\x{\ifundefined{stockheight}\paperheight\stockheight}%
2896   \dimen@=\x\relax
2897   \ifdim\dimen@>\z@
2898   \else
2899     \dimen@=11in\relax
2900     \Hy@WarningNoLine{%
2901       Height of page (\expandafter\string\x) %
2902       is invalid (\the\x),\MessageBreak
2903       using 11in%
2904     }%
2905   \fi
2906   \dimen@=0.99626401\dimen@
2907   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2908 \endgroup
2909 \def\HyInd@EncapChar{\|}
2910 \def\hypersetup{\setkeys{Hyp}}

```

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

```

2911 \let\hyper@normalise\ExecuteOptions
2912 \let\ExecuteOptions\hypersetup

```

```

2913 \Hy@RestoreCatcodes
2914 \InputIfFileExists{hyperref.cfg}{-}{-}
2915 \Hy@SetCatcodes
2916 \let\ExecuteOptions\hyper@normalise
2917 \Hy@MaybeStopNow

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the *keyval* package. This section was written by David Carlisle.

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

```

2918 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2919 \@ifpackageloaded{tex4ht}{%
2920   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
2921   \PassOptionsToPackage{tex4ht}{hyperref}%
2922 }%
2923 }{-}

2924 \let\ReadBookmarks\relax
2925 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2926 \AtBeginDocument{%
2927   \ifHy@draft
2928     \let\hyper@@anchor\@gobble
2929     \gdef\hyper@link#1#2#3{#3}%
2930     \let\hyper@anchorstart\@gobble
2931     \let\hyper@anchorend\@empty
2932     \let\hyper@linkstart\@gobbletwo
2933     \let\hyper@linkend\@empty
2934     \def\hyper@linkurl#1#2{#1}%
2935     \def\hyper@linkfile#1#2#3{#1}%
2936     \def\hyper@link@[#1]#2#3{#1}%
2937     \def\Acrobatmenu#1#2{\leavevmode#2}%
2938     \let\PDF@SetupDoc\@empty
2939     \let\PDF@FinishDoc\@empty
2940     \let\@fifthoffive\@secondoftwo
2941     \let\@secondoffive\@secondoftwo
2942     \let\ReadBookmarks\relax
2943     \let\WriteBookmarks\relax
2944     \Hy@WarningNoLine{ draft mode on}%
2945   \fi
2946   \Hy@DisableOption{draft}%
2947   \Hy@DisableOption{nolinks}%
2948   \Hy@DisableOption{final}%
2949 }

```

15.1 PDF/A

```

2950 \Hy@DisableOption{pdfa}

2951 \ifHy@pdfa
2952   \setkeys{Hyp}{pdfversion=1.4}%
2953   \def\Hy@Acrobatmenu#1#2{%
2954     \leavevmode
2955     \begingroup
2956       \edef\x{#1}%
2957       \@onelevel@sanitize\x

```

```

2958 \ifx\x\Hy@NextPage
2959 \let\y=Y%
2960 \else
2961 \ifx\x\Hy@PrevPage
2962 \let\y=Y%
2963 \else
2964 \ifx\x\Hy@FirstPage
2965 \let\y=Y%
2966 \else
2967 \ifx\x\Hy@LastPage
2968 \let\y=Y%
2969 \else
2970 \let\y=N%
2971 \fi
2972 \fi
2973 \fi
2974 \fi
2975 \expandafter\endgroup
2976 \ifx\y Y%
2977 \else
2978 \PackageError{hyperref}{%
2979 PDF/A: Named action '#1' is not permitted%
2980 }\@ehc
2981 {#2}%
2982 \expandafter\@gobble
2983 \fi
2984 }%
2985 \def\Hy@temp#1{%
2986 \expandafter\def\csname Hy@#1\endcsname{#1}%
2987 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
2988 }%
2989 \Hy@temp{NextPage}%
2990 \Hy@temp{PrevPage}%
2991 \Hy@temp{FirstPage}%
2992 \Hy@temp{LastPage}%
2993 \else
2994 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
2995 \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.

```

2996 \Hy@nextfalse
2997 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
2998 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
2999 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3000 \ifHy@next
3001 \let\texttilde\~%
3002 \fi

```

15.3 Patch for babel 3.8j

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

```

3003 \@ifpackageloaded{babel}{%
3004 \@ifpackagelater{babel}{2008/03/16}{%

```

```

3005 \def\Hy@PatchLanguageShorthands#1{%
3006 \begingroup
3007 \edef\x{#1}%
3008 \@onelevel@sanitize\x
3009 \def\y{system}%
3010 \@onelevel@sanitize\y
3011 \expandafter\endgroup
3012 \ifx\x\y
3013 \else
3014 \HyOrg@languageshorthands{#1}%
3015 \fi
3016 }%
3017 \AtBeginDocument{%
3018 \begingroup
3019 \toks0=\expandafter{\pdfstringdefPreHook}%
3020 \xdef\pdfstringdefPreHook{%
3021 \let\noexpand\HyOrg@languageshorthands
3022 \noexpand\languageshorthands
3023 \let\noexpand\languageshorthands
3024 \noexpand\Hy@PatchLanguageShorthands
3025 \the\toks0 %
3026 \let\noexpand\languageshorthands
3027 \noexpand\HyOrg@languageshorthands
3028 }%
3029 \endgroup
3030 }%
3031 }{}%
3032 }{}

3033 \ifHy@figures
3034 \Hy@Info{Hyper figures ON}%
3035 \else
3036 \Hy@Info{Hyper figures OFF}%
3037 \fi
3038 \ifHy@nesting
3039 \Hy@Info{Link nesting ON}%
3040 \else
3041 \Hy@Info{Link nesting OFF}%
3042 \fi
3043 \ifHy@hyperindex
3044 \Hy@Info{Hyper index ON}%
3045 \else
3046 \Hy@Info{Hyper index OFF}%
3047 \fi
3048 \ifHy@plainpages
3049 \Hy@Info{Plain pages ON}%
3050 \else
3051 \Hy@Info{Plain pages OFF}%
3052 \fi
3053 \ifHy@backref
3054 \Hy@Info{Backreferencing ON}%
3055 \else
3056 \Hy@Info{Backreferencing OFF}%
3057 \fi
3058 \ifHy@typexml
3059 \AtEndOfPackage{%
3060 \RequirePackage{color}%
3061 \RequirePackage{nameref}%

```



```

3062 }%
3063 \fi
3064 \Hy@DisableOption{typexml}
3065 \ifHy@implicit
3066 \typeout{Implicit mode ON; LaTeX internals redefined}%
3067 \else
3068 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3069 \def\MaybeStopEarly{%
3070 \typeout{Hyperref stopped early}%
3071 \AfterBeginDocument{%
3072 \PDF@FinishDoc
3073 \gdef\PDF@FinishDoc{}}%
3074 }%
3075 \endinput
3076 }%
3077 \AtBeginDocument{%
3078 \let\autoref\ref
3079 \let\autopageref\pageref
3080 \ifx\@pdfpagemode\@empty
3081 \gdef\@pdfpagemode{UseNone}%
3082 \fi
3083 \global\Hy@backreffalse
3084 }%
3085 \AtEndOfPackage{%
3086 \global\let\ReadBookmarks\relax
3087 \global\let\WriteBookmarks\relax
3088 }%
3089 \fi
3090 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3091 \AtEndOfPackage{%
3092 \@ifpackageloaded{tex4ht}{%
3093 \def\Hy@driver{htex4ht}%
3094 \Hy@texhttrue
3095 }{}%

```

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.

```

3096 \ifx\Hy@driver\@empty
3097 \else
3098 \def\Hy@temp{hpdftex}%
3099 \ifpdf
3100 \ifx\Hy@driver\Hy@temp
3101 \else
3102 \Hy@WarningNoLine{%
3103 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3104 pdfTeX is running in PDF mode.\MessageBreak
3105 Forcing driver ‘\Hy@temp.def’%
3106 }%
3107 \let\Hy@driver\Hy@temp
3108 \fi
3109 \else
3110 \ifx\Hy@driver\Hy@temp
3111 \Hy@WarningNoLine{%
3112 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3113 pdfTeX is not running in PDF mode.\MessageBreak

```

```

3114         Using default driver%
3115     }%
3116     \let\Hy@driver\@empty
3117 \fi
3118 \fi
3119 \fi
3120 \ifx\Hy@driver\@empty
3121 \else
3122     \def\Hy@temp{hdvipdfm}%
3123     \ifxetex
3124         \ifx\Hy@driver\Hy@temp
3125         \else
3126             \Hy@WarningNoLine{%
3127                 Wrong driver '\Hy@driver.def';\MessageBreak
3128                 XeTeX is running.\MessageBreak
3129                 Forcing driver '\Hy@temp.def' for XeTeX%
3130             }%
3131             \let\Hy@driver\Hy@temp
3132         \fi
3133     \fi
3134 \fi
3135 \ifx\Hy@driver\@empty
3136 \else
3137     \def\Hy@temp{hvtexhtm}%
3138     \ifvtexhtml
3139         \ifx\Hy@driver\Hy@temp
3140         \else
3141             \Hy@WarningNoLine{%
3142                 Wrong driver '\Hy@driver.def';\MessageBreak
3143                 VTeX is running in HTML mode.\MessageBreak
3144                 Forcing driver '\Hy@temp.def'%
3145             }%
3146             \let\Hy@driver\Hy@temp
3147         \fi
3148     \else
3149         \ifx\Hy@driver\Hy@temp
3150             \Hy@WarningNoLine{%
3151                 Wrong driver '\Hy@driver.def';\MessageBreak
3152                 VTeX is not running in HTML mode.\MessageBreak
3153                 Using default driver%
3154             }%
3155             \let\Hy@driver\@empty
3156         \fi
3157     \fi
3158 \fi

```

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

```

3159 \ifx\Hy@driver\@empty
3160     \providecommand*{\Hy@defaultdriver}{hypertex}%
3161     \ifpdf
3162         \def\Hy@driver{hpdfTeX}%
3163     \else
3164         \ifxetex
3165             \def\Hy@driver{hdvipdfm}%
3166         \else
3167             \ifvtexhtml
3168                 \def\Hy@driver{hvtexhtm}%
3169             \def\MaybeStopEarly{%

```

```

3170         \typeout{Hyperref stopped early}%
3171         \AfterBeginDocument{%
3172             \PDF@FinishDoc
3173             \gdef\PDF@FinishDoc{}%
3174         }%
3175         \endinput
3176     }%
3177     \else
3178         \ifvtexpdf
3179             \def\Hy@driver{hvtex}%
3180         \else
3181             \ifvtexps
3182                 \def\Hy@driver{hvtex}%
3183             \else
3184                 \let\Hy@driver\Hy@defaultdriver
3185             \fi
3186         \fi
3187     \fi
3188 \fi
3189 \fi
3190 \ifx\Hy@driver\Hy@defaultdriver
3191     \def\Hy@temp{hdvwind}%
3192     \ifx\Hy@temp\Hy@driver
3193         \setkeys{Hyp}{colorlinks}%
3194         \PassOptionsToPackage{dviwindo}{color}%
3195     \fi
3196 \fi
3197 \typeout{*hyperref using default driver \Hy@driver*}%
3198 \else
3199     \typeout{*hyperref using driver \Hy@driver*}%
3200 \fi
3201 \input{\Hy@driver.def}%
3202 \let\@unprocessedoptions\relax
3203 \Hy@RestoreCatcodes
3204 }
3205 \newif\ifHy@DvipdfmxOutlineOpen
3206 \begingroup\expandafter\expandafter\expandafter\endgroup
3207 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3208 \else
3209     \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3210         \Hy@DvipdfmxOutlineOpentru
3211     \fi
3212 \fi
3213 \Hy@DisableOption{tex4ht}
3214 \Hy@DisableOption{pdftex}
3215 \Hy@DisableOption{nativepdf}
3216 \Hy@DisableOption{dvipdfm}
3217 \Hy@DisableOption{dvipdfmx}
3218 \Hy@DisableOption{dvipdfmx-outline-open}
3219 \Hy@DisableOption{pdfmark}
3220 \Hy@DisableOption{dvips}
3221 \Hy@DisableOption{hypertex}
3222 \Hy@DisableOption{vtex}
3223 \Hy@DisableOption{vtexpdfmark}
3224 \Hy@DisableOption{dviwindo}
3225 \Hy@DisableOption{dvipsone}
3226 \Hy@DisableOption{textures}

```

```

3227 \Hy@DisableOption{latex2html}
3228 \Hy@DisableOption{ps2pdf}
3229 \Hy@DisableOption{xetex}
3230 \AtEndOfPackage{%
3231   \Hy@DisableOption{pdfversion}%
3232 }

```

15.3.2 Bookmarks

```

3233 \def\WriteBookmarks{0}
3234 \def\@bookmarkopenstatus#1{%
3235   \ifHy@bookmarksopen
3236     \ifnum#1<\expandafter\@firstofone\expandafter
3237       {\number\@bookmarkopenlevel} % explicit space
3238     \else
3239       -%
3240     \fi
3241   \else
3242     -%
3243   \fi
3244 }
3245 \ifHy@bookmarks
3246   \Hy@Info{Bookmarks ON}%
3247   \ifx\@pdfpagemode\@empty
3248     \def\@pdfpagemode{UseOutlines}%
3249   \fi
3250 \else
3251   \def\@bookmarkopenstatus#1{%
3252     \Hy@Info{Bookmarks OFF}%
3253     \AtEndOfPackage{%
3254       \global\let\ReadBookmarks\relax
3255       \global\let\WriteBookmarks\relax
3256     }%
3257     \ifx\@pdfpagemode\@empty
3258       \def\@pdfpagemode{UseNone}%
3259     \fi
3260   \fi
3261 \Hy@DisableOption{bookmarks}

```

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

```

3262 \AtBeginDocument{%
3263   \ifHy@ocgcolorlinks
3264     \setkeys{Hyp}{colorlinks}%
3265     \ifHy@pdfa
3266       \Hy@Warning{%
3267         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3268         using ‘colorlinks’ instead of ‘ocgcolorlinks’%
3269       }%
3270       \Hy@ocgcolorlinksfalse
3271     \fi
3272   \fi
3273   \ifHy@ocgcolorlinks
3274   \else
3275     \Hy@DisableOption{ocgcolorlinks}%
3276   \fi
3277   \ifHy@colorlinks

```

```

3278 \def\pdfborder{0 0 0}%
3279 \let\pdfborderstyle\@empty
3280 \ifHy@typexml
3281 \else
3282 \RequirePackage{color}%
3283 \fi
3284 \def\Hy@colorlink#1{%
3285 \begingroup
3286 \HyColor@UseColor#1%
3287 }%
3288 \def\Hy@endcolorlink{\endgroup}%
3289 \Hy@Info{Link coloring ON}%
3290 \else
3291 \ifHy@frenchlinks
3292 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3293 \def\Hy@endcolorlink{\endgroup}%
3294 \Hy@Info{French linking ON}%
3295 \else
for grouping consistency:
3296 \def\Hy@colorlink#1{\begingroup}%
3297 \def\Hy@endcolorlink{\endgroup}%
3298 \Hy@Info{Link coloring OFF}%
3299 \fi
3300 \fi
3301 \Hy@DisableOption{colorlinks}%
3302 \Hy@DisableOption{frenchlinks}%
3303 \ifHy@texht
3304 \long\def\@firstoffive#1#2#3#4#5{#1}%
3305 \long\def\@secondoffive#1#2#3#4#5{#2}%
3306 \long\def\@thirdoffive#1#2#3#4#5{#3}%
3307 \long\def\@fourthoffive#1#2#3#4#5{#4}%
3308 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3309 \providecommand*\@safe@activestruer{}%
3310 \providecommand*\@safe@activesfalse{}%
3311 \def\T@ref#1{%
3312 \Hy@safe@activestruer
3313 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3314 \Hy@safe@activesfalse
3315 }%
3316 \def\T@pageref#1{%
3317 \Hy@safe@activestruer
3318 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3319 \Hy@safe@activesfalse
3320 }%
3321 \else
3322 \ifHy@typexml\else\RequirePackage{nameref}\fi
3323 \fi
3324 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3325 \DeclareRobustCommand\pageref{%
3326 \@ifstar\@pagerefstar\T@pageref
3327 }%
3328 }
3329 \AfterBeginDocument{%
3330 \ifHy@texht
3331 \else
3332 \ReadBookmarks
3333 \fi

```

```

3334 }
3335 \ifHy@backref
3336   \RequirePackage{backref}%
3337 \else
3338   \let\Hy@backout\@gobble
3339 \fi
3340 \Hy@DisableOption{backref}
3341 \Hy@DisableOption{pagebackref}
3342 \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.

```

3343 \begingroup
3344   \endlinechar=-1 %
3345   \catcode'\^^A=14 %
3346   \catcode'\^^M\active
3347   \catcode'\%\active
3348   \catcode'\#\active
3349   \catcode'\_\active
3350   \catcode'\$\active
3351   \gdef\hyper@normalise{^^A
3352     \begingroup
3353     \catcode'\^^M\active
3354     \def^^M{ }^^A
3355     \catcode'\%\active
3356     \let%\@percentchar
3357     \let%\@percentchar
3358     \catcode'\#\active
3359     \def#{\hyper@hash}^^A
3360     \def\#{\hyper@hash}^^A
3361     \@makeother\&^^A
3362     \edef\textunderscore{\string_}^^A
3363     \let_\textunderscore
3364     \catcode'\_\active
3365     \let_\textunderscore
3366     \let~\hyper@tilde
3367     \let~\hyper@tilde
3368     \let\textasciitilde\hyper@tilde
3369     \let\\\@backslashchar
3370     \edef$\string$}^^A
3371     \Hy@safe@activetrue
3372     \hyper@n@rmalise
3373   }^^A
3374   \catcode'\#=6 ^^A
3375   \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3376   \gdef\hyper@n@rmalise#1#2{^^A
3377     \def\Hy@tempa{#2}^^A
3378     \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3379       \Hy@ReturnAfterElseFi{^^A
3380         \hyper@@normalise{#1}^^A

```

```

3381     }^^A
3382     \else
3383         \Hy@ReturnAfterFi{^^A
3384         \hyper@@normalise{#1}{#2}^^A
3385     }^^A
3386     \fi
3387 }^^A
3388 \gdef\hyper@@normalise#1#2{^^A
3389     \edef\Hy@tempa{^^A
3390         \endgroup
3391         \noexpand#1{\Hy@RemovePercentCr#2%\nil}^^A
3392     }^^A
3393     \Hy@tempa
3394 }^^A
3395 \gdef\Hy@RemovePercentCr#1%\nil{^^A
3396     #1^^A
3397     \ifx\limits#2\limits
3398     \else
3399         \Hy@ReturnAfterFi{^^A
3400         \Hy@RemovePercentCr #2\@nil
3401     }^^A
3402     \fi
3403 }^^A
3404 \endgroup
3405 \providecommand*\hyper@chars{%
3406     \let\#\hyper@hash
3407     \let%\@percentchar
3408     \Hy@safe@activetrue
3409 }
3410 \def\hyperlink#1#2{%
3411     \hyper@@link{}{#1}{#2}%
3412 }
3413 \DeclareRobustCommand*\href{%
3414     \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3415 }
3416 \def\Hy@href#1{%
3417     \hyper@normalise\href@
3418 }
3419 \begingroup
3420     \catcode'\$=6 %
3421     \catcode'\#=12 %
3422     \gdef\href@#1{\expandafter\href@split$1##\}%
3423     \gdef\href@split$1#$2#$3\{(%
3424         \hyper@@link{$1}{$2}%
3425     }%
3426 \endgroup

```

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

```

3427 \RequirePackage{url}
3428 \let\HyOrg@url\url
3429 \def\Hurl{\begingroup \Url}
3430 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3431 \def\nolinkurl@#1{\Hurl{#1}}
3432 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3433 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3434 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3435 \providecommand\hyper@image[2]{#2}

```

```

3436 \def\hypertarget#1#2{%
3437   \ifHy@nesting
3438     \hyper@@anchor{#1}{#2}%
3439   \else
3440     \hyper@@anchor{#1}{\relax}#2%
3441   \fi
3442 }

```

`\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.

```

3443 \DeclareRobustCommand*\hyperref{%
3444   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3445 }
3446 \def\Hy@babelnormalise#1[#2]{%
3447   \begingroup
3448     \Hy@safe@activetrue
3449     \edef\Hy@tempa{%
3450       \endgroup
3451       \noexpand#1[#2]}%
3452   }%
3453   \Hy@tempa
3454 }
3455 \def\@hyperref{\hyper@normalise\@hyperref}
3456 \def\@hyperref#1#2#3{%
3457   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3458   \expandafter\tryhyper@link\ref@one\\{#1}%
3459 }
3460 \def\tryhyper@link#1\\#2{%
3461   \hyper@@link{#2}{#1}%
3462 }
3463 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3464 \def\@hyperdef#1#2#3{%, category, name, text
3465   \ifHy@nesting
3466     \hyper@@anchor{#1.#2}{#3}%
3467   \else
3468     \hyper@@anchor{#1.#2}{\relax}#3%
3469   \fi
3470 }

```

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.

```

3471 \def\label@hyperref[#1]{%
3472   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
3473 }%
3474 \def\label@\@hyperref#1#2#3{%
3475   \ifx#1\relax
3476     \protect\G@refundefinedtrue
3477     \@latex@warning{%
3478       Hyper reference ‘#2’ on page \thepage \space undefined%
3479     }%
3480     \hyper@@link{}{??}{#3}%
3481   \else
3482     \hyper@@link{\expandafter\@fifthoffive#1}%

```



```

3483      {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3484 \fi
3485 }
3486 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3487                               % anchor text
3488 \@bsphack
3489 \if@filesw
3490   \protected@write\@auxout{%
3491     {\string\newlabel{#1}{#2}{#3}{#4}{#2.#3}}%
3492 \fi
3493 \@esphack
3494 \ifHy@nesting
3495   \hyper@@anchor{#2.#3}{#4}%
3496 \else
3497   \hyper@@anchor{#2.#3}{\relax}#4%
3498 \fi
3499 }

```

17 Underlying basic hypertext macros

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

```

3500 \def\hyper@@link{\let\Hy@reserved@a\relax
3501 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3502 }
3503 \def\hyper@link@[#1]#2#3#4{%
3504 \begingroup
3505   \protected@edef\Hy@tempa{#2}%
3506   \Hy@safe@activestrue
3507   \edef\x{#3}%
3508   \ifx\Hy@tempa\@empty
3509     \toks0{\hyper@link{#1}}%
3510   \else
3511     \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3512   \fi
3513   \toks2{%
3514     \Hy@safe@activesfalse
3515     #4%
3516   }%
3517   \edef\Hy@tempa{\the\toks2}%
3518   \edef\x{\endgroup
3519     \ifx\Hy@tempa\@empty
3520       \noexpand\Hy@Warning{Suppressing empty link}%
3521     \else
3522       \the\toks0 {\x}{\the\toks2}}%
3523   \fi
3524 }%
3525 \x
3526 }

```

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.

```
3527 \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.

```
3528 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1:.\{#1}%
3529 }
```

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

```
3530 \def\@pdftempwordfile{file}%
3531 \def\@pdftempwordrun{run}%
3532 \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 :

```
3533 \ifx\\#6\\%
3534 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3535 \else
3536 \ifx\\#4\\%
3537 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3538 \else
```

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

```
3539 \def\@pdftempa{#4}%
3540 \ifx\@pdftempa\@pdftempwordfile
3541 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3542 \else
```

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

```
3543 \ifx\@pdftempa\@pdftempwordrun
3544 \ifHy@pdfa
3545 \PackageError{hyperref}{%
3546 PDF/A: Launch action is prohibited%
3547 }\@ehc
3548 \begingroup
3549 \leavevmode
3550 #2%
3551 \endgroup
3552 \else
3553 \expandafter\@hyper@launch#7\\{#3}{#2}%
3554 \fi
3555 \else
```

otherwise its a URL

```
3556 \hyper@linkurl{#3}{#7\ifx\\#2\\#4\\#5\\#6\\#7}%
3557 \fi
3558 \fi
```

```

3559 \fi
3560 \fi
3561 }

```

By default, turn run: into file:

```

3562 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3563 \hyper@linkurl{#2}{%
3564 \Hy@linkfileprefix
3565 #1%
3566 \ifx\#3\%
3567 \else
3568 \hyper@hash
3569 #3%
3570 \fi
3571 }%
3572 }

```

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

```

3573 \def\@hyper@linkfile file:#1\#2#3{%
3574 %file url,link string, name
3575 \filename@parse{#1}%
3576 \ifx\filename@ext\relax
3577 \edef\filename@ext{\XR@ext}%
3578 \fi
3579 \def\use@file{\filename@area\filename@base.\filename@ext}%
3580 \ifx\filename@ext\XR@ext
3581 \hyper@linkfile{#2}{\use@file}{#3}%
3582 \else
3583 \ifx\@baseurl\@empty
3584 \hyper@linkurl{#2}{%
3585 \Hy@linkfileprefix\use@file\ifx\#3\%
3586 }%
3587 \else
3588 \hyper@linkurl{#2}{\use@file\ifx\#3\%
3589 \fi
3590 \fi
3591 }

```

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.

```

3592 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3593 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3594 \ifx\#1\%
3595 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3596 \else
3597 \def\anchor@spot{#2#3}%
3598 \let\put@me@back\@empty
3599 \ifx\relax#2\relax
3600 \else
3601 \ifHy@nesting
3602 \else
3603 \ifcat a\noexpand#2\relax

```

```

3604         \else
3605             \ifcat 0\noexpand#2 \relax
3606             \else
3607 %             \typeout{Anchor start is not alphanumeric %
3608 %                 on input line\the\inputlineno%
3609 %             }%
3610             \let\anchor@spot\@empty
3611             \def\put@me@back{#2#3}%
3612         \fi
3613     \fi
3614 \fi
3615 \fi
3616 \ifHy@activeanchor
3617     \anchor@spot
3618 \else
3619     \hyper@anchor{#1}%
3620 \fi
3621 \expandafter\put@me@back
3622 \fi
3623 \let\anchor@spot\@empty
3624 }

```

18 Compatibility with the *L^AT_EX2html* package

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

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

```

3625 \let\htmladding\hyperimage
3626 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3627 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3628 \def\htmlref#1#2{% anchor text, label
3629     \label@hyperref[{#2}]{#1}%
3630 }

```

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

```

3631 \def\@latextohtmlX{%
3632     \let\hhyperref\hyperref
3633     \def\hyperref##1##2##3##4{% anchor text for HTML
3634         % text to print before label in print
3635         % label
3636         % post-label text in print
3637         ##2\ref{##4}##3%
3638     }%
3639 }

```

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.

```
3640 \RequirePackage{bitset}
```

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

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

`\HyField@NewFlag` #1: type: F annot flags, Ff field flags
#2: PDF name
#3: PDF position

```
3641 \def\HyField@NewFlag#1#2{%
3642   \lowercase{\HyField@NewOption{#2}}%
3643   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3644 }
```

`\HyField@NewFlagOnly`

```
3645 \def\HyField@NewFlagOnly#1#2{%
3646   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3647 }
```

`\HyField@NewOption` #1: option name

```
3648 \def\HyField@NewOption#1{%
3649   \expandafter\newif\csname ifFld@#1\endcsname
3650   \define@key{Field}{#1}[true]{%
3651     \lowercase{\Field@boolkey{##1}}{#1}%
3652   }%
3653 }
```

`\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

```
3654 \def\HyField@NewBitsetFlag#1#2#3#4{%
3655   \begingroup
3656     \count@=#4\relax
3657     \advance\count@\m@ne
3658     \def\x##1{%
3659       \endgroup
3660       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3661       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
3662         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3663           (\number#4) #2%
3664         }%
3665       \else
3666         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3667           \csname HyField@#3@#1\endcsname
3668           /#2%
3669         }%
3670     \fi
```

```

3671     }%
3672 \expandafter\x\expandafter{\the\count@}%
3673 }

\HyField@UseFlag The bit set is HyField@#1
3674 \def\HyField@UseFlag#1#2{%
3675   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3676 }

\HyField@@UseFlag
3677 \def\HyField@@UseFlag#1#2{%
3678   \bitsetSetValue{HyField@#2}{%
3679     \csname HyField@#2@#1\endcsname
3680   }{%
3681     \csname ifFld@#1\endcsname 1\else 0\fi
3682   }%
3683 }

\HyField@SetFlag The bit set is HyField@#1
3684 \def\HyField@SetFlag#1#2{%
3685   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3686 }

\HyField@@SetFlag
3687 \def\HyField@@SetFlag#1#2{%
3688   \bitsetSetValue{HyField@#2}{%
3689     \csname HyField@#2@#1\endcsname
3690   }{1}%
3691 }

\HyField@PrintFlags
3692 \def\HyField@PrintFlags#1#2{%
3693   \ifHy@verbose
3694     \begingroup
3695     \let\Hy@temp\@empty
3696     \let\MessageBreak\relax
3697     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3698     \bitsetGetSetBitList{HyField@#1}\do{%
3699       \edef\Hy@temp{%
3700         \Hy@temp
3701         \csname HyField@#1@\x\endcsname\MessageBreak
3702       }%
3703     }%
3704   \edef\x{\endgroup
3705     \noexpand\Hy@Info{%
3706       Field flags: %
3707       \expandafter\ifx\@car#1\@nil S\else/\fi
3708       #1 %
3709       \bitsetGetDec{HyField@#1} %
3710       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3711       \Hy@temp
3712       for #2%
3713     }%
3714   }\x
3715 \fi
3716 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
3717 \HyField@NewFlag{Ff}{ReadOnly}{1}  
3718 \HyField@NewFlag{Ff}{Required}{2}  
3719 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
3720 \HyField@NewFlag{Ff}{NoToggleToOff}{15}  
3721 \HyField@NewFlag{Ff}{Radio}{16}  
3722 \HyField@NewFlag{Ff}{Pushbutton}{17}  
3723 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
3724 \HyField@NewFlag{Ff}{Multiline}{13}  
3725 \HyField@NewFlag{Ff}{Password}{14}  
3726 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4  
3727 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
3728 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4  
3729 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4  
3730 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
3731 \HyField@NewFlag{Ff}{Combo}{18}  
3732 \HyField@NewFlag{Ff}{Edit}{19}  
3733 \HyField@NewFlag{Ff}{Sort}{20}  
3734 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4  
3735 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
3736 \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.

```
3737 \newif\ifFld@popdown  
3738 \define@key{Field}{popdown}[true]{%  
3739   \lowercase{\Field@boolkey{#1}}{popdown}%  
3740 }
```

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.

```
3741 \HyField@NewFlag{F}{Invisible}{1}  
3742 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2  
3743 \HyField@NewFlag{F}{Print}{3}% PDF 1.2  
3744 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2  
3745 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3  
3746 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3  
3747 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4  
3748 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5  
3749 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
```

```
3750 \ifHy@pdfa  
3751   \def\HyField@PDFaFlagWarning#1#2{%  
3752     \Hy@Warning{%  
3753       PDF/A: Annotation flag ‘#1’ must\MessageBreak  
3754       be set to ‘#2’%  
3755     }%
```

```

3756 }%
3757 \Fld@invisiblefalse
3758 \def\Fld@invisibletrue{%
3759   \HyField@PDFAFIWarning{invisible}{false}%
3760 }%
3761 \Fld@hiddenfalse
3762 \def\Fld@hiddentrue{%
3763   \HyField@PDFAFIWarning{hidden}{false}%
3764 }%
3765 \Fld@printtrue
3766 \def\Fld@printfalse{%
3767   \HyField@PDFAFIWarning{print}{true}%
3768 }%
3769 \Fld@nozoomtrue
3770 \def\Fld@nozoomfalse{%
3771   \HyField@PDFAFIWarning{nozoom}{true}%
3772 }%
3773 \Fld@norotatetrue
3774 \def\Fld@norotatefalse{%
3775   \HyField@PDFAFIWarning{norotate}{true}%
3776 }%
3777 \Fld@noviewfalse
3778 \def\Fld@noviewtrue{%
3779   \HyField@PDFAFIWarning{noview}{false}%
3780 }%
3781 \fi

```

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

```

3782 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3783 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3784 \HyField@NewFlag{Submit}{GetMethod}{4}
3785 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3786 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3787 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3788 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3789 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3790 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3791 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3792 \HyField@NewFlag{Submit}{ExclFKey}{12}
3793 \HyField@NewFlag{Submit}{EmbedForm}{14}

3794 \define@key{Field}{export}{%
3795   \lowercase{\def\Hy@temp{#1}}%
3796   \@ifundefined{Fld@export@Hy@temp}{%
3797     \onelevel@sanitize\Hy@temp
3798     \PackageError{hyperref}{%
3799       Unknown export format '\Hy@temp'.\MessageBreak
3800       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3801     }\@ehc
3802   }{%
3803     \let\Fld@export\Hy@temp
3804   }%
3805 }
3806 \def\Fld@export{fdf}
3807 \@namedef{Fld@export@fdf}{0}%
3808 \@namedef{Fld@export@html}{1}%
3809 \@namedef{Fld@export@xfdf}{2}%
3810 \@namedef{Fld@export@pdf}{3}%

```


19.1.2 Set submit flags

\HyField@FlagsSubmit

```
3811 \def\HyField@FlagsSubmit{%
3812   \bitsetReset{HyField@Submit}%
3813   \ifcase\@nameuse{Fld@export@\Fld@export} %
3814     % FDF
3815     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3816     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3817     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3818     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3819     \HyField@UseFlag{Submit}{CanonicalFormat}%
3820     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3821     \HyField@UseFlag{Submit}{ExclFKey}%
3822     \HyField@UseFlag{Submit}{EmbedForm}%
3823   \or % HTML
3824     \HyField@SetFlag{Submit}{ExportFormat}%
3825     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3826     \HyField@UseFlag{Submit}{GetMethod}%
3827     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3828     \HyField@UseFlag{Submit}{CanonicalFormat}%
3829   \or % XFDF
3830     \HyField@SetFlag{Submit}{XFDF}%
3831     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3832     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3833     \HyField@UseFlag{Submit}{CanonicalFormat}%
3834   \or % PDF
3835     \HyField@SetFlag{Submit}{SubmitPDF}%
3836     \HyField@UseFlag{Submit}{GetMethod}%
3837   \fi
3838   \HyField@PrintFlags{Submit}{submit button field}%
3839   \bitsetIsEmpty{HyField@Submit}{%
3840     \def\Fld@submitflags{%
3841     }{%
3842     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3843     }%
3844 }
```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
3845 \def\HyField@FlagsAnnot#1{%
3846   \bitsetReset{HyField@F}%
3847   \HyField@UseFlag{F}{Invisible}%
3848   \HyField@UseFlag{F}{Hidden}%
3849   \HyField@UseFlag{F}{Print}%
3850   \HyField@UseFlag{F}{NoZoom}%
3851   \HyField@UseFlag{F}{NoRotate}%
3852   \HyField@UseFlag{F}{NoView}%
3853   \HyField@UseFlag{F}{Locked}%
3854   \HyField@UseFlag{F}{ToggleNoView}%
3855   \HyField@UseFlag{F}{LockedContents}%
3856   \HyField@PrintFlags{F}{#1}%
3857   \bitsetIsEmpty{HyField@F}{%
3858     \def\Fld@annotflags{%
3859     }{%
3860     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3861     }%
3862   }
```

```

3861 }%
3862 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

3863 \def\HyField@FlagsPushButton{%
3864   \HyField@FlagsAnnot{push button field}%
3865   \bitsetReset{HyField@Ff}%
3866   \HyField@UseFlag{Ff}{ReadOnly}%
3867   \HyField@UseFlag{Ff}{Required}%
3868   \HyField@UseFlag{Ff}{NoExport}%
3869   \HyField@SetFlag{Ff}{Pushbutton}%
3870   \HyField@PrintFlags{Ff}{push button field}%
3871   \bitsetIsEmpty{HyField@Ff}{%
3872     \def\Fld@flags{%
3873     }{%
3874       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3875     }%
3876 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

3877 \def\HyField@FlagsCheckBox{%
3878   \HyField@FlagsAnnot{check box field}%
3879   \bitsetReset{HyField@Ff}%
3880   \HyField@UseFlag{Ff}{ReadOnly}%
3881   \HyField@UseFlag{Ff}{Required}%
3882   \HyField@UseFlag{Ff}{NoExport}%
3883   \HyField@PrintFlags{Ff}{check box field}%
3884   \bitsetIsEmpty{HyField@Ff}{%
3885     \def\Fld@flags{%
3886     }{%
3887       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3888     }%
3889 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

3890 \def\HyField@FlagsRadioButton{%
3891   \HyField@FlagsAnnot{radio button field}%
3892   \bitsetReset{HyField@Ff}%
3893   \HyField@UseFlag{Ff}{ReadOnly}%
3894   \HyField@UseFlag{Ff}{Required}%
3895   \HyField@UseFlag{Ff}{NoExport}%
3896   \HyField@UseFlag{Ff}{NoToggleToOff}%
3897   \HyField@SetFlag{Ff}{Radio}%
3898   \HyField@UseFlag{Ff}{RadiosInUnison}%
3899   \HyField@PrintFlags{Ff}{radio button field}%
3900   \bitsetIsEmpty{HyField@Ff}{%
3901     \def\Fld@flags{%
3902     }{%
3903       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3904     }%

```

3905 }

19.1.7 Text fields

\HyField@FlagsText

```
3906 \def\HyField@FlagsText{%
3907   \HyField@FlagsAnnot{text field}%
3908   \bitsetReset{HyField@Ff}%
3909   \HyField@UseFlag{Ff}{ReadOnly}%
3910   \HyField@UseFlag{Ff}{Required}%
3911   \HyField@UseFlag{Ff}{NoExport}%
3912   \HyField@UseFlag{Ff}{Multiline}%
3913   \HyField@UseFlag{Ff}{Password}%
3914   \HyField@UseFlag{Ff}{FileSelect}%
3915   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3916   \HyField@UseFlag{Ff}{DoNotScroll}%
3917   \ifFld@comb
3918     \ifcase0\ifFld@multiline
3919       \else\ifFld@password
3920       \else\ifFld@fileselect
3921       \else 1\fi\fi\fi\relax
3922     \PackageError{hyperref}{%
3923       Field option 'comb' cannot used together with\MessageBreak
3924       'multiline', 'password', or 'fileselect'%
3925     }\@ehc
3926   \else
3927     \HyField@UseFlag{Ff}{Comb}%
3928   \fi
3929 \fi
3930 \HyField@UseFlag{Ff}{RichText}%
3931 \HyField@PrintFlags{Ff}{text field}%
3932 \bitsetIsEmpty{HyField@Ff}{%
3933   \def\Fld@flags{%
3934   }{%
3935     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3936   }%
3937 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
3938 \def\HyField@FlagsChoice{%
3939   \HyField@FlagsAnnot{choice field}%
3940   \bitsetReset{HyField@Ff}%
3941   \HyField@UseFlag{Ff}{ReadOnly}%
3942   \HyField@UseFlag{Ff}{Required}%
3943   \HyField@UseFlag{Ff}{NoExport}%
3944   \HyField@UseFlag{Ff}{Combo}%
3945   \ifFld@combo
3946     \HyField@UseFlag{Ff}{Edit}%
3947   \fi
3948   \HyField@UseFlag{Ff}{Sort}%
3949   \HyField@UseFlag{Ff}{MultiSelect}%
3950   \ifFld@combo
3951     \ifFld@edit
3952       \HyField@UseFlag{Ff}{DoNotSpellCheck}%

```

```

3953     \fi
3954 \fi
3955 \HyField@UseFlag{Ff}{CommitOnSelChange}%
3956 \HyField@PrintFlags{Ff}{choice field}%
3957 \bitsetIsEmpty{HyField@Ff}{%
3958     \def\Fld@flags{%
3959 }{%
3960     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3961 }%
3962 }

```

19.2 Choice field

```

3963 \RequirePackage{kvsetkeys}[2007/09/29]

```

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

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

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

```

3964 \def\HyField@PDFChoices#1{%
3965     \begingroup
3966     \gdef\Fld@choices{%
3967     \def\HyTmp@optlist{%
3968     \let\HyTmp@optitem\relax
3969     \count@=0 %
3970     \kv@parse{#1}{%
3971     \Hy@pdfstringdef\kv@key\kv@key
3972     \ifx\kv@value\relax
3973     \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
3974     \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
3975     \else
3976     \xdef\Fld@choices{\Fld@choices(\kv@key)}%
3977     \fi
3978     \else
3979     \Hy@pdfstringdef\kv@value\kv@value
3980     \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
3981     \fi
3982     \edef\HyTmp@optlist{%
3983     \HyTmp@optlist
3984     \HyTmp@optitem{\the\count@}{\kv@key}0%
3985     }%
3986     \advance\count@ by 1 %
3987     \@gobbletwo
3988     }%
3989     \xdef\Fld@choices{/Opt[\Fld@choices]}%
3990     \ifFld@multiselect
3991     \HyField@@PDFChoices{DV}\Fld@default
3992     \HyField@@PDFChoices{V}\Fld@value
3993     \else
3994     \ifx\Fld@default\relax
3995     \else
3996     \pdfstringdef\Hy@gtemp\Fld@default
3997     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
3998     \fi
3999     \ifx\Fld@value\relax
4000     \else
4001     \pdfstringdef\Hy@gtemp\Fld@value
4002     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%

```

```

4003     \fi
4004     \fi
4005 \endgroup
4006 }

```

\HyField@@PDFChoices

```

4007 \def\HyField@@PDFChoices#1#2{%
4008   \ifx#2\relax
4009   \else
4010     \count@=0 %
4011     \def\HyTmp@optitem##1##2##3{%
4012       \def\HyTmp@key{##2}%
4013       \ifx\HyTmp@key\Hy@gtemp
4014         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4015           \HyTmp@optlist
4016           \HyTmp@optitem{##1}{##2}1%
4017         }%
4018         \let\HyTmp@found=Y%
4019       \else
4020         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4021           \HyTmp@optlist
4022           \HyTmp@optitem{##1}{##2}##3%
4023         }%
4024       \fi
4025     }%
4026     \expandafter\comma@parse\expandafter{#2}{%
4027       \pdfstringdef\Hy@gtemp\comma@entry
4028       \let\HyTmp@found=N %
4029       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4030       \HyTmp@optlist
4031       \ifx\HyTmp@found Y%
4032         \advance\count@ by 1 %
4033       \else
4034         \@onelevel@sanitize\comma@entry
4035         \PackageWarning{hyperref}{%
4036           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4037           \MessageBreak
4038           it cannot be found in the choices%
4039         }%
4040       \fi
4041       \@gobble
4042     }%
4043     \def\HyTmp@optitem##1##2##3{%
4044       \ifnum##3=1 %
4045         (##2)%
4046       \fi
4047     }%
4048     \ifcase\count@
4049     \or
4050       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4051     \else
4052       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4053       \ifx#1V%
4054         \def\HyTmp@optitem##1##2##3{%
4055           \ifnum##3=1 %
4056             \@firstofone{ ##1}%
4057           \fi

```

```

4058     }%
4059     \edef\HyTmp@optlist{\HyTmp@optlist}%
4060     \xdef\Fld@choices{%
4061         \Fld@choices
4062         /I[\expandafter\@firstofone\HyTmp@optlist]}%
4063     }%
4064     \fi
4065     \fi
4066     \fi
4067 }

```

19.3 Forms

\HyField@SetKeys

```

4068 \def\HyField@SetKeys{%
4069     \setkeys{Field}%
4070 }

4071 \newif\ifFld@checked
4072 \newif\ifFld@disabled
4073 \Fld@checkedfalse
4074 \Fld@disabledfalse
4075 \newcount\Fld@menulength
4076 \newdimen\Field@Width
4077 \newdimen\Fld@charsize
4078 \Fld@charsize=10\p@
4079 \def\Fld@maxlen{0}
4080 \def\Fld@align{0}
4081 \def\Fld@color{0 0 0 rg}
4082 \def\Fld@bcolor{1 1 1}
4083 \def\Fld@bordercolor{1 0 0}
4084 \def\Fld@bordersep{1\p@}
4085 \def\Fld@borderwidth{1}
4086 \def\Fld@borderstyle{S}
4087 \def\Fld@cbsymbol{4}
4088 \def\Fld@rotation{0}
4089 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4090 \def\endForm{\@endForm}
4091 \newif\ifForm@html
4092 \Form@htmlfalse
4093 \def\Form@boolkey#1#2{%
4094     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4095 }
4096 \define@key{Form}{action}{%
4097     \hyper@normalise\Hy@DefFormAction{#1}%
4098 }
4099 \def\Hy@DefFormAction{\def\Form@action}
4100 \def\enc@html{html}
4101 \define@key{Form}{encoding}{%
4102     \def\Hy@tempa{#1}%
4103     \ifx\Hy@tempa\enc@html
4104         \Form@htmltrue
4105         \def\Fld@export{html}%
4106     \else
4107         \typeout{hyperref: form 'encoding' key set to #1 %
4108             -- unknown type%
4109     }%

```

```

4110 \Form@htmlfalse
4111 \fi
4112 }
4113 \define@key{Form}{method}{%
4114 \lowercase{\def\Hy@temp{#1}}%
4115 \@ifundefined{Form@method@Hy@temp}{%
4116 \onelevel@sanitize\Hy@temp
4117 \PackageError{hyperref}{%
4118 Unknown method '\Hy@temp'.\MessageBreak
4119 Known values are 'post' and 'get'%
4120 }\@ehc
4121 }{%
4122 \let\Form@method\Hy@temp
4123 \ifcase\@nameuse{Form@method@Hy@temp} %
4124 \Fld@getmethodfalse
4125 \else
4126 \Fld@getmethodtrue
4127 \fi
4128 }%
4129 }
4130 \def\Form@method{}
4131 \@namedef{Form@method@post}{0}
4132 \@namedef{Form@method@get}{1}
4133 \def\Fld@boolkey#1#2{%
4134 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4135 }
4136 \newtoks\Fld@toks
4137 \Fld@toks={ }%
4138 \def\Fld@addtoks#1#2{%
4139 \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4140 \@processme
4141 }
4142 \def\Fld@checkequals#1=#2=#3\\{%
4143 \def\@currDisplay{#1}%
4144 \ifx\\#2\\%
4145 \def\@currValue{#1}%
4146 \else
4147 \def\@currValue{#2}%
4148 \fi
4149 }
4150 \define@key{Field}{loc}{%
4151 \def\Fld@loc{#1}%
4152 }
4153 \define@key{Field}{checked}[true]{%
4154 \lowercase{\Field@boolkey{#1}}{checked}%
4155 }
4156 \define@key{Field}{disabled}[true]{%
4157 \lowercase{\Field@boolkey{#1}}{disabled}%
4158 }
4159 \define@key{Field}{accesskey}{%
4160 \Field@addtoks{accesskey}{#1}%
4161 }
4162 \define@key{Field}{tabkey}{%
4163 \Field@addtoks{tabkey}{#1}%
4164 }
4165 \define@key{Field}{name}{%
4166 \def\Fld@name{#1}%

```

```

4167 }
4168 \define@key{Field}{width}{%
4169   \def\Fld@width{#1}%
4170   \Field@Width#1\setbox0=\hbox{m}%
4171 }
4172 \define@key{Field}{maxlen}{%
4173   \def\Fld@maxlen{#1}%
4174 }
4175 \define@key{Field}{menulength}{%
4176   \Fld@menulength=#1\relax
4177 }
4178 \define@key{Field}{height}{%
4179   \def\Fld@height{#1}%
4180 }
4181 \define@key{Field}{charsize}{%
4182   \Fld@charsize#1%
4183 }
4184 \define@key{Field}{borderwidth}{%
4185   \def\Fld@borderwidth{#1}%
4186 }
4187 \define@key{Field}{borderstyle}{%
4188   \def\Fld@borderstyle{#1}%
4189 }
4190 \define@key{Field}{bordersep}{%
4191   \def\Fld@bordersep{#1}%
4192 }
4193 \define@key{Field}{default}{%
4194   \def\Fld@default{#1}%
4195 }
4196 \define@key{Field}{align}{%
4197   \def\Fld@align{#1}%
4198 }
4199 \define@key{Field}{value}{%
4200   \def\Fld@value{#1}%
4201 }
4202 \define@key{Field}{checkboxsymbol}{%
4203   \def\Fld@cbsymbol{#1}%
4204 }
4205 \define@key{Field}{rotation}{%
4206   \def\Fld@rotation{#1}%
4207 }
4208 \define@key{Field}{backgroundcolor}{%
4209   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4210 }
4211 \define@key{Field}{bordercolor}{%
4212   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4213 }
4214 \define@key{Field}{color}{%
4215   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4216 }
4217 \def\Fld@format@code{}
4218 \def\Fld@validate@code{}
4219 \def\Fld@calculate@code{}
4220 \def\Fld@keystroke@code{}
4221 \def\Fld@onfocus@code{}
4222 \def\Fld@onblur@code{}

```



```

4223 \def\Fld@onmousedown@code{}
4224 \def\Fld@onmouseup@code{}
4225 \def\Fld@onenter@code{}
4226 \def\Fld@onexit@code{}
4227 \def\Hy@temp#1{%
4228   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4229 }
4230 \def\Hy@@temp#1#2{%
4231   \ifHy@pdfa
4232     \define@key{Field}{#2}{%
4233       \PackageError{hyperref}{%
4234         PDF/A: Additional action ‘#2’ is prohibited%
4235       }\@ehc
4236     }%
4237   \else
4238     \define@key{Field}{#2}{%
4239       \def#1{##1}%
4240     }%
4241   \fi
4242 }
4243 \Hy@temp{keystroke}
4244 \Hy@temp{format}
4245 \Hy@temp{validate}
4246 \Hy@temp{calculate}
4247 \Hy@temp{onfocus}
4248 \Hy@temp{onblur}
4249 \Hy@temp{onenter}
4250 \Hy@temp{onexit}
4251 \def\Hy@temp#1{%
4252   \define@key{Field}{#1}{%
4253     \Field@addtoks{#1}{##1}%
4254   }%
4255 }
4256 \Hy@temp{onselect}
4257 \Hy@temp{onchange}
4258 \Hy@temp{ondblclick}
4259 \Hy@temp{onmousedown}
4260 \Hy@temp{onmouseup}
4261 \Hy@temp{onmouseover}
4262 \Hy@temp{onmousemove}
4263 \Hy@temp{onmouseout}
4264 \Hy@temp{onkeypress}
4265 \Hy@temp{onkeydown}
4266 \Hy@temp{onkeyup}
4267 \ifHy@pdfa
4268   \define@key{Field}{onclick}{%
4269     \PackageError{hyperref}{%
4270       PDF/A: Action ‘#2’ is prohibited%
4271     }\@ehc
4272   }%
4273 \else
4274   \define@key{Field}{onclick}{%
4275     \def\Fld@onclick{#1}%
4276     \Field@addtoks{onclick}{#1}%
4277   }%
4278 \fi
4279 \DeclareRobustCommand\TextField{%

```

```

4280 \@ifnextchar[{\@TextField}{\@TextField[]}%
4281 }
4282 \DeclareRobustCommand\ChoiceMenu{%
4283 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4284 }
4285 \DeclareRobustCommand\CheckBox{%
4286 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4287 }
4288 \DeclareRobustCommand\PushButton{%
4289 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4290 }
4291 \DeclareRobustCommand\Gauge{%
4292 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4293 }
4294 \DeclareRobustCommand\Submit{%
4295 \@ifnextchar[{\@Submit}{\@Submit[]}%
4296 }
4297 \DeclareRobustCommand\Reset{%
4298 \@ifnextchar[{\@Reset}{\@Reset[]}%
4299 }
4300 \def\LayoutTextField#1#2{% label, field
4301 #1 #2%
4302 }
4303 \def\LayoutChoiceField#1#2{% label, field
4304 #1 #2%
4305 }
4306 \def\LayoutCheckField#1#2{% label, field
4307 #1 #2%
4308 }
4309 \def\LayoutPushButtonField#1{% button
4310 #1%
4311 }
4312 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4313 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4314 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4315 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4316 \def\MakeButtonField#1{%
4317 \sbox0{%
4318 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4319 }%
4320 \@tempdima\ht0 %
4321 \advance\@tempdima by \Fld@borderwidth bp %
4322 \advance\@tempdima by \Fld@borderwidth bp %
4323 \ht0\@tempdima
4324 \@tempdima\dp0 %
4325 \advance\@tempdima by \Fld@borderwidth bp %
4326 \advance\@tempdima by \Fld@borderwidth bp %
4327 \dp0\@tempdima
4328 \box0\relax
4329 }
4330 \def\DefaultHeightofSubmit{14pt}
4331 \def\DefaultWidthofSubmit{2cm}
4332 \def\DefaultHeightofReset{14pt}
4333 \def\DefaultWidthofReset{2cm}
4334 \def\DefaultHeightofCheckBox{\baselineskip}
4335 \def\DefaultWidthofCheckBox{\baselineskip}
4336 \def\DefaultHeightofChoiceMenu{\baselineskip}

```

```

4337 \def\DefaultWidthofChoiceMenu{\baselineskip}
4338 \def\DefaultHeightofText{\baselineskip}
4339 \def\DefaultHeightofTextMultiline{4\baselineskip}
4340 \def\DefaultWidthofText{3cm}
4341 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4342 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4343 \def\DefaultOptionsofPushButton{print}
4344 \def\DefaultOptionsofCheckBox{print}
4345 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
4346 \def\DefaultOptionsofListBox{print}
4347 \def\DefaultOptionsofComboBox{print,edit,sort}
4348 \def\DefaultOptionsofPopdownBox{print}
4349 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4350 \ifHy@figures
4351   \Hy@Info{Hyper figures ON}%
4352 \else
4353   \Hy@Info{Hyper figures OFF}%
4354 \fi
4355 \ifHy@nesting
4356   \Hy@Info{Link nesting ON}%
4357 \else
4358   \Hy@Info{Link nesting OFF}%
4359 \fi
4360 \ifHy@hyperindex
4361   \Hy@Info{Hyper index ON}%
4362 \else
4363   \Hy@Info{Hyper index OFF}%
4364 \fi
4365 \ifHy@backref
4366   \Hy@Info{backreferencing ON}%
4367 \else
4368   \Hy@Info{backreferencing OFF}%
4369 \fi
4370 \ifHy@colorlinks
4371   \Hy@Info{Link coloring ON}%
4372 \else
4373   \Hy@Info{Link coloring OFF}%
4374 \fi
4375 \ifHy@ocgcolorlinks
4376   \Hy@Info{Link coloring with OCG ON}%
4377 \else
4378   \Hy@Info{Link coloring with OCG OFF}%
4379 \fi
4380 \ifHy@pdfa
4381   \Hy@Info{PDF/A mode ON}%
4382 \else
4383   \Hy@Info{PDF/A mode OFF}%
4384 \fi

```

21 Low-level utility macros

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

```

4385 \edef\hyper@hash{\string#}
4386 \edef\hyper@tilde{\string~}
4387 \edef\hyper@quote{\string"}
4388 \let\@currentHref\@empty
4389 \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.

```

4390 \AfterBeginDocument{%
4391   \Hy@pdfstringtrue
4392   \PDF@SetupDoc
4393   \let\PDF@SetupDoc\@empty
4394   \Hy@DisableOption{pdfpagescrop}%
4395   \Hy@DisableOption{pdfpagemode}%
4396   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4397   \Hy@DisableOption{pdfdirection}%
4398   \Hy@DisableOption{pdfviewarea}%
4399   \Hy@DisableOption{pdfviewclip}%
4400   \Hy@DisableOption{pdfprintarea}%
4401   \Hy@DisableOption{pdfprintclip}%
4402   \Hy@DisableOption{pdfprintscaling}%
4403   \Hy@DisableOption{pdfduplex}%
4404   \Hy@DisableOption{pdfpicktraybypdfsize}%
4405   \Hy@DisableOption{pdfprintpagerange}%
4406   \Hy@DisableOption{pdfnumcopies}%
4407   \Hy@DisableOption{pdfstartview}%
4408   \Hy@DisableOption{pdfstartpage}%
4409   \Hy@DisableOption{pdftoolbar}%
4410   \Hy@DisableOption{pdfmenubar}%
4411   \Hy@DisableOption{pdfwindowui}%
4412   \Hy@DisableOption{pdf-fit-window}%
4413   \Hy@DisableOption{pdf-center-window}%
4414   \Hy@DisableOption{pdf-display-doctype}%
4415   \Hy@DisableOption{pdf-page-layout}%
4416   \Hy@DisableOption{pdf-lang}%
4417   \Hy@DisableOption{baseurl}%
4418   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4419   \Hy@pdfstringfalse
4420 }

```

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.

```

4421 \def\NoHyper{%
4422   \def\hyper@link@{##1}##2##3##4{##4}%
4423   \def\hyper@anchor##1{%
4424     \global\let\hyper@livelink\hyper@link
4425     \gdef\hyper@link##1##2##3{##3}%
4426     \def\hyper@anchorstart##1{%
4427       \let\hyper@anchorend\@empty
4428       \def\hyper@linkstart##1##2{%
4429         \let\hyper@linkend\@empty
4430         \def\hyper@linkurl##1##2{##1}%

```

```

4431 \def\hyper@linkfile##1##2##3{##1}%
4432 \def\hyper@link@{##1}##2##3{}%
4433 \let\Hy@backout\@gobble
4434 }
4435 \def\stop@hyper{%
4436 \def\hyper@link@{##1}##2##3##4{##4}%
4437 \let\Hy@backout\@gobble
4438 \def\hyper@@anchor##1{}%
4439 \def\hyper@link##1##2##3{##3}%
4440 \def\hyper@anchorstart##1{}%
4441 \let\hyper@anchorend\@empty
4442 \def\hyper@linkstart##1##2{}%
4443 \let\hyper@linkend\@empty
4444 \def\hyper@linkurl##1##2{##1}%
4445 \def\hyper@linkfile##1##2##3{##1}%
4446 \def\hyper@link@{##1}##2##3{}%
4447 }
4448 \def\endNoHyper{%
4449 \global\let\hyper@link\hyper@livelink
4450 }
4451 \</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:

```

4452 \<*nohyperref>
4453 \let\hyper@@anchor\@gobble
4454 \def\hyper@link#1#2#3{#3}%
4455 \let\hyper@anchorstart\@gobble
4456 \let\hyper@anchorend\@empty
4457 \let\hyper@linkstart\@gobbletwo
4458 \let\hyper@linkend\@empty
4459 \def\hyper@linkurl#1#2{#1}%
4460 \def\hyper@linkfile#1#2#3{#1}%
4461 \def\hyper@link@{#1}#2#3{}%
4462 \let\PDF@SetupDoc\@empty
4463 \let\PDF@FinishDoc\@empty

```

Some top-level commands:

```

4464 \def\Acrobatmenu#1#2{\leavevmode#2}
4465 \let\pdfstringdefDisableCommands\@gobbletwo
4466 \let\texorpdfstring\@firstoftwo
4467 \let\pdfbookmark\@undefined
4468 \newcommand\pdfbookmark[3][]{ }
4469 \let\phantomsection\@empty
4470 \let\hypersetup\@gobble
4471 \let\hyperbaseurl\@gobble
4472 \let\href\@gobble
4473 \let\hyperdef\@gobbletwo
4474 \let\hyperlink\@gobble
4475 \let\hypertarget\@gobble

```

```

4476 \def\hyperref{%
4477   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4478 }
4479 \long\def\@gobbleopt[#1]{%
4480 \let\hyperpage\empty
4481 \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}`

```

4482 \*package
4483 \AfterBeginDocument{%

```

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

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

```

4484 \if@filesw
4485   \ifHy@typexml
4486     \immediate\closeout\@mainaux
4487     \immediate\openout\@mainaux\jobname.aux\relax
4488     \immediate\write\@auxout{<relaxxml>\relax}%
4489   \fi
4490   \immediate\write\@auxout{%
4491     \string\ifx\string\hyper@anchor\string\undefined^^J%
4492     \global\let\string\oldcontentsline\string\contentsline^^J%
4493     \gdef\string\contentsline%
4494       \string#1\string#2\string#3\string#4{%
4495       \string\oldcontentsline%
4496       {\string#1}{\string#2}{\string#3}}^^J%
4497     \global\let\string\oldnewlabel\string\newlabel^^J%
4498     \gdef\string\newlabel\string#1\string#2{%
4499     \string\newlabelxx{\string#1}\string#2}^^J%
4500     \gdef\string\newlabelxx%
4501       \string#1\string#2\string#3\string#4\string#5\string#6{%
4502       \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.

```

4503     \string\AtEndDocument{%
4504     \let\string\contentsline\string\oldcontentsline^^J%
4505     \let\string\newlabel\string\oldnewlabel}^^J%

```

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

```

4506     \string\else^^J%
4507     \global\let\string\hyper@last\relax^^J%
4508     \string\fi^^J%
4509   }%
4510 \fi

```

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

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

4511 \ifx\hyper@last\@undefined
4512   \def\@starttoc#1{%
4513     \begingroup
4514       \makeatletter
4515       \IfFileExists{\jobname.#1}{%
4516         \Hy@WarningNoLine{%
4517           old #1 file detected, not used; run LaTeX again%
4518         }%
4519       }{}%
4520     \if@filesw
4521       \expandafter\newwrite\csname tf@#1\endcsname
4522       \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4523     \fi
4524     \@nobreakfalse
4525   \endgroup
4526 }%
4527 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4528 \fi
4529 }

```

25 Title strings

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

```

4530 \ifHy@usetitle
4531   \let\HyOrg@title\title
4532   \let\HyOrg@author\author
4533   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4534   \def\Hy@scanopttitle[#1]{%
4535     \gdef\Hy@title{#1}%
4536     \HyOrg@title[{#1}]%
4537   }%
4538   \def\Hy@scantitle#1{%
4539     \gdef\Hy@title{#1}%
4540     \HyOrg@title{#1}%
4541   }%
4542   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4543   \def\Hy@scanoptauthor[#1]{%
4544     \gdef\Hy@author{#1}%
4545     \HyOrg@author[{#1}]%
4546   }%
4547   \def\Hy@scanauthor#1{%
4548     \gdef\Hy@author{#1}%
4549     \HyOrg@author{#1}%
4550   }%

```

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.

```

4551 \begingroup
4552   \def\process@me#1\@nil#2{%
4553     \expandafter\let\expandafter\x\csname @#2\endcsname
4554     \edef\y{\expandafter\strip@prefix\meaning\x}%
4555     \def\c##1##2\@nil{%

```

```

4556      \ifx\\##1\\%
4557      \else
4558      \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4559      \expandafter{\x}%
4560      \fi
4561      }%
4562      \expandafter\c\y\relax#1\@nil
4563      }%
4564      \expandafter\process@me\string\@latex@\@nil{title}%
4565      \expandafter\process@me\string\@latex@\@nil{author}%
4566      \endgroup
4567 \fi
4568 \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.

```

4569 \def\Hy@UseMaketitleString#1{%
4570   \@ifundefined{Hy@#1}{-}{%
4571     \begingroup
4572     \let\Hy@saved@hook\pdfstringdefPreHook
4573     \pdfstringdefDisableCommands{%
4574       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4575       \let\newline\\%
4576     }%
4577     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4578     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4579       \csname Hy@#1\endcsname\@empty
4580     }%
4581     \fi
4582     \global\let\pdfstringdefPreHook\Hy@saved@hook
4583   \endgroup
4584   }%
4585 }
4586 \def\Hy@newline@title#1{ #1}
4587 \def\Hy@newline@author#1{, #1}
4588 \def\Hy@UseMaketitleInfos{%
4589   \Hy@UseMaketitleString{title}%
4590   \Hy@UseMaketitleString{author}%
4591 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4592 \RequirePackage{atbegshi}[2007/09/09]
4593 \def\Hy@EveryPageHook{}

```



```

4594 \def\Hy@EveryPageBoxHook{}
4595 \def\Hy@FirstPageHook{}
4596 \AtBeginShipout{%
4597   \Hy@EveryPageHook
4598   \ifx\Hy@EveryPageBoxHook\@empty
4599   \else
4600     \setbox\AtBeginShipoutBox=\vbox{%
4601       \offinterlineskip
4602       \Hy@EveryPageBoxHook
4603       \box\AtBeginShipoutBox
4604     }%
4605   \fi
4606 }
4607 \AtBeginShipoutFirst{%
4608   \Hy@FirstPageHook
4609 }
4610 \g@addto@macro\Hy@FirstPageHook{%
4611   \PDF@FinishDoc
4612   \gdef\PDF@FinishDoc{}}%
4613 }

```

27.1 PDF /PageLabels

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

```

4614 \ifHy@pagelabels
4615   \begingroup\expandafter\expandafter\expandafter\endgroup
4616   \expandafter\ifx\csname thepage\endcsname\relax
4617     \Hy@pagelabelsfalse
4618     \Hy@WarningNoLine{%
4619       Option 'pdfpagelabels' is turned off\MessageBreak
4620       because \string\thepage\space is undefined%
4621     }%
4622     \csname fi\endcsname
4623     \csname iffalse\expandafter\endcsname
4624   \fi

```

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

```

4625 \def\thispdfpagelabel#1{%
4626   \gdef\HyPL@thisLabel{#1}%
4627 }%
4628 \global\let\HyPL@thisLabel\relax

```

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

```

4629 \def\HyPL@Labels{}%

```

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

```

4630 \newcount\Hy@abspage
4631 \Hy@abspage=0 %

```

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

```

4632 \def\HyPL@LastType{init}%
4633 \def\HyPL@LastNumber{0}%
4634 \def\HyPL@LastPrefix{}%

```

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

```

4635 \def\HyPL@arabic{D}%

```

```

4636 \def\HyPL@Roman{R}%
4637 \def\HyPL@roman{r}%
4638 \def\HyPL@Alph{A}%
4639 \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.

```

4640 \def\HyPL@EveryPage{%
4641   \begingroup
4642   \ifx\HyPL@thisLabel\relax
4643     \let\HyPL@page\thepage
4644   \else
4645     \let\HyPL@page\HyPL@thisLabel
4646   \global\let\HyPL@thisLabel\relax
4647   \fi
4648   \let\HyPL@Type\relax
4649   \ifnum\the\c@page>0 %
4650     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4651   \fi
4652   \let\Hy@temp Y%
4653   \ifx\HyPL@Type\HyPL@LastType
4654   \else
4655     \let\Hy@temp N%
4656   \fi
4657   \ifx\HyPL@Type\relax
4658     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4659   \else
4660     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4661   \fi
4662   \ifx\HyPL@Prefix\HyPL@LastPrefix
4663   \else
4664     \let\Hy@temp N%
4665   \fi
4666   \if Y\Hy@temp
4667     \advance\c@page by -1 %
4668     \ifnum\HyPL@LastNumber=\the\c@page\relax
4669     \else
4670       \let\Hy@temp N%
4671     \fi
4672     \Hy@StepCount\c@page
4673   \fi
4674   \if N\Hy@temp
4675     \ifx\HyPL@Type\relax
4676       \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
4677     \else
4678       \HyPL@storePageLabel{%
4679         \ifx\HyPL@Prefix\@empty
4680         \else
4681           /P(\HyPL@Prefix)%
4682         \fi
4683         /S/\csname HyPL\HyPL@Type\endcsname
4684         \ifnum\the\c@page=1 %
4685         \else
4686           \space/St \the\c@page
4687         \fi
4688       }%
4689   \fi

```

```

4690     \fi
4691     \xdef\HyPL@LastNumber{\the\c@page}%
4692     \global\let\HyPL@LastType\HyPL@Type
4693     \global\let\HyPL@LastPrefix\HyPL@Prefix
4694   \endgroup
4695   \Hy@GlobalStepCount\Hy@abspage
4696 }%

```

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

```

4697   \def\HyPL@CheckThePage#1\@nil{%
4698     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4699   }%

```

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

```

4700   \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4701     \def\Hy@tempa{#4}%
4702     \def\Hy@tempb{\csname\endcsname\c@page}%
4703     \ifx\Hy@tempa\Hy@tempb
4704       \expandafter\ifx\csname HyPL#3\endcsname\relax
4705       \else
4706         \def\HyPL@Type{#3}%
4707         \def\HyPL@Prefix{#2}%
4708       \fi
4709     \else
4710       \begingroup
4711         \let\Hy@next\endgroup
4712         \let\HyPL@found\@undefined
4713         \def\arabic{\HyPL@Format{arabic}}%
4714         \def\Roman{\HyPL@Format{Roman}}%
4715         \def\roman{\HyPL@Format{roman}}%
4716         \def\Alph{\HyPL@Format{Alph}}%
4717         \def\alph{\HyPL@Format{alph}}%
4718         \protected@edef\Hy@temp{#1}%
4719         \ifx\HyPL@found\relax
4720           \toks@{\expandafter\Hy@temp}%
4721           \edef\Hy@next{\endgroup
4722             \noexpand\HyPL@@@CheckThePage\the\toks@
4723             \noexpand\HyPL@found\relax\noexpand\@nil
4724           }%
4725         \fi
4726       \Hy@next
4727     \fi
4728   }%

```

`\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`.

```

4729   \def\HyPL@Format#1#2{%
4730     \ifx\HyPL@found\@undefined
4731       \expandafter\ifx\csname c@#2\endcsname\c@page
4732       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4733     \else
4734       \expandafter\noexpand\csname#1\endcsname{#2}%
4735     \fi

```

```

4736 \else
4737 \expandafter\noexpand\csname#1\endcsname{#2}%
4738 \fi
4739 }%

```

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

```

4740 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4741 \def\Hy@tempa{#3}%
4742 \def\Hy@tempb{\HyPL@found\relax}%
4743 \ifx\Hy@tempa\Hy@tempb
4744 \def\HyPL@Type{#2}%
4745 \def\HyPL@Prefix{#1}%
4746 \fi
4747 }%

```

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

```

4748 \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`.

```

4749 \def\HyPL@Useless{0<</S/D>>}%
4750 \@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.

```

4751 \def\HyPL@SetPageLabels{%
4752 \@onelevel@sanitize\HyPL@Labels
4753 \ifx\HyPL@Labels\@empty
4754 \else
4755 \ifx\HyPL@Labels\HyPL@Useless
4756 \else
4757 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4758 \fi
4759 \fi
4760 }%

4761 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4762 \fi

```

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

```

4763 \Hy@DisableOption{pdfpagelabels}
4764 </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`

```

4765 <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.

```

4766 <*vtex>
4767 \providecommand*{\XR@ext}{pdf}
4768 \edef\Hy@VTeXversion{%
4769   \ifx\VTeXversion\undefined
4770     \z@
4771   \else
4772     \ifx\VTeXversion\relax
4773       \z@
4774     \else
4775       \VTeXversion
4776     \fi
4777   \fi
4778 }
4779 \begingroup
4780   \ifnum\Hy@VTeXversion<660 %
4781     \gdef\Hy@PutCatalog#1{%
4782       \Hy@WarningNoLine{%
4783         VTeX 6.59g or above required for pdfpagelabels%
4784       }%
4785     }%
4786   \else
4787     \gdef\Hy@PutCatalog#1{%
4788       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4789     }%
4790     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4791       \ifx\#2\%
4792         \else
4793           \immediate\special{!pdfpagelabels #2}%
4794         \fi
4795       }%
4796     \fi
4797 \endgroup
4798 </vtex>

```

4799 <*pdftex | vtex>

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

```

4800 \ifHy@pagelabels
4801   \def\HyPL@StorePageLabel#1{%
4802     \toks@ \expandafter{\HyPL@Labels}%
4803     \xdef\HyPL@Labels{%
4804       \the\toks@
4805       \the\Hy@abspage<<#1>>%
4806     }%
4807   }%

```

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

```

4808   \@ifclassloaded{revtex4}{%
4809     \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4810   }{%
4811     \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4812   }%
4813 \fi
4814 </pdftex | vtex>

```

27.1.2 pdfmarkbase, dvipdfm

```

4815 <*pdfmarkbase>
4816 \begingroup
4817 \toks@ \expandafter{\Hy@FirstPageHook}%
4818 \xdef\Hy@FirstPageHook{%
4819   \noexpand\headerps@out{%
4820     systemdict /pdfmark known%
4821     {%
4822       userdict /?pdfmark systemdict /exec get put%
4823     }{%
4824       userdict /?pdfmark systemdict /pop get put %
4825       userdict /pdfmark systemdict /cleartomark get put%
4826     }%
4827     ifelse%
4828   }%
4829   \the\toks@
4830 }%
4831 \endgroup
4832 </pdfmarkbase>

```

\Hy@PutCatalog

```

4833 <dvipdfm>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
4834 <*pdfmarkbase>
4835 \def\Hy@PutCatalog#1{%
4836   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4837 }
4838 </pdfmarkbase>

4839 <*pdfmarkbase | dvipdfm>
4840 \ifHy@pagelabels

```

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

```

4841 \def\HyPL@StorePageLabel#1{%
4842   \if@filesw
4843     \begingroup
4844       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4845       \immediate\write\@mainaux{%
4846         \string\HyPL@Entry{\Hy@tempa}%
4847       }%
4848     \endgroup
4849   \fi
4850 }%

```

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.

```

4851 \AfterBeginDocument{%
4852   \if@filesw
4853     \immediate\write\@mainaux{%
4854       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4855     }%
4856   \fi
4857   \ifx\HyPL@Labels\@empty
4858     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4859   \else
4860     \HyPL@SetPageLabels
4861   \fi
4862   \let\HyPL@Entry\@gobble

```

```

4863 }%

\HyPL@Entry
4864 \def\HyPL@Entry#1{%
4865   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4866     \HyPL@Labels
4867     #1%
4868   }%
4869 }%

4870 \fi
4871 \pdfmarkbase | dvipdfm)
4872 \*package)
4873 \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

```

4874 \def\Hy@CounterExists#1{%
4875   \begingroup\expandafter\expandafter\expandafter\endgroup
4876   \expandafter\ifx\csname c@#1\endcsname\relax
4877     \expandafter\@gobble
4878   \else
4879     \begingroup\expandafter\expandafter\expandafter\endgroup
4880     \expandafter\ifx\csname the#1\endcsname\relax
4881       \expandafter\expandafter\expandafter\@gobble
4882     \else
4883       \expandafter\expandafter\expandafter\@firstofone
4884     \fi
4885   \fi
4886 }
4887 \Hy@CounterExists{section}{%
4888   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
4889 }
4890 \Hy@CounterExists{part}{%
4891   \newcommand\theHpart{\arabic{part}}}%
4892 }
4893 \ifundefined{thechapter}{%
4894   \newcommand\theHsection {\arabic{section}}}%

```

```

4895 \newcommand\theHfigure      {\arabic{figure}}%
4896 \newcommand\theHtable      {\arabic{table}}%
4897 }{%
4898 \newcommand\theHchapter      {\arabic{chapter}}%
4899 \newcommand\theHfigure      {\theHchapter.\arabic{figure}}%
4900 \newcommand\theHtable      {\theHchapter.\arabic{table}}%
4901 \newcommand\theHsection      {\theHchapter.\arabic{section}}%
4902 }
4903 \newcommand\theHsubsection    {\theHsection.\arabic{subsection}}
4904 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4905 \newcommand\theHparagraph     {\theHsubsubsection.\arabic{paragraph}}
4906 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4907 \newcommand\theHtheorem       {\theHsection.\arabic{theorem}}
4908 \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.

```

4909 \let\H@item\item
4910 \newcounter{Item}
4911 \def\theHItem{\arabic{Item}}
4912 \def\item{%
4913   \@hyper@itemfalse
4914   \if@nmbbrlist\@hyper@itemtrue\fi
4915   \H@item
4916 }
4917 \newcommand\theHenumi        {\theHItem}
4918 \newcommand\theHenumii       {\theHItem}
4919 \newcommand\theHenumiii      {\theHItem}
4920 \newcommand\theHenumiv       {\theHItem}
4921 \newcommand\theHHfootnote    {\arabic{Hfootnote}}
4922 \newcommand\theHmpfootnote   {\arabic{mpfootnote}}
4923 \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.

```

4924 \let\H@refstepcounter\refstepcounter
4925 \edef\name@of@eq{equation}%
4926 \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.

```

4927 \newif\if@hyper@item
4928 \newif\if@skiphyperref
4929 \@hyper@itemfalse
4930 \@skiphyperreffalse
4931 \def\refstepcounter#1{%
4932   \ifHy@pdfstring
4933   \else
4934     \H@refstepcounter{#1}%
4935     \edef\This@name{#1}%
4936     \ifx\This@name\name@of@slide
4937     \else
4938       \if@skiphyperref
4939       \else
4940         \if@hyper@item

```



```

4941         \stepcounter{Item}%
4942         \hyper@refstepcounter{Item}%
4943         \@hyper@itemfalse
4944     \else
4945         \hyper@refstepcounter{#1}%
4946     \fi
4947 \fi
4948 \fi
4949 \fi
4950 }

```

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.

```

4951 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

4952 \def\hyper@refstepcounter#1{%
4953   \edef\This@name{#1}%
4954   \ifx\This@name\name@of@eq
4955     \@ifundefined{theHequation}{%
4956       \make@stripped@name{\theequation}%
4957       \let\theHequation\newname
4958     }{%
4959     \fi
4960     \@ifundefined{theH#1}{%
4961       \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4962     }{%
4963     \hyper@makecurrent{#1}%
4964     \ifmeasuring@
4965     \else
4966       \Hy@raisedlink{%
4967         \hyper@anchorstart{\@currentHref}\hyper@anchorend
4968       }%
4969     \fi
4970 }

```

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`.

```

4971 \begingroup\expandafter\expandafter\expandafter\endgroup
4972 \expandafter\ifx\csname chapter\endcsname\relax
4973   \def\Hy@chapterstring{section}%
4974 \else
4975   \def\Hy@chapterstring{chapter}%
4976 \fi
4977 \def\Hy@appendixstring{appendix}
4978 \def\Hy@chapapp{\Hy@chapterstring}
4979 \let\HyOrg@appendix\appendix
4980 \def\appendix{%
4981   \@ifundefined{chapter}%
4982     {\gdef\theHsection{\Alph{section}}}%
4983     {\gdef\theHchapter{\Alph{chapter}}}%
4984   \xdef\Hy@chapapp{\Hy@appendixstring}%

```

```

4985 \HyOrg@appendix
4986 }

```

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

```

4987 \def\hyper@makecurrent#1{%
4988   \begingroup
4989   \edef\Hy@param{#1}%
4990   \ifx\Hy@param\Hy@chapterstring
4991     \let\Hy@param\Hy@chapapp
4992   \fi
4993   \ifHy@hypertextnames
4994     \let\@number\@firstofone
4995     \@ifundefined{latin@Alph}{}{%
4996       \ifx\@Alph\greek@Alph
4997         \def\@Alph{Alph\@arabic}%
4998       \fi
4999     }%
5000     \ifx\@Alph\@Alph@bul
5001       \def\@Alph{Alph\@arabic}%
5002     \fi
5003     \ifx\@alph\@alph@bul
5004       \def\@alph{alph\@arabic}%
5005     \fi
5006     \ifHy@naturalnames
5007       \let\textlatin\@firstofone
5008       \xdef\@currentHlabel{\csname the#1\endcsname}%
5009     \else
5010       \xdef\@currentHlabel{\csname theH#1\endcsname}%
5011     \fi
5012     \xdef\@currentHref{%
5013       \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5014     }%
5015   \else
5016     \Hy@GlobalStepCount\Hy@linkcounter
5017     \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5018   \fi
5019 \endgroup
5020 }

5021 \ifpackageloaded{fancyvrb}{%
5022   \def\FV@StepLineNo{%
5023     \FV@SetLineNo
5024     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5025     \FV@StepLineNo
5026   }%
5027 }{}

```

29 Package lastpage support

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

\lastpage@putlabel

```
5028 \AtBeginDocument{%
5029   \@ifclassloaded{revtex4}{%
5030     \@namedef{ver@lastpage.sty}{1994/06/25}%
5031   }{}%
5032   \@ifpackageloaded{lastpage}{%
5033     \ifHy@pageanchor
5034     \else
5035       \Hy@WarningNoLine{%
5036         The \string\pageref{LastPage} link doesn't work\MessageBreak
5037         with disabled option 'pageanchor'%
5038       }%
5039     \fi
5040     \def\lastpage@putlabel{%
5041       \addtocounter{page}{-1}%
5042       \if@files
5043         \begingroup
5044           \let\@number\@firstofone
5045           \ifHy@pageanchor
5046             \ifHy@hypertextnames
5047               \ifHy@plainpages
5048                 \def\Hy@temp{\arabic{page}}%
5049               \else
5050                 \Hy@unicodefalse
5051                 \pdfstringdef\Hy@temp{\thepage}%
5052               \fi
5053             \else
5054               \def\Hy@temp{\the\Hy@pagecounter}%
5055             \fi
5056           \fi
5057           \immediate\write\@auxout{%
5058             \string\newlabel
5059             {LastPage}{\the\Hy@temp}{\thepage}{\thepage}{%
5060               \ifHy@pageanchor page.\Hy@temp\fi}{}}%
5061           }%
5062         \endgroup
5063       \fi
5064       \addtocounter{page}{1}%
5065     }%
5066     \@ifclassloaded{revtex4}{%
5067       \begingroup
5068         \toks@{\expandafter{\lastpage@putlabel}}%
5069         \edef\x{\endgroup
5070           \def\noexpand\lastpage@putlabel{%
5071             \noexpand\stepcounter{page}%
5072             \the\toks@
5073             \noexpand\addtocounter{page}\noexpand\m@ne
5074           }%
5075         }%
5076         \x
5077       }{}%
5078     }{}%
5079 }
5080 \end{package}
5081 \checkpackage{lastpage}[1994/06/25]
5082 \checkcommand\def\lastpage@putlabel{%
```

```

5084 \addtocounter{page}{-1}%
5085 \immediate\write\@auxout{%
5086   \string\newlabel{LastPage}{\the\page}%
5087 }%
5088 \addtocounter{page}{1}%
5089 }
5090 </check>
5091 <*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.

```

5092 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
5093 \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:

```

5094 \@ifpackageloaded{titlesec}{%
5095   \def\ttl@Hy@steplink#1{%
5096     \Hy@GlobalStepCount\Hy@linkcounter
5097     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5098     \def\ttl@Hy@saveanchor{%
5099       \Hy@raisedlink{%
5100         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5101       }%
5102     }%
5103   }%
5104   \def\ttl@Hy@refstepcounter#1{%
5105     \let\ttl@b\Hy@raisedlink
5106     \def\Hy@raisedlink##1{%
5107       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5108     }%
5109     \refstepcounter{#1}%
5110     \let\Hy@raisedlink\ttl@b
5111   }%
5112 }{}

```

Package titletoc support:

```

5113 \@ifpackageloaded{titletoc}{%
5114   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5115 }{}

```

32 Package varioref support

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

```

5116 \def\Hy@varioref@undefined{??}{?}{?}{?}{?}
5117 \@ifpackageloaded{varioref}{%
5118   \def\vref@pagenum#1#2{%

```

```

5119 \ifundefined{r@#2}{%
5120 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5121 }{}%
5122 \edef#1{\getpagerefnumber{#2}}%
5123 }%
5124 }{}

```

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

```

5125 \ifpackageloaded{longtable}{%
5126 \begingroup
5127 \def\y{\LT@array}%
5128 \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
5129 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5130 \expandafter\endgroup
5131 \expandafter\def\y[##1]##2{%
5132 \H@refstepcounter{#1}%
5133 \hyper@makecurrent{table}%
5134 \let\Hy@LT@currentHlabel\@currentHlabel
5135 \let\Hy@LT@currentHref\@currentHref
5136 #2\@sharp####4%
5137 }%
5138 }%
5139 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

5140 \begingroup
5141 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5142 \endgroup
5143 \def\LT@start{%
5144 #1%
5145 \let\@currentHlabel\Hy@LT@currentHlabel
5146 \let\@currentHref\Hy@LT@currentHref
5147 \Hy@raisedlink{%
5148 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5149 }%
5150 \ifvoid\LT@firsthead\copy
5151 #2%
5152 }%
5153 }%
5154 \expandafter\x\LT@start\@nil
5155 }{}

```

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.

```

5156 \let\new@refstepcounter\refstepcounter
5157 \let\H@equation\equation
5158 \let\H@endequation\endequation

5159 \@ifpackageloaded{amsmath}{%
5160   \long\def\Hy@temp{%
5161     \incr@eqnum
5162     \mathdisplay@push
5163     \st@rredfalse \global\@eqnswtrue
5164     \mathdisplay{equation}%
5165   }%
5166   \ifx\Hy@temp\equation
5167     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5168       \csname iftrue\endcsname
5169   \else
5170     \long\def\equation{%
5171       \mathdisplay@push
5172       \st@rredfalse \global\@eqnswtrue
5173       \mathdisplay{equation}%
5174       \incr@eqnum
5175     }%
5176   \fi
5177 \fi
5178 }{%
5179 \def\equation{%
5180   \let\refstepcounter\H@refstepcounter
5181   \H@equation
5182   \@ifundefined{theHequation}{%
5183     \make@stripped@name{\theequation}%
5184     \let\theHequation\newname
5185   }{}%
5186   \hyper@makecurrent{equation}%
5187   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5188   \let\refstepcounter\new@refstepcounter
5189 }%
5190 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5191 }

```

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.

```

5192 \newif\if@eqnstar
5193 \@eqnstarfalse
5194 \let\H@eqnarray\eqnarray
5195 \let\H@endeqnarray\endeqnarray
5196 \def\eqnarray{%
5197   \let\Hy@reserved@a\relax
5198   \def\@currentHref{}%
5199   \H@eqnarray
5200   \if@eqnstar
5201   \else
5202     \ifx\\\@currentHref\\%
5203     \else
5204       \@ifundefined{theHequation}{%
5205         \make@stripped@name{\theequation}%
5206         \let\theHequation\newname

```

```

5207     }{}%
5208     \hyper@makecurrent{equation}%
5209     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5210   \fi
5211 \fi
5212 }
5213 \def\endeqnarray{%
5214   \H@endeqnarray
5215 }

```

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.

```

5216 \@namedef{eqnarray*}{%
5217   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5218 }
5219 \@namedef{endeqnarray*}{%
5220   \nonumber\endeqnarray\@eqnstarfalse
5221 }

```

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

```

5222 \@ifundefined{subeqnarray}{ }{%
5223   \let\H@subeqnarray\subeqnarray
5224   \let\H@endsubeqnarray\endsubeqnarray
5225   \def\subeqnarray{%
5226     \let\Hy@reserved@a\relax
5227     \H@subeqnarray
5228     \@ifundefined{theHequation}{%
5229       \make@stripped@name{\theequation}%
5230       \let\theHequation\newname
5231     }{}%
5232     \hyper@makecurrent{equation}%
5233     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5234   }%
5235   \def\endsubeqnarray{%
5236     \H@endsubeqnarray
5237   }%
5238   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5239 }

```

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

```

5240 \def\make@stripped@name#1{%
5241   \begingroup
5242     \escapechar\m@ne
5243     \global\let\newname\@empty
5244     \protected@edef\Hy@tempa{#1}%
5245     \edef\@tempb{%
5246       \noexpand\@tfor\noexpand\Hy@tempa:=%
5247       \expandafter\strip@prefix\meaning\Hy@tempa
5248     }%
5249     \@tempb\do{%
5250       \if{\Hy@tempa\else
5251         \if}\Hy@tempa\else
5252         \xdef\newname{\newname\Hy@tempa}%
5253       \fi
5254     }%
5255   \endgroup
5256 }

```

Support for amsmath's subequations:

```

5258 \begingroup\expandafter\expandafter\expandafter\endgroup
5259 \expandafter\ifx\csname subequations\endcsname\relax
5260 \else
5261   \let\HyOrg@subequations\subequations
5262   \def\subequations{%
5263     \stepcounter{equation}%
5264     \protected@edef\theHparentequation{%
5265       \ifundefined{theHequation}\theequation\theHequation
5266     }%
5267     \addtocounter{equation}{-1}%
5268     \HyOrg@subequations
5269     \def\theHequation{\theHparentequation\alph{equation}}%
5270     \ignorespaces
5271   }%
5272 \fi

```

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.

```

5273 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{%
5274 \ifHy@hyperfootnotes
5275   \newcounter{Hfootnote}%
5276   \let\H@@footnotetext\@footnotetext
5277   \let\H@@footnotemark\@footnotemark
5278   \def\@xfootnotenext[#1]{%
5279     \begingroup
5280       \csname c@\mpfn\endcsname #1\relax
5281       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5282     \endgroup
5283     \ifx\@footnotetext\@mpfootnotetext
5284       \expandafter\H@@mpfootnotetext
5285     \else
5286       \expandafter\H@@footnotetext
5287     \fi
5288   }%
5289   \def\@xfootnotemark[#1]{%
5290     \begingroup
5291       \c@footnote #1\relax
5292       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5293     \endgroup
5294     \H@@footnotemark
5295   }%
5296   \let\H@@mpfootnotetext\@mpfootnotetext
5297   \long\def\@mpfootnotetext#1{%
5298     \H@@mpfootnotetext{%
5299       \ifHy@nesting
5300         \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5301       \else
5302         \Hy@raisedlink{%
5303           \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%

```



```

5304     }#1%
5305     \fi
5306   }%
5307 }%
5308 \long\def\@footnotetext#1{%
5309   \H@@footnotetext{%
5310     \ifHy@nesting
5311       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5312     \else
5313       \Hy@raisedlink{%
5314         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5315       }%
5316       \let\@currentHlabel\Hy@footnote@currentHlabel
5317       \let\@currentHref\Hy@footnote@currentHref
5318       \let\@currentlabelname\@empty
5319       #1%
5320     \fi
5321   }%
5322 }%

```

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.

```

5323 \def\@footnotemark{%
5324   \leavevmode
5325   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5326   \stepcounter{Hfootnote}%
5327   \global\let\Hy@saved@currentHlabel\@currentHlabel
5328   \global\let\Hy@saved@currentHref\@currentHref
5329   \hyper@makecurrent{Hfootnote}%
5330   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5331   \global\let\Hy@footnote@currentHref\@currentHref
5332   \global\let\@currentHlabel\Hy@saved@currentHlabel
5333   \global\let\@currentHref\Hy@saved@currentHref
5334   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5335   \@makefnmark
5336   \hyper@linkend
5337   \ifhmode\spacefactor\@x@sf\fi
5338   \relax
5339 }%

```

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

```

5340 \@ifpackageloaded{longtable}{%
5341   \CheckCommand*\LT@p@ftntext}[1]{%
5342     \edef\@tempa{%
5343       \the\LT@p@ftn
5344       \noexpand\footnotetext[\the\c@footnote]%
5345     }%
5346     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5347   }%
5348   \long\def\LT@p@ftntext#1{%
5349     \edef\@tempa{%
5350       \the\LT@p@ftn
5351       \begingroup

```

```

5352 \noexpand\c@footnote=\the\c@footnote\relax
5353 \noexpand\protected@xdef
5354 \noexpand\@thefnmark{\noexpand\thempfn}%
5355 \noexpand\protected@xdef\noexpand\@thefnmark{%
5356 \noexpand\thempfn
5357 }%
5358 \expandafter\expandafter\expandafter\noexpand
5359 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5360 \expandafter\expandafter\expandafter{%
5361 \expandafter\Hy@footnote@currentHref\expandafter
5362 }\expandafter{\Hy@footnote@currentHlabel}%
5363 }%
5364 \global\LT@p@ftn\expandafter{%
5365 \@tempa{#1}%
5366 \endgroup
5367 }%
5368 }%
5369 \long\def\Hy@LT@footnotetext#1#2#3{%
5370 \H@@footnotetext{%
5371 \ifHy@nesting
5372 \hyper@@anchor{#1}{#3}%
5373 \else
5374 \Hy@raisedlink{%
5375 \hyper@@anchor{#1}{\relax}%
5376 }%
5377 \def\@currentHlabel{#2}%
5378 \def\@currentHref{#1}%
5379 \let\@currentlabelname\@empty
5380 #3%
5381 \fi
5382 }%
5383 }%
5384 }{}%

```

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

```

5385 \@ifpackageloaded{fancyvrb}{%
5386 \def\V@@footnotetext{%
5387 \insert\footins\bgroup
5388 \csname reset@font\endcsname
5389 \footnotesize
5390 \interlinepenalty\interfootnotelinepenalty
5391 \splittopskip\footnotesep
5392 \splitmaxdepth\dp\strutbox
5393 \floatingpenalty \@MM
5394 \hsize\columnwidth
5395 \@parboxrestore
5396 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5397 \@makefntext{}%
5398 \rule{\z@}{\footnotesep}%
5399 \bgroup
5400 \aftergroup\V@@footnotetext
5401 \Hy@raisedlink{%
5402 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5403 }%
5404 \let\@currentHlabel\Hy@footnote@currentHlabel
5405 \let\@currentHref\Hy@footnote@currentHref
5406 \let\@currentlabelname\@empty
5407 \ignorespaces

```

```

5408 }%
5409 }{}%

```

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.

```

5410 \let\HyOrg@maketitle\maketitle
5411 \def\maketitle{%
5412   \let\Hy@saved@footnotemark\@footnotemark
5413   \let\Hy@saved@footnotetext\@footnotetext
5414   \let\@footnotemark\H@@footnotemark
5415   \let\@footnotetext\H@@footnotetext
5416   \@ifnextchar[\Hy@maketitle@optarg{% ]
5417     \HyOrg@maketitle
5418     \Hy@maketitle@end
5419 }%
5420 }%
5421 \def\Hy@maketitle@optarg[#1]{%
5422   \HyOrg@maketitle[#1]%
5423   \Hy@maketitle@end
5424 }%
5425 \def\Hy@maketitle@end{%
5426   \ifx\@footnotemark\H@@footnotemark
5427     \let\@footnotemark\Hy@saved@footnotemark
5428   \fi
5429   \ifx\@footnotetext\H@@footnotetext
5430     \let\@footnotetext\Hy@saved@footnotetext
5431   \fi
5432 }%

```

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

```

5433 \def\realfootnote{%
5434   \@ifnextchar[\@xfootnote{%
5435     \stepcounter{\@mpfn}%
5436     \protected@xdef\@thefnmark{\thempfn}%
5437     \H@@footnotemark\H@@footnotetext
5438   }%
5439 }%

5440 \fi
5441 \Hy@DisableOption{hyperfootnotes}

5442 </package>
5443 <*check>
5444 \checklatex
5445 \checkcommand\def\@xfootnotenext[#1]{%
5446   \begingroup
5447     \csname c@\@mpfn\endcsname #1\relax
5448     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5449   \endgroup
5450   \@footnotetext
5451 }
5452 \checkcommand\def\@xfootnotemark[#1]{%
5453   \begingroup
5454     \c@footnote #1\relax
5455     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5456   \endgroup
5457   \@footnotemark
5458 }

```

```

5459 \checkcommand\def\@footnotemark{%
5460   \leavevmode
5461   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5462   \@makefnmark
5463   \ifhmode\spacefactor\@x@sf\fi
5464   \relax
5465 }
5466 \end{check}
5467 \end{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.

```

5468 \def\caption{%
5469   \ifx\@capytype\@undefined
5470     \@latex@error{\noexpand\caption outside float}\@ehd
5471     \expandafter\@gobble
5472   \else
5473     \H@refstepcounter\@capytype
5474     \let\Hy@tempa\@caption
5475     \ifundefined{float@caption}{%
5476       {%
5477         \expandafter\ifx\csname @float@c@\@capytype\endcsname
5478           \float@caption
5479         \let\Hy@tempa\Hy@float@caption
5480       \fi
5481     }%
5482     \expandafter\@firstofone
5483   \fi
5484   {\@dblarg{\Hy@tempa\@capytype}}%
5485 }
5486 \long\def\@caption#1[#2]#3{%
5487   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5488     \csname iftrue\endcsname
5489     \global\let\@currentHref\hc@currentHref
5490   \else
5491     \hyper@makecurrent{\@capytype}%
5492   \fi
5493   \def\@currentlabelname{#2}%
5494   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5495     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5496   }%
5497   \begingroup
5498     \@parboxrestore
5499     \if@minipage
5500       \setminipage
5501     \fi
5502     \normalsize
5503     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5504       \csname iftrue\endcsname
5505       \global\@capstartfalse
5506       \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5507     \else
5508       \makecaption{\csname fnum@#1\endcsname}{%
5509         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5510      \ifHy@nesting
5511      \hyper@@anchor{\@currentHref}{#3}%
5512      \else
5513      \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5514      \fi
5515  }%
5516  \fi
5517  \par
5518  \endgroup
5519 }

```

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.

```

5520 \let\Hy@float@caption\@caption
5521 \ifpackageloaded{float}{%
5522   \def\Hy@float@caption{%
5523     \ifx\Hy@float@currentHref\undefined
5524       \hyper@makecurrent{\@capttype}%
5525       \global\let\Hy@float@currentHref\@currentHref
5526     \else
5527       \let\@currentHref\Hy@float@currentHref
5528     \fi
5529     \float@caption
5530   }%
5531   \let\HyOrg@float@makebox\float@makebox
5532   \renewcommand{\float@makebox}[1]{%
5533     \HyOrg@float@makebox{%
5534       #1\relax
5535       \ifx\Hy@float@currentHref\undefined
5536       \else
5537         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5538         \global\let\Hy@float@currentHref\undefined
5539       \fi
5540     }%
5541   }%
5542 }{}

5543 \</package>
5544 \<*check>
5545 \checklatex[1999/06/01 - 2000/06/01]
5546 \checkcommand\def\caption{%
5547   \ifx\@capttype\undefined
5548     \@latex@error{\noexpand\caption outside float}\@ehd
5549     \expandafter\@gobble
5550   \else
5551     \refstepcounter\@capttype
5552     \expandafter\@firstofone
5553   \fi
5554   {\@dblarg{\@caption\@capttype}}}%
5555 }
5556 \checkcommand\long\def\@caption#1[#2]#3{%
5557   \par
5558   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5559   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5560   \begingroup
5561     \@parboxrestore
5562     \if@minipage

```

```

5563     \@setminipage
5564     \fi
5565     \normalsize
5566     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5567 \endgroup
5568 }
5569 </check>
5570 <*package>

```

37 Bibliographic references

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

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

```

5571 \def\hyper@natlinkstart#1{%
5572   \Hy@backout{#1}%
5573   \hyper@linkstart{cite}{cite.#1}%
5574   \def\hyper@nat@current{#1}%
5575 }
5576 \def\hyper@natlinkend{%
5577   \hyper@linkend
5578 }
5579 \def\hyper@natlinkbreak#1#2{%
5580   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5581 }
5582 \def\hyper@natanchorstart#1{%
5583   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5584 }
5585 \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.

```

5586 \@ifundefined{NAT@parse}{%
5587   \providecommand*\@extra@binfo{}%
5588   \providecommand*\@extra@b@citeb{}%
5589   \def\bibcite#1#2{%
5590     \newlabel{b}{#1\@extra@binfo}%
5591     \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5592   }%
5593 }%
5594 \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.”.

```

5595 \let\Hy@bibcite\bibcite
5596 \begingroup
5597   \@ifundefined{bbl@cite@choice}{}{%
5598     \g@addto@macro\bbl@cite@choice{%
5599       \let\bibcite\Hy@bibcite

```

```

5600     }%
5601     }%
5602 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
5603 \providecommand*\@BIBLABEL{\@biblabel}%
5604 \def\@lbibitem[#1]#2{%
5605     \skiphyperreftrue
5606     \H@item[%
5607         \ifx\Hy@raisedlink\@empty
5608             \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5609             \@BIBLABEL{#1}%
5610             \hyper@anchorend
5611         \else
5612             \Hy@raisedlink{%
5613                 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5614             }%
5615             \@BIBLABEL{#1}%
5616         \fi
5617         \hfill
5618     ]%
5619     \skiphyperreffalse
5620     \if@filesw
5621         \begingroup
5622             \let\protect\noexpand
5623             \immediate\write\@auxout{%
5624                 \string\bibcite{#2}{#1}%
5625             }%
5626         \endgroup
5627     \fi
5628     \ignorespaces
5629 }%

```

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

```

5630 \def\@bibitem#1{%
5631     \skiphyperreftrue\H@item\@skiphyperreffalse
5632     \Hy@raisedlink{%
5633         \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5634     }%
5635     \if@filesw
5636         \begingroup
5637             \let\protect\noexpand
5638             \immediate\write\@auxout{%
5639                 \string\bibcite{#1}{\the\value{\@listctr}}%
5640             }%
5641         \endgroup
5642     \fi
5643     \ignorespaces
5644 }%
5645 \{}

5646 \</package>
5647 \<*check>
5648 \checklatex
5649 \checkcommand\def\@lbibitem[#1]#2{%
5650     \item[\@biblabel{#1}\hfill]%
5651     \if@filesw
5652         {%

```

```

5653     \let\protect\noexpand
5654     \immediate\write\@auxout{%
5655         \string\bibcite{#2}{#1}%
5656     }%
5657 }%
5658 \fi
5659 \ignorespaces
5660 }
5661 \checkcommand\def\@bibitem#1{%
5662     \item
5663     \if@filesw
5664         \immediate\write\@auxout{%
5665             \string\bibcite{#1}{\the\value{\@listctr}}%
5666         }%
5667     \fi
5668     \ignorespaces
5669 }
5670 \</check>
5671 \<*package>

```

Revtext (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.

```

5672 \@ifclassloaded{revtext}{%
5673     \Hy@Info{*** compatibility with revtext **** }%
5674     \def\revtext@checking#1#2{%
5675         \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5676         \expandafter\def\csname b@#1\endcsname{#2}%
5677         \@SetMaxRnhefLabel{#1}%
5678         \expandafter\let\csname b@#1\endcsname\T@temp
5679     }%

```

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

```

5680 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5681 \providecommand*{\@extra@b@citeb}{}%
5682 \def\CITE[#1]#2{%
5683     \let\@citea\@empty
5684     \leavevmode
5685     \unskip
5686     $\sim$%
5687     \scriptstyle
5688     \CITE{%
5689         \@for\@citeb:=#2\do{%
5690             \@citea
5691             \def\@citea{\penalty\@m\ }%
5692             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5693             \if@filesw
5694                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5695             \fi
5696             \@ifundefined{b@\@citeb\extra@b@citeb}{%
5697                 \mbox{\reset@font\bfseries ?}%
5698                 \G@refundefinedtrue
5699                 \@latex@warning{%
5700                     Citation ‘\@citeb’ on page \thepage \space undefined%
5701                 }%
5702             }{}%
5703             {\csname b@\@citeb\extra@b@citeb\endcsname}%

```



```

5704         }%
5705     }%
5706     }{#1}%
5707     }$%
5708 }%

```

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.

```

5709 \def\@citex[#1]#2{%
5710     \let\@citea\@empty
5711     \@cite{%
5712         \@for\@citeb:=#2\do{%
5713             \@citea
5714             \def\@citea{\penalty\@m }%
5715             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5716             \if@filesw
5717                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5718             \fi
5719             \ifundefined{b@\@citeb\@extra@b@citeb}{%
5720                 \mbox{\reset@font\bfseries ?}%
5721                 \G@refundefinedtrue
5722                 \@latex@warning{%
5723                     Citation ‘\@citeb’ on page \thepage \space undefined%
5724                 }%
5725             }{%
5726                 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5727             }%
5728         }%
5729     }{#1}%
5730 }%
5731 }{}

```

37.1 Package harvard

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

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

```

5732 \ifpackageloaded{harvard}{%
5733     \AtBeginDocument{%
5734         \Hy@Info{*** compatibility with harvard *** }%
5735         \Hy@raiselinksfalse
5736         \def\harvardcite#1#2#3#4{%
5737             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
5738             \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
5739             \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
5740             \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5741         }%
5742         \def\HAR@citetoaux#1{%
5743             \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5744             \ifHy@backref
5745                 \ifx\@empty\@currentlabel
5746                     \else
5747                         \@bsphack
5748                     \if@filesw

```

```

5749         \protected@write\@auxout{}\{
5750         \string\@writefile{brf}\{
5751         \string\backcite{#1}\{
5752         {\thepage}\{\@currentlabel}\{\@currentHref}\}
5753         }\%
5754     }\%
5755 }\%
5756 \fi
5757 \@esphack
5758 \fi
5759 \fi
5760 }\%
5761 \def\harvarditem{%
5762     \@ifnextchar[{\@harvarditem}\@harvarditem[\null]}\%
5763 }\%
5764 \def\@harvarditem[#1]#2#3#4#5\par{%
5765     \item[]%
5766     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5767     \if@filesw
5768         \begingroup
5769         \def\protect##1{\string ##1\space}%
5770         \ifthenelse{\equal{#1}\{\null}}%
5771             {\def\next{{#4}{#2}{#3}}}%
5772             {\def\next{{#4}{#2}{#1}{#3}}}%
5773         \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5774     \endgroup
5775 \fi
5776 \protect\hspace*{-\labelwidth}%
5777 \protect\hspace*{-\labelsep}%
5778 \ignorespaces
5779 #5%
5780 \ifHy@backref
5781     \newblock
5782     \backref{\csname br@#4\endcsname}%
5783 \fi
5784 \par
5785 }\%

```

\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:

```

5786 \long\def\HAR@checkcitations#1#2#3#4{%
5787     \def\HAR@tempa{\hyper@@link[cite]{}\{cite.#1\}{#2}}%
5788     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5789     \def\HAR@tempa{\hyper@@link[cite]{}\{cite.#1\}{#3}}%
5790     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5791     \def\HAR@tempa{\hyper@@link[cite]{}\{cite.#1\}{#4}}%
5792     \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5793     \else
5794         \@tempswatrue
5795     \fi
5796 \else
5797     \@tempswatrue
5798 \fi
5799 \else
5800     \@tempswatrue
5801 \fi

```

```

5802     }%
5803 }%

5804 }{}

```

37.2 Package chicago

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

```

5805 \@ifpackageloaded{chicago}{%

\citeN
5806   \def\citeN{%
5807     \def\@citesep{--1000}%
5808     \def\@cite##1##2{##1}%
5809     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5810     \@citedata@opt
5811   }%

\shortciteN
5812   \def\shortciteN{%
5813     \def\@citesep{--1000}%
5814     \def\@cite##1##2{##1}%
5815     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5816     \@citedata@opt
5817   }%

\@citedata@opt
5818   \def\@citedata@opt{%
5819     \let\@cite@opt\@empty
5820     \@ifnextchar [{%
5821       \@tempwatrue
5822       \@citedatax@opt
5823     }{%
5824       \@tempwafalse
5825       \@citedatax[]%
5826     }%
5827   }%

\@citedatax@opt
5828   \def\@citedatax@opt[#1]{%
5829     \def\@cite@opt{, #1}%
5830     \@citedatax[#1]}%
5831   }%

5832 }{}

```

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.

```

5833 \def\Hy@EveryPageAnchor{%
5834   \Hy@DistillerDestFix
5835   \ifHy@pageanchor
5836     \ifHy@hypertextnames
5837       \ifHy@plainpages
5838         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5839       \else
5840         \begingroup
5841           \let\@number\@firstofone
5842           \Hy@unicodedefalse
5843           \pdfstringdef\@the@H@page{\thepage}%
5844         \endgroup
5845         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
5846       \fi
5847     \else
5848       \Hy@GlobalStepCount\Hy@pagecounter
5849       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5850     \fi
5851   \vbox to 0pt{%
5852     \kern\voffset
5853     \kern\topmargin
5854     \kern-1bp\relax
5855     \hbox to 0pt{%
5856       \kern\hoffset
5857       \kern\ifodd\value{page}%
5858         \oddsidemargin
5859       \else
5860         \evensidemargin
5861       \fi
5862       \kern-1bp\relax
5863       \Hy@TempPageAnchor
5864     \hss
5865   }%
5866   \vss
5867 }%
5868 \fi
5869 }
5870 \g@addto@macro\Hy@EveryPageBoxHook{%
5871   \Hy@EveryPageAnchor
5872 }

```

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.

```

5873 \begingroup\expandafter\expandafter\expandafter\endgroup
5874 \expandafter\ifx\csname chapter\endcsname\relax
5875   \def\toclevel@part{0}%
5876 \else
5877   \def\toclevel@part{-1}%
5878 \fi
5879 \def\toclevel@chapter{0}
5880 \def\toclevel@section{1}
5881 \def\toclevel@subsection{2}
5882 \def\toclevel@subsubsection{3}

```

```

5883 \def\toclevel@paragraph{4}
5884 \def\toclevel@subparagraph{5}
5885 \def\toclevel@figure{0}
5886 \def\toclevel@table{0}
5887 \@ifpackageloaded{listings}{%
5888   \providecommand*\theHlstlisting{\thelstlisting}%
5889   \providecommand*\toclevel@lstlisting{0}%
5890 }{}
5891 \@ifpackageloaded{listing}{%
5892   \providecommand*\theHlisting{\thelisting}%
5893   \providecommand*\toclevel@listing{0}%
5894 }{}
5895 \def\addcontentsline#1#2#3{% toc extension, type, tag
5896   \begingroup
5897     \let\label\@gobble
5898     \let\textlatin\@firstofone
5899     \ifx\@currentHref\@empty
5900       \Hy@Warning{%
5901         No destination for bookmark of \string\addcontentsline,%
5902         \MessageBreak destination is added%
5903       }%
5904       \phantomsection
5905     \fi
5906     \expandafter\ifx\csname toclevel@#2\endcsname\relax
5907       \begingroup
5908         \def\Hy@tempa{#1}%
5909         \ifx\Hy@tempa\Hy@bookmarkstype
5910           \Hy@WarningNoLine{%
5911             bookmark level for unknown #2 defaults to 0%
5912           }%
5913         \else
5914           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5915         \fi
5916       \endgroup
5917       \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5918     \fi
5919     \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
5920     \Hy@writebookmark{\csname the#2\endcsname}%
5921       {#3}%
5922       {\@currentHref}%
5923       {\Hy@toclevel}%
5924       {#1}%
5925     \ifHy@verbose
5926       \def\Hy@tempa{#3}%
5927       \@onelevel@sanitize\Hy@tempa
5928       \typeout{pdftex: bookmark at \the\inputlineno: %
5929         {\csname the#2\endcsname}%
5930         {\Hy@tempa}%
5931         {\@currentHref}%
5932         {\Hy@toclevel}%
5933         {#1}%
5934       }%
5935     \fi
5936     \addtocontents{#1}{%
5937       \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5938     }%
5939   \endgroup

```

```

5940 }
5941 \def\contentsline#1#2#3#4{%
5942   \ifx\#4\%
5943     \csname l@#1\endcsname{#2}{#3}%
5944   \else
5945     \ifcase\Hy@linktoc % none
5946       \csname l@#1\endcsname{#2}{#3}%
5947     \or % section
5948       \csname l@#1\endcsname{%
5949         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5950       }{#3}%
5951     \or % page
5952       \csname l@#1\endcsname{#2}{#3}%
5953       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5954     }%
5955     \else % all
5956       \csname l@#1\endcsname{%
5957         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5958       }{#3}%
5959       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5960     }%
5961   \fi
5962 \fi
5963 }

5964 \end{package}
5965 \check
5966 \checklatex
5967 \checkcommand\def\addcontentsline#1#2#3{%
5968   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
5969 }
5970 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5971 \end{check}
5972 \end{package}

```

40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

5973 \let\H@definecounter\@definecounter
5974 \def\@definecounter#1{%
5975   \H@definecounter{#1}%
5976   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5977 }

```

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.

```

5978 \let\H@newctr\@newctr
5979 \def\@newctr#1[#2]{%
5980   \H@newctr#1[#2]%
5981   \expandafter\def\csname theH#1\endcsname{%
5982     \csname the\@ifundefined{theH#2}{H}{#2}\endcsname.\arabic{#1}%
5983   }%
5984 }

```

41 AMS_{La}T_EX 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.

```
5985 \ifpackageloaded{amsmath}{%
5986   \def\Hy@make@anchor{%
5987     \Hy@GlobalStepCount\Hy@linkcounter
5988     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5989     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5990   }%
5991   \def\Hy@make@df@tag@#1{%
5992     \gdef\df@tag{%
5993       \maketag@@@{\Hy@make@anchor#1}%
5994       \def\@currentlabel{#1}%
5995     }%
5996   }%
5997   \def\Hy@make@df@tag@@#1{%
5998     \gdef\df@tag{%
5999       \tagform@{\Hy@make@anchor#1}%
6000       \toks@{\xp{\p@equation{#1}}}%
6001       \edef\@currentlabel{\the\toks@}%
6002     }%
6003   }%
6004   \let\HyOrg@make@df@tag@@\make@df@tag@@
6005   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6006   \let\make@df@tag@@\Hy@make@df@tag@@
6007   \let\make@df@tag@@@\Hy@make@df@tag@@@
6008 }{}
```

Only play with `\seteqlebal` if we are using pdf_{te}x. Other drivers cause problems; requested by Michael Downes (AMS).

```
6009 \ifpackagewith{hyperref}{pdftex}{%
6010   \let\H@seteqlabel\@seteqlabel
6011   \def\@seteqlabel#1{%
6012     \H@seteqlabel{#1}%
6013     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6014     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6015   }%
6016 }{}
```

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.

```

6017 \let\HyOrg@addtoreset\@addtoreset
6018 \def\@addtoreset#1#2{%
6019   \HyOrg@addtoreset{#1}{#2}%
6020   \expandafter\xdef\csname theH#1\endcsname{%
6021     \expandafter\noexpand
6022       \csname the\@ifundefined{theH#2}{}H#2\endcsname
6023     .\noexpand\the\noexpand\value{#1}%
6024   }%
6025 }
```

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

```

6026 \end{package}
6027 \check
6028 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6029 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6030   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6031     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6032       \@addtoreset{#2}{#3}%
6033       \@xp\xdef\csname the#2\endcsname{%
6034         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6035       }%
6036     }%
6037   }%
6038 }%
6039 \end{check}
6040 \end{package}
6041 \@ifpackageloaded{amsmath}{%
6042   \@ifpackagelater{amsmath}{1999/12/14}{%
6043     \renewcommand*\@numberwithin[3][\arabic]{%
6044       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6045         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6046           \HyOrg@addtoreset{#2}{#3}%
6047           \@xp\xdef\csname the#2\endcsname{%
6048             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6049           }%
6050           \@xp\xdef\csname theH#2\endcsname{%
6051             \@xp\@nx
6052             \csname the\@ifundefined{theH#3}{}H#3\endcsname
6053             .\@nx#1{#2}%
6054           }%
6055         }%
6056       }%
6057     }%
6058   }%
6059   \Hy@WarningNoLine{%
6060     \string\numberwithin\space of package 'amsmath' %
6061     only fixed\MessageBreak
6062     for version 2000/06/06 v2.12 or newer%
6063   }%
6064 }%
6065 }
```


42 Included figures

Simply intercept the low level graphics package macro.

```
6066 \ifHy@figures
6067   \let\Hy@Gin@setfile\Gin@setfile
6068   \def\Gin@setfile#1#2#3{%
6069     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6070   }%
6071 \fi
6072 \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.

```
6073 \ifHy@hyperindex
6074   \def\HyInd@ParenLeft{({}%
6075   \def\HyInd@ParenRight{)}}%
6076   \Hy@nextfalse
6077   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6078   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6079   \begingroup
6080     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6081   \lowercase{\endgroup
6082     \ifHy@next
6083       \let\HyInd@org@wrindex\@wrindex
6084       \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\}%
6085       \def\HyInd@@wrindex#1#2|#3|#4\{\%
6086         \ifx\|#3\%
6087           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6088         \else
6089           \def\Hy@temp@A{#3}%
6090           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6091             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6092             \relax
6093           \HyInd@org@wrindex{#1}{#2|#3}%
6094         \else
6095           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6096         \fi
6097       \fi
6098     }%
6099   \else
6100     \def\@wrindex#1{\@@wrindex#1||\}%
6101     \def\@@wrindex#1|#2|#3\{\%
6102       \if@filesw
6103         \ifx\|#2\%
6104           \protected@write\@indexfile{\%
6105             \string\indexentry{#1|hyperpage}{\thepage}%

```

```

6106         }%
6107     \else
6108         \def\Hy@temp@A{#2}%
6109         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6110             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6111             \relax
6112             \protected@write\@indexfile{}\{%
6113                 \string\indexentry{#1|#2}{\thepage}%
6114             }%
6115     \else
6116         \protected@write\@indexfile{}\{%
6117             \string\indexentry{#1|#2hyperpage}{\thepage}%
6118         }%
6119     \fi
6120 \fi
6121 \fi
6122 \endgroup
6123 \@esphack
6124 }%
6125 \fi
6126 }%
6127 \fi
6128 \Hy@DisableOption{hyperindex}
6129 \Hy@DisableOption{encap}

```

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.

```

6130 \def\hyperpage#1{\@hyperpage#1---\}
6131 \def\@hyperpage#1--#2--#3\{\%
6132     \ifx\#2\%
6133         \@commahyperpage{#1}%
6134     \else
6135         \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6136     \fi
6137 }
6138 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6139 \def\@commahyperpage#1, #2,#3\{\%
6140     \ifx\#2\%
6141         \HyInd@pagelink{#1}%
6142     \else
6143         \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6144     \fi
6145 }

```

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

```

6146 \def\HyInd@pagelink#1{%
6147     \begingroup
6148     \toks@={}%
6149     \HyInd@removespaces#1 \@nil
6150 \endgroup
6151 }
6152 \def\HyInd@removespaces#1 #2\@nil{%
6153     \toks@=\expandafter{\the\toks@#1}%
6154     \ifx\#2\%
6155         \edef\x{\the\toks@}%
6156         \ifx\x@empty
6157             \else

```

```

6158     \hyperlink{page.\the\toks@}{\the\toks@}%
6159     \fi
6160 \else
6161     \Hy@ReturnAfterFi{%
6162     \HyInd@removespaces#2\@nil
6163     }%
6164 \fi
6165 }

```

44 Compatibility with foiltex

```

6166 \@ifclassloaded{foils}{%
6167   \providecommand*\ext@table{lot}%
6168   \providecommand*\ext@figure{lof}%
6169 }{}

```

45 Compatibility with seminar slide package

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

```

6170 \@ifclassloaded{seminar}{%
6171   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6172 }{%
6173   \Hy@seminarslidesfalse
6174 }
6175 \@ifpackageloaded{slidesec}{%
6176   \newcommand\theHslidesection {\arabic{slidesection}}%
6177   \newcommand\theHslidesubsection{%
6178     \theHslidesection.\arabic{slidesubsection}}%
6179   }%
6180   \def\slide@heading[#1]#2{%
6181     \H@refstepcounter{slidesection}%
6182     \@addtoreset{slidesubsection}{slidesection}%
6183     \addtocontents{los}{%
6184       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6185       {\@SCTR}{\slideheading.\theslidesection}}%
6186     }%
6187   \def\Hy@tempa{#2}%
6188   \ifx\Hy@tempa\@empty
6189     \else
6190       {%
6191         \edef\@currentlabel{%
6192           \csname p@slidesection\endcsname\theslidesection
6193         }%
6194         \makeslideheading{#2}%
6195       }%
6196     \fi
6197     \gdef\theslideheading{#1}%
6198     \gdef\theslidesubheading{%
6199       \ifHy@bookmarksnumbered
6200         \def\Hy@slidetitle{\theslidesection\space #1}%
6201       \else
6202         \def\Hy@slidetitle{#1}%
6203       \fi
6204       \ifHy@hypertextnames
6205         \ifHy@naturalnames

```

```

6206         \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6207         \Hy@writebookmark
6208             {\theslidesection}%
6209             {\Hy@slidetitle}%
6210             {slideheading.\theslidesection}%
6211             {1}%
6212             {toc}%
6213     \else
6214         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6215         \Hy@writebookmark
6216             {\theslidesection}%
6217             {\Hy@slidetitle}%
6218             {slideheading.\theHslidesection}%
6219             {1}%
6220             {toc}%
6221     \fi
6222 \else
6223     \Hy@GlobalStepCount\Hy@linkcounter
6224     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6225     \Hy@writebookmark
6226         {\theslidesection}%
6227         {\Hy@slidetitle}%
6228         {slideheading.\the\Hy@linkcounter}%
6229         {1}%
6230         {toc}%
6231 \fi
6232 }%
6233 \def\slide@subheading[#1]#2{%
6234     \H@refstepcounter{slidesubsection}%
6235     \addtocontents{los}{%
6236         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6237         {\@SCTR}{slideheading.\theslidesubsection}%
6238     }%
6239     \def\Hy@tempa{#2}%
6240     \ifx\Hy@tempa\@empty
6241     \else
6242         {%
6243             \edef\@currentlabel{%
6244                 \csname p@slidesubsection\endcsname\theslidesubsection
6245             }%
6246             \makeslidesubheading{#2}%
6247         }%
6248     \fi
6249     \gdef\theslidesubheading{#1}%
6250     \ifHy@bookmarksnumbered
6251         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6252     \else
6253         \def\Hy@slidetitle{#1}%
6254     \fi
6255     \ifHy@hypertextnames
6256         \ifHy@naturalnames
6257             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6258             \Hy@writebookmark
6259                 {\theslidesubsection}%
6260                 {\Hy@slidetitle}%
6261                 {slideheading.\theslidesubsection}%
6262                 {2}%

```

```

6263         {toc}%
6264     \else
6265         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6266         \Hy@writebookmark
6267             {\theslidesubsection}%
6268             {\Hy@slidetitle}%
6269             {slideheading.\theHslidesubsection}%
6270             {2}%
6271         {toc}%
6272     \fi
6273 \else
6274     \Hy@GlobalStepCount\Hy@linkcounter
6275     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6276     \Hy@writebookmark
6277         {\theslidesubsection}%
6278         {\Hy@slidetitle}%
6279         {slideheading.\the\Hy@linkcounter}%
6280         {1}%
6281     {toc}%
6282 \fi
6283 }%
6284 \providecommand*\listslidenamelist{List of Slides}%
6285 \def\listofslides{%
6286     \section*{%
6287         \listslidenamelist
6288         \@mkboth{%
6289             \expandafter\MakeUppercase\listslidenamelist
6290         }{%
6291             \expandafter\MakeUppercase\listslidenamelist
6292         }%
6293     }%
6294     \def\l@slide##1##2##3##4{%
6295         \slide@undottedcline{%
6296             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6297         }{%
6298         }%
6299         \let\l@subslide\l@slide
6300         \@startlos
6301     }%
6302     \def\slide@contents{%
6303         \def\l@slide##1##2##3##4{%
6304             \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6305         }%
6306         \let\l@subslide\@gobblefour
6307         \@startlos
6308     }%
6309     \def\Slide@contents{%
6310         \def\l@slide##1##2##3##4{%
6311             \ifcase\l@slide@flag
6312                 \message{##1 ** \the\c@slidesection}%
6313                 \ifnum##1>\c@slidesection
6314                     \def\l@slide@flag{1}%
6315                 {%
6316                     \large
6317                     \slide@ccline{%
6318                         \slidenumberline{\$ \Rightarrow \bullet \$}%
6319                         {\hyperlink{##4}{##2}}%

```

```

6320         }{##3}%
6321     }%
6322     \else
6323     {%
6324         \large
6325         \slide@cline{%
6326             \slidenumberline{$\surd\;\bullet$}%
6327             {\hyperlink{##4}{##2}}%
6328         }{##3}%
6329     }%
6330     \fi
6331 \or
6332 \def\lslide@flag{2}%
6333 {%
6334     \large
6335     \slide@cline{%
6336         \slidenumberline{$\bullet$}%
6337         {\hyperlink{##4}{##2}}%
6338     }{##3}%
6339 }%
6340 \or
6341 {%
6342     \large
6343     \slide@cline{%
6344         \slidenumberline{$\bullet$}%
6345         {\hyperlink{##4}{##2}}%
6346     }{##3}%
6347 }%
6348 \fi
6349 }%
6350 \def\l@subslide##1##2##3##4{%
6351     \ifnum\lslide@flag=1 %
6352         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6353     \fi
6354 }%
6355 \def\lslide@flag{0}%
6356 \@startlos
6357 }%
6358 }{}

```

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.)

```

6359 \ifHy@texht
6360     \expandafter\endinput
6361 \fi
6362 \let\real@setref\@setref
6363 \def\@setref#1#2#3{% csname, extract group, refname
6364     \ifx#1\relax
6365         \protect\G@refundefinedtrue
6366         \nfss@text{\reset@font\bfseries ??}%
6367         \@latex@warning{%
6368             Reference ‘#3’ on page \thepage \space undefined%
6369         }%
6370     \else
6371         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6372     \fi
6373 }

```

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

```

6374 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6375   \begingroup
6376     \toks0={\hyper@@link{#5}{#4}}%
6377     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6378     \edef\x{\endgroup
6379       \the\toks0 \the\toks1 }%
6380   }%
6381   \x
6382 }
6383 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6384   \ifx#1\relax
6385     \protect\G@refundefinedtrue
6386     \nfss@text{\reset@font\bfseries ??}%
6387     \@latex@warning{%
6388       Reference ‘#3’ on page \thepage \space undefined%
6389     }%
6390   \else
6391     \protect\hyper@@link
6392     {\expandafter\@fifthoffive#1}%
6393     {page.\expandafter\@secondoffive#1}%
6394     {\expandafter\@secondoffive#1}%
6395   \fi
6396 }
6397 </package>
6398 <*check>
6399 \checklatex
6400 \checkcommand\def\@setref#1#2#3{%
6401   \ifx#1\relax
6402     \protect\G@refundefinedtrue
6403     \nfss@text{\reset@font\bfseries ??}%
6404     \@latex@warning{%
6405       Reference ‘#3’ on page \thepage\space undefined%
6406     }%
6407   \else
6408     \expandafter#2#1\relax
6409   \fi
6410 }
6411 </check>
6412 <*package>

```

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

```

6413 \def\HyRef@StarSetRef#1{%
6414   \begingroup
6415     \Hy@safe@activetrue
6416     \edef\x{#1}%
6417     \@onelevel@sanitize\x
6418     \edef\x{\endgroup
6419       \noexpand\HyRef@@StarSetRef
6420       \expandafter\noexpand\csname r@\x\endcsname{\x}%
6421     }%
6422     \x
6423 }
6424 \def\HyRef@@StarSetRef#1#2#3{%
6425   \ifx#1\@undefined

```

```

6426 \let#1\relax
6427 \fi
6428 \real@setref#1#3{#2}%
6429 }
6430 \def\@refstar#1{%
6431 \HyRef@StarSetRef{#1}\@firstoffive
6432 }
6433 \def\@pagerefstar#1{%
6434 \HyRef@StarSetRef{#1}\@secondoffive
6435 }
6436 \AtBeginDocument{%
6437 \ifpackageloaded{varioref}{%
6438 \def\@Refstar#1{%
6439 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6440 }%
6441 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6442 \MakeUppercase#1%
6443 }%
6444 \DeclareRobustCommand*\Ref}{%
6445 \@ifstar\@Refstar\HyRef@Ref
6446 }%
6447 \def\HyRef@Ref#1{%
6448 \hyperref[#{1}]{\Ref*{#1}}%
6449 }%
6450 \def\Vr@f#1{%
6451 \leavevmode\unskip\vref@space
6452 \hyperref[#{1}]{%
6453 \Ref*{#1}%
6454 \let\vref@space\nobreakspace
6455 \vpageref[\unskip]{#1}%
6456 }%
6457 }%
6458 \def\vr@f#1{%
6459 \leavevmode\unskip\vref@space
6460 \begingroup
6461 \let\T@pageref\@pagerefstar
6462 \hyperref[#{1}]{%
6463 \ref*{#1}%
6464 \vpageref[\unskip]{#1}%
6465 }%
6466 \endgroup
6467 }%
6468 }-%
6469 }
6470 \DeclareRobustCommand*\autopageref}{%
6471 \@ifstar{%
6472 \HyRef@autopagerefname\pageref*%
6473 }\HyRef@autopageref
6474 }
6475 \def\HyRef@autopageref#1{%
6476 \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6477 }
6478 \def\HyRef@autopagerefname{%
6479 \@ifundefined{pageautorefname}{%
6480 \@ifundefined{pagename}{%
6481 \Hy@Warning{No autoref name for ‘page’}%
6482 }-%

```



```

6483     \pagename\nobreakspace
6484   }%
6485 }{%
6486   \pageautorefname\nobreakspace
6487 }%
6488 }
6489 \DeclareRobustCommand*{\autoref}{%
6490   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6491 }
6492 \def\HyRef@autoref#1#2{%
6493   \begingroup
6494     \Hy@safe@activetrue
6495     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6496   \endgroup
6497 }
6498 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6499   \HyRef@ShowKeysRef{#2}%
6500   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6501     \edef\HyRef@thisref{%
6502       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6503     }%
6504     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6505     \Hy@safe@activesfalse
6506     #3{%
6507       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6508     }{%
6509       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6510     }{%
6511       \HyRef@currentHtag
6512       \expandafter\@firstoffive#1\@empty\@empty\@empty
6513       \null
6514     }%
6515   \else
6516     \protect\G@refundefinedtrue
6517     \nfss@text{\reset@font\bfseries ??}%
6518     \@latex@warning{%
6519       Reference ‘#2’ on page \thepage\space undefined%
6520     }%
6521   \fi
6522 }
6523 \def\HyRef@testreftype#1.#2\{%
6524   \@ifundefined{#1autorefname}{%
6525     \@ifundefined{#1name}{%
6526       \HyRef@StripStar#1\*\@nil{#1}%
6527       \@ifundefined{\HyRef@name autorefname}{%
6528         \@ifundefined{\HyRef@name name}{%
6529           \def\HyRef@currentHtag{%
6530             \Hy@Warning{No autoref name for ‘#1’}%
6531           }{%
6532             \edef\HyRef@currentHtag{%
6533               \expandafter\noexpand\csname\HyRef@name name\endcsname
6534               \noexpand~%
6535             }%
6536           }%
6537         }{%
6538           \edef\HyRef@currentHtag{%
6539             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname

```

```

6540         \noexpand~%
6541     }%
6542 }%
6543 }{%
6544     \edef\HyRef@currentHtag{%
6545         \expandafter\noexpand\csname#1name\endcsname
6546         \noexpand~%
6547     }%
6548 }%
6549 }{%
6550     \edef\HyRef@currentHtag{%
6551         \expandafter\noexpand\csname#1autorefname\endcsname
6552         \noexpand~%
6553     }%
6554 }%
6555 }
6556 \def\HyRef@StripStar#1*\#2\@nil#3{%
6557     \def\HyRef@name{#2}%
6558     \ifx\HyRef@name\HyRef@CaseStar
6559         \def\HyRef@name{#1}%
6560     \else
6561         \def\HyRef@name{#3}%
6562     \fi
6563 }
6564 \def\HyRef@CaseStar{*\\}
6565 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6566 \let\HyRef@ShowKeysRef\@gobble
6567 \def\HyRef@ShowKeysInit{%
6568     \begingroup\expandafter\expandafter\expandafter\endgroup
6569     \expandafter\ifx\csname SK@@label\endcsname\relax
6570     \else
6571         \ifx\SK@ref\@empty
6572         \else
6573             \def\HyRef@ShowKeysRef{%
6574                 \SK@\SK@@ref
6575             }%
6576         \fi
6577     \fi
6578 }
6579 \@ifpackageloaded{showkeys}{%
6580     \HyRef@ShowKeysInit
6581 }{%
6582     \AtBeginDocument{%
6583         \@ifpackageloaded{showkeys}{%
6584             \HyRef@ShowKeysInit
6585         }{%
6586         }%
6587     }

```

Defaults for the names that \autoref uses.

```

6588 \providecommand*{\AMSautorefname}{\equationautorefname}
6589 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6590 \providecommand*{\Itemautorefname}{\itemautorefname}
6591 \providecommand*{\itemautorefname}{item}

```

```

6592 \providecommand*\equationautorefname{Equation}
6593 \providecommand*\footnoteautorefname{footnote}
6594 \providecommand*\itemautorefname{item}
6595 \providecommand*\figureautorefname{Figure}
6596 \providecommand*\tableautorefname{Table}
6597 \providecommand*\partautorefname{Part}
6598 \providecommand*\appendixautorefname{Appendix}
6599 \providecommand*\chapterautorefname{chapter}
6600 \providecommand*\sectionautorefname{section}
6601 \providecommand*\subsectionautorefname{subsection}
6602 \providecommand*\subsubsectionautorefname{subsubsection}
6603 \providecommand*\paragraphautorefname{paragraph}
6604 \providecommand*\subparagraphautorefname{subparagraph}
6605 \providecommand*\FancyVerbLineautorefname{line}
6606 \providecommand*\theoremautorefname{Theorem}
6607 \providecommand*\pageautorefname{page}
6608 \end{package}

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf_TE_X offers `\pdfescapestring`.

```

6609 <*pdfTex | dvipdfm | vtEx | pdfmarkbase | dviwindo>
6610 \RequirePackage{pdfTexcmds}[2007/11/11]
6611 \begingroup\expandafter\expandafter\expandafter\endgroup
6612 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6613   \begingroup
6614     \catcode'\|=0 %
6615     \@makeother\| %
6616     |@firstofone|\endgroup
6617     |def|Hy@pstringdef#1#2{%
6618       |begingroup
6619         |edef~{|string~}%
6620         |xdef|Hy@gtemp{#2}%
6621         |endgroup
6622         |let#1|Hy@gtemp
6623         |@onelevel@sanitize#1%
6624         |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6625         |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6626         |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6627       }%
6628       |def|Hy@ExchangeBackslash#1\#2|@nil{%
6629         #1%
6630         |ifx|\#2|\| %
6631         |else
6632           \| %
6633           |Hy@ReturnAfterFi{%
6634             |Hy@ExchangeBackslash#2|@nil
6635           }%

```

```

6636     |fi
6637   }%
6638 }%
6639 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6640   #1%
6641   \ifx\#2\%
6642   \else
6643     \@backslashchar{%
6644     \Hy@ReturnAfterFi{%
6645       \Hy@ExchangeLeftParenthesis#2\@nil
6646     }%
6647   \fi
6648 }%
6649 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6650   #1%
6651   \ifx\#2\%
6652   \else
6653     \@backslashchar)%
6654     \Hy@ReturnAfterFi{%
6655       \Hy@ExchangeRightParenthesis#2\@nil
6656     }%
6657   \fi
6658 }%
6659 \else
6660   \def\Hy@pstringdef#1#2{%
6661     \begingroup
6662     \edef~{\string~}%
6663     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6664     \endgroup
6665     \let#1\Hy@gtemp
6666   }%
6667 \fi
6668 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

6669 <*pdfTeX>
6670 \providecommand*{\XR@ext}{pdf}
6671 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option pdfversion.

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

```

6672 \let\Hy@pdfminorversion\relax
6673 \begingroup\expandafter\expandafter\expandafter\endgroup
6674 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6675   \begingroup\expandafter\expandafter\expandafter\endgroup
6676   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6677   \else
6678     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6679   \fi
6680 \else
6681   \def\Hy@pdfminorversion{\pdfminorversion}%

```

```

6682 \fi
6683 \@ifundefined{Hy@pdfminorversion}{%
6684   \PackageInfo{hyperref}{%
6685     PDF version is not set, because pdfTeX is too old (<1.10a)%
6686   }%
6687 }{%
6688   \ifHy@ocgcolorlinks
6689     \ifnum\Hy@pdfminorversion<5 %
6690       \setkeys{Hyp}{pdfversion=1.5}%
6691     \fi
6692   \fi
6693   \ifHy@setpdfversion
6694     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6695     \else
6696       \Hy@pdfminorversion=\Hy@pdfversion\relax
6697     \fi
6698     \PackageInfo{hyperref}{%
6699       \expandafter\string\Hy@pdfminorversion
6700       :=\number\Hy@pdfversion\space
6701     }%
6702   \fi
6703   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6704 }
6705 \Hy@DisableOption{pdfversion}%

6706 \ifHy@ocgcolorlinks
6707   \immediate\pdfobj{%
6708     <<%
6709       /Type/OCG%
6710       /Name(View)%
6711       /Usage<<%
6712         /Print<<%
6713         /PrintState/OFF%
6714       >>%
6715       /View<<%
6716       /ViewState/ON%
6717     >>%
6718     >>%
6719   }%
6720   \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6721   \immediate\pdfobj{%
6722     <<%
6723       /Type/OCG%
6724       /Name(Print)%
6725       /Usage<<%
6726         /Print<<%
6727         /PrintState/ON%
6728       >>%
6729       /View<<%
6730       /ViewState/OFF%
6731     >>%
6732     >>%
6733   }%
6734   \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6735   \immediate\pdfobj{%
6736     [%

```

```

6739     \OBJ@OCG@view\space\OBJ@OCG@print
6740   ]%
6741 }%
6742 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
6743 \pdfcatalog{%
6744   /OCProperties<<%
6745     /OCGs \OBJ@OCGs
6746   /D<<%
6747     /OFF[\OBJ@OCG@print]%
6748   /AS[%
6749     <<%
6750       /Event/View%
6751       /OCGs \OBJ@OCGs
6752       /Category[/View]%
6753     >>%
6754     <<%
6755       /Event/Print%
6756       /OCGs \OBJ@OCGs
6757       /Category[/Print]%
6758     >>%
6759     <<%
6760       /Event/Export%
6761       /OCGs \OBJ@OCGs
6762       /Category[/Print]%
6763     >>%
6764   ]%
6765   >>%
6766 >>%
6767 }%
6768 \beginngroup
6769   \edef\x{\endgroup
6770     \pdfpageresources{%
6771       /Properties<<%
6772         /OCView \OBJ@OCG@view
6773         /OCPrint \OBJ@OCG@print
6774       >>%
6775     }%
6776   }%
6777 \x
6778 \AtBeginDocument{%
6779   \def\Hy@colorlink#1{%
6780     \beginngroup
6781       \ifHy@ocgcolorlinks
6782         \def\Hy@ocgcolor{#1}%
6783         \setbox0=\color@hbox
6784       \else
6785         \HyColor@UseColor#1%
6786       \fi
6787     }%
6788   \def\Hy@endcolorlink{%
6789     \ifHy@ocgcolorlinks
6790       \color@endbox
6791     \mbox{%
6792       \pdfliteral page{/OC/OCPrint BDC}%
6793       \rlap{\copy0}%
6794       \pdfliteral page{EMC/OC/OCView BDC}%
6795     \beginngroup

```

```

6796         \expandafter\HyColor@UseColor\Hy@ocgcolor
6797         \box0 %
6798     \endgroup
6799     \pdfliteral page{EMC}%
6800 }%
6801 \fi
6802 \endgroup
6803 }%
6804 }%
6805 \else
6806 \Hy@DisableOption{ocgcolorlinks}%
6807 \fi

```

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

```

6808 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6809 \ifx\pdfstartlink\undefined% less than version 14
6810 \let\pdfstartlink\pdfannotlink
6811 \let\pdflinkmargin\@tempdima
6812 \let\pdfxform\pdfform
6813 \let\pdflastxform\pdfastform
6814 \let\pdfrefxform\pdfrefform
6815 \else
6816 \pdflinkmargin1pt %
6817 \fi

```

First set up the default linking

```

6818 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

6819 \def\new@pdflink#1{%
6820 \ifHy@verbose
6821 \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6822 \fi
6823 \Hy@SaveLastskip
6824 \Hy@pstringdef\Hy@pstringDest{#1}%
6825 \Hy@DestName\Hy@pstringDest\@pdfview
6826 \Hy@RestoreLastskip
6827 }
6828 \let\pdf@endanchor\@empty

```

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

```

6829 \def\Hy@DestName#1#2{%
6830 \pdfdest name{#1}#2\relax
6831 }

```

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.

```

6832 \providecommand*\@pdfborder{0 0 1}
6833 \providecommand*\@pdfborderstyle{}
6834 \def\Hy@undefinedname{UNDEFINED}
6835 \def\find@pdflink#1#2{%
6836 \leavevmode
6837 \protected@edef\Hy@testname{#2}%
6838 \ifx\Hy@testname\@empty
6839 \let\Hy@testname\Hy@undefinedname

```

```

6840 \else
6841   \Hy@pstringdef\Hy@testname\Hy@testname
6842 \fi
6843 \Hy@StartlinkName{%
6844   \ifHy@pdfa /F 4\fi
6845   \Hy@setpdfborder
6846   \ifx\@pdfhighlight\@empty
6847   \else
6848     /H\@pdfhighlight
6849   \fi
6850   \ifx\CurrentBorderColor\relax
6851   \else
6852     /C[\CurrentBorderColor]%
6853   \fi
6854 } \Hy@testname
6855 \expandafter\Hy@colorlink\csname @#1color\endcsname
6856 }
6857 \def\Hy@StartlinkName#1#2{%
6858   \pdfstartlink attr{#1}goto name{#2}\relax
6859 }
6860 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
6861 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
6862 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
6863 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
6864 \def\hyper@linkstart#1#2{%
6865   \@ifundefined{@#1bordercolor}{%
6866     \let\CurrentBorderColor\relax
6867   }{%
6868     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6869   }%
6870   \find@pdflink{#1}{#2}%
6871 }
6872 \def\hyper@linkend{\close@pdflink}
6873 \def\hyper@link#1#2#3{%
6874   \@ifundefined{@#1bordercolor}{%
6875     \let\CurrentBorderColor\relax
6876   }{%
6877     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6878   }%
6879   \find@pdflink{#1}{#2}#3%
6880   \close@pdflink
6881 }
6882 \let\CurrentBorderColor\@linkbordercolor
6883 \def\hyper@linkurl#1#2{%
6884   \begingroup
6885     \Hy@pstringdef\Hy@pstringURI{#2}%
6886     \hyper@chars
6887     \leavevmode
6888     \pdfstartlink
6889     attr{%
6890       \Hy@setpdfborder
6891       \ifx\@pdfhighlight\@empty
6892       \else
6893         /H\@pdfhighlight
6894       \fi
6895       \ifx\@urlbordercolor\relax
6896       \else

```



```

6897         /C[\@urlbordercolor]%
6898     \fi
6899 }%
6900 user{%
6901     /Subtype/Link%
6902     \ifHy@pdfa /F 4\fi
6903     /A<<%
6904     /Type/Action%
6905     /S/URI%
6906     /URI(\Hy@pstringURI)%
6907     >>%
6908 }%
6909 \relax
6910 \Hy@colorlink\@urlcolor#1%
6911 \close@pdflink
6912 \endgroup
6913 }
6914 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
6915     \begingroup
6916     \Hy@pstringdef\Hy@pstringF{#2}%
6917     \Hy@pstringdef\Hy@pstringD{#3}%
6918     \leavevmode
6919     \pdfstartlink
6920     attr{%
6921         \Hy@setpdfborder
6922         \ifx\@pdfhighlight\@empty
6923         \else
6924             /H\@pdfhighlight
6925         \fi
6926         \ifx\@filebordercolor\relax
6927         \else
6928             /C[\@filebordercolor]%
6929         \fi
6930     }%
6931     user {%
6932         /Subtype/Link%
6933         \ifHy@pdfa /F 4\fi
6934         /A<<%
6935         /F(\Hy@pstringF)%
6936         /S/GoToR%
6937         \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}

```

```

6938     \ifx\#3\%
6939         /D[0 \pdfstartview]%
6940     \else
6941         /D(\Hy@pstringD)%
6942     \fi

```

```

6943     >>%
6944   }%
6945   \relax
6946   \Hy@colorlink\@filecolor#1%
6947   \close@pdflink
6948 \endgroup
6949 }
6950 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6951 \begingroup
6952   \Hy@pstringdef\Hy@pstringF{#1}%
6953   \Hy@pstringdef\Hy@pstringP{#3}%
6954   \leavevmode
6955   \pdfstartlink
6956   attr{%
6957     \Hy@setpdfborder
6958     \ifx\@pdfhighlight\@empty
6959     \else
6960       /H\@pdfhighlight
6961     \fi
6962     \ifx\@runbordercolor\relax
6963     \else
6964       /C[\@runbordercolor]%
6965     \fi
6966   }%
6967   user {%
6968     /Subtype/Link%
6969     \ifHy@pdfa /F 4\fi
6970     /A<<%
6971       /F(\Hy@pstringF)%
6972       /S/Launch%
6973       \Hy@SetNewWindow
6974       \ifx\#3\%
6975       \else
6976         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6977       \fi
6978     >>%
6979   }%
6980   \relax
6981   \Hy@colorlink\@runcolor#2%
6982   \close@pdflink
6983 \endgroup
6984 }

```

\@pdfproducer

```

6985 \ifx\@pdfproducer\relax
6986 \begingroup\expandafter\expandafter\expandafter\endgroup
6987 \expandafter\ifx\csname luatexversion\endcsname\relax
6988   \def\@pdfproducer{pdfTeX}%
6989   \ifx\eTeXversion\@undefined
6990   \else
6991     \ifx\eTeXversion\relax
6992     \else
6993       \ifnum\eTeXversion>0 %
6994       \def\@pdfproducer{pdfeTeX}%
6995     \fi
6996   \fi
6997 \fi

```

```

6998 \ifx\pdftexversion\undefined
6999 \else
7000 \ifnum\pdftexversion<100 %
7001 \edef\@pdfproducer{%
7002 \@pdfproducer
7003 \the\pdftexversion.\pdftexrevision
7004 }%
7005 \else
7006 \ifnum\pdftexversion<130 %
7007 \edef\@pdfproducer{%
7008 \@pdfproducer-%
7009 \expandafter\@car\the\pdftexversion\@empty\@nil.%
7010 \expandafter\@cdr\the\pdftexversion\@empty\@nil
7011 \pdftexrevision
7012 }%
7013 \else
7014 \ifnum\pdftexversion<140 %
7015 \else
7016 \def\@pdfproducer{pdfTeX}%
7017 \fi
7018 \edef\@pdfproducer{%
7019 \@pdfproducer-%
7020 \expandafter\@car\the\pdftexversion\@empty\@nil.%
7021 \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
7022 \pdftexrevision
7023 }%
7024 \fi
7025 \fi
7026 \fi
7027 \else
7028 \begingroup
7029 \count@=\luatexversion
7030 \divide\count@ by 100 %
7031 \edef\x{\the\count@}%
7032 \count@=-\x\relax
7033 \multiply\count@ by 100 %
7034 \advance\count@ by \luatexversion
7035 \edef\x{\endgroup
7036 \def\noexpand\@pdfproducer{%
7037 LuaTeX-\x.\the\count@.\luatexrevision
7038 }%
7039 }%
7040 \x
7041 \fi
7042 \fi

```

\PDF@SetupDox

```

7043 \def\PDF@SetupDoc{%
7044 \ifx\@pdfpagescrop\@empty
7045 \else
7046 \edef\process@me{%
7047 \pdfpagesattr={%
7048 /CropBox[\@pdfpagescrop]%
7049 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7050 \else
7051 ^^J\the\pdfpagesattr
7052 \fi

```

```

7053     }%
7054 }%
7055 \process@me
7056 \fi
7057 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7058 \pdfcatalog{%
7059   /PageMode/\@pdfpagemode
7060   \ifx\@baseurl\@empty
7061     \else
7062       /URI<</Base(\Hy@pstringB)>>%
7063     \fi
7064 }%
7065 \ifx\@pdfstartpage\@empty
7066 \else
7067   \ifx\@pdfstartview\@empty
7068   \else
7069     openaction goto page\@pdfstartpage{\@pdfstartview}%
7070   \fi
7071 \fi
7072 \edef\Hy@temp{%
7073   \ifHy@toolbar\else /HideToolbar true\fi
7074   \ifHy@menubar\else /HideMenubar true\fi
7075   \ifHy>windowui\else /HideWindowUI true\fi
7076   \ifHy@fitwindow /FitWindow true\fi
7077   \ifHy@centerwindow /CenterWindow true\fi
7078   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7079   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7080   \Hy@UseNameKey{Direction}\@pdfdirection
7081   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7082   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7083   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7084   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7085   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7086   \Hy@UseNameKey{Duplex}\@pdfduplex
7087   \ifx\@pdfpicktraybypdfsize\@empty
7088   \else
7089     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7090   \fi
7091   \ifx\@pdfprintpagerange\@empty
7092   \else
7093     /PrintPageRange[\@pdfprintpagerange]%
7094   \fi
7095   \ifx\@pdfnumcopies\@empty
7096   \else
7097     /NumCopies \@pdfnumcopies
7098   \fi
7099 }%
7100 \pdfcatalog{%
7101   \ifx\Hy@temp\@empty
7102   \else
7103     /ViewerPreferences<<\Hy@temp>>%
7104   \fi
7105   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7106   \ifx\@pdflang\@empty
7107   \else
7108     /Lang(\@pdflang)%
7109   \fi

```

```

7110 }%
7111 }

```

\PDF@FinishDoc

```

7112 \def\PDF@FinishDoc{%
7113   \Hy@UseMaketitleInfos
7114   \pdfinfo{%
7115     /Author(\@pdfauthor)%
7116     /Title(\@pdftitle)%
7117     /Subject(\@pdfsubject)%
7118     /Creator(\@pdfcreator)%
7119     \ifx\@pdfcreationdate\@empty
7120     \else
7121       /CreationDate(\@pdfcreationdate)%
7122     \fi
7123     \ifx\@pdfmoddate\@empty
7124     \else
7125       /ModDate(\@pdfmoddate)%
7126     \fi
7127     \ifx\@pdfproducer\relax
7128     \else
7129       /Producer(\@pdfproducer)%
7130     \fi
7131     /Keywords(\@pdfkeywords)%
7132   }%
7133   \Hy@DisableOption{pdfauthor}%
7134   \Hy@DisableOption{pdftitle}%
7135   \Hy@DisableOption{pdfsubject}%
7136   \Hy@DisableOption{pdfcreator}%
7137   \Hy@DisableOption{pdfcreationdate}%
7138   \Hy@DisableOption{pdfmoddate}%
7139   \Hy@DisableOption{pdfproducer}%
7140   \Hy@DisableOption{pdfkeywords}%
7141 }

```

\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.

```

7142 \def\hyper@pagetransition{%
7143   \ifx\@pdfpagetransition\relax
7144   \else
7145     \expandafter\Hy@RemoveTransPageAttr
7146     \the\pdfpageattr^^J/Trans{}}>>\END
7147   \ifx\@pdfpagetransition\@empty
7148   \else
7149     \edef\@processme{%
7150       \global\pdfpageattr{%
7151         \the\pdfpageattr
7152         ^^J/Trans << /S /\@pdfpagetransition\space >>%
7153       }%
7154     }%
7155     \@processme
7156   \fi
7157 }
7158 }

```

\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.

```

7159 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7160   \ifx\#2\%
7161     \global\pdfpageattr{#1}%
7162   \else
7163     \Hy@RemoveTransPageAttr#1#4\END
7164   \fi
7165 }

```

\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.

```

7166 \def\hyper@pageduration{%
7167   \ifx\@pdfpageduration\relax
7168   \else
7169     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7170     \ifx\@pdfpageduration\@empty
7171     \else
7172       \edef\@processme{%
7173         \global\pdfpageattr{%
7174           \the\pdfpageattr
7175           ^^J/Dur \@pdfpageduration\space
7176         }%
7177       }%
7178       \@processme
7179     \fi
7180   \fi
7181 }

```

\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.

```

7182 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7183   \ifx\#2\%
7184     \global\pdfpageattr{#1}%
7185   \else
7186     \Hy@RemoveDurPageAttr#1#4\END
7187   \fi
7188 }

```

\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).

```

7189 \def\hyper@pagehidden{%
7190   \ifHy@useHidKey
7191     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7192     \ifHy@pdfpagehidden
7193     \edef\@processme{%
7194       \global\pdfpageattr{%
7195         \the\pdfpageattr
7196         ^^J/Hid true % SPACE
7197       }%
7198     }%
7199     \@processme

```

```

7200     \fi
7201     \fi
7202 }

```

`\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.

```

7203 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7204     \ifx\#2\%
7205         \global\pdfpageattr{#1}%
7206     \else
7207         \Hy@RemoveHidPageAttr#1#4\END
7208     \fi
7209 }

7210 \g@addto@macro\Hy@EveryPageHook{%
7211     \hyper@pagetransition
7212     \hyper@pageduration
7213     \hyper@pagehidden
7214 }

7215 \AtBeginDocument{%
7216     \ifHy@setpagesize
7217         \expandafter\@firstofone
7218     \else
7219         \expandafter\@gobble
7220     \fi
7221 }%
7222 \@ifclassloaded{seminar}{%
7223     \setlength{\pdfhorigin}{1truein}%
7224     \setlength{\pdfvorigin}{1truein}%
7225     \ifportrait
7226         \ifdim\paperwidth=\z@
7227         \else
7228             \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7229         \fi
7230         \ifdim\paperheight=\z@
7231         \else
7232             \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7233         \fi
7234     \else
7235         \ifdim\paperheight=\z@
7236         \else
7237             \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7238         \fi
7239         \ifdim\paperwidth=\z@
7240         \else
7241             \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7242         \fi
7243     \fi
7244 }{%
7245     \@ifundefined{stockwidth}{%
7246         \ifdim\paperwidth=\z@
7247         \else
7248             \setlength{\pdfpagewidth}{\paperwidth}%
7249         \fi
7250         \ifdim\paperheight=\z@

```

```

7251         \else
7252             \setlength{\pdfpageheight}{\paperheight}%
7253         \fi
7254     }{%
7255         \ifdim\stockwidth=\z@
7256         \else
7257             \setlength{\pdfpagewidth}{\stockwidth}%
7258         \fi
7259         \ifdim\stockheight=\z@
7260         \else
7261             \setlength{\pdfpageheight}{\stockheight}%
7262         \fi
7263     }%
7264 }%
7265 }%
7266 \Hy@DisableOption{setpagesize}%
7267 }
7268 \def\Acrobatmenu#1#2{%
7269     \Hy@Acrobatmenu{#1}{#2}{%
7270         \pdfstartlink
7271         attr{%
7272             \Hy@setpdfborder
7273             \ifx\@pdfhighlight\@empty
7274             \else
7275                 /H\@pdfhighlight
7276             \fi
7277             \ifx\@menubordercolor\relax
7278             \else
7279                 /C[\@menubordercolor]%
7280             \fi
7281         }%
7282         user{%
7283             /Subtype/Link%
7284             \ifHy@pdfa /F 4\fi
7285             /A<<%
7286                 /S/Named/N/#1%
7287             >>%
7288         }%
7289         \relax
7290         \Hy@colorlink\@menucolor#2%
7291         \close@pdflink
7292     }%
7293 }
7294 </pdftex>
7295 <*hypertex>

```

46.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the T_EX file — the T_EX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that ‘’ characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```
7296 \providecommand*{\XR@ext}{dvi}
7297 \def\PDF@FinishDoc{}
7298 \def\PDF@SetupDoc{%
7299   \ifx\@baseurl\@empty
7300   \else
7301     \special{html:<base href="\@baseurl">}%
7302   \fi
7303 }
7304 \def\hyper@anchor#1{%
7305   \Hy@SaveLastskip
7306   \begingroup
7307     \let\protect=\string
7308     \hyper@chars
7309     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
7310   \endgroup
7311   \Hy@activeanchortrue
7312   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7313   \special{html:</a>}%
7314   \Hy@activeanchorfalse
7315   \Hy@RestoreLastskip
7316 }
7317 \def\hyper@anchorstart#1{%
7318   \Hy@SaveLastskip
7319   \begingroup
7320     \hyper@chars
7321     \special{html:<a name=\hyper@quote#1\hyper@quote>}%
7322   \endgroup
7323   \Hy@activeanchortrue
7324 }
7325 \def\hyper@anchorend{%
7326   \special{html:</a>}%
7327   \Hy@activeanchorfalse
7328   \Hy@RestoreLastskip
7329 }
7330 \def\@urltype{url}
```

```

7331 \def\hyper@linkstart#1#2{%
7332   \expandafter\Hy@colorlink\csname @#1color\endcsname
7333   \def\Hy@tempa{#1}%
7334   \ifx\Hy@tempa\@urltype
7335     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7336   \else
7337     \begingroup
7338     \hyper@chars
7339     \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
7340   \endgroup
7341   \fi
7342 }
7343 \def\hyper@linkend{%
7344   \special{html:</a>}%
7345   \Hy@endcolorlink
7346 }
7347 \def\hyper@linkfile#1#2#3{%
7348   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7349 }
7350 \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.

```

7351 \leavevmode
7352 \ifHy@raiselinks
7353   \setbox\@tempboxa=\color@hbox #1\color@endbox
7354   \@linkdim\dp\@tempboxa
7355   \lower\@linkdim\hbox{%
7356     \hyper@chars
7357     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7358   }%
7359   \Hy@colorlink\@urlcolor#1%
7360   \@linkdim\ht\@tempboxa

```

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

```

7361   \advance\@linkdim by -6.5\p@
7362   \raise\@linkdim\hbox{\special{html:</a>}}%
7363   \Hy@endcolorlink
7364 \else
7365   \begingroup
7366   \hyper@chars
7367   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7368   \Hy@colorlink\@urlcolor#1%
7369   \special{html:</a>}%
7370   \Hy@endcolorlink
7371 \endgroup
7372 \fi
7373 }
7374 \def\hyper@link#1#2#3{%
7375   \hyper@linkurl{#3}{\##2}%
7376 }
7377 \def\hyper@image#1#2{%
7378   \begingroup
7379   \hyper@chars

```

```

7380 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7381 \endgroup
7382 }
7383 </hypertex>
7384 <*dviwindo>

```

46.4 dviwindo

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

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

```

7385 \providecommand*\XR@ext}{dvi}
7386 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7387 \def\hyper@anchor#1{%
7388   \Hy@SaveLastskip
7389   \begingroup
7390     \let\protect=\string
7391     \special{mark: #1}%
7392   \endgroup
7393   \Hy@activeanchortrue
7394   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7395   \Hy@activeanchorfalse
7396   \Hy@RestoreLastskip
7397 }
7398 \def\hyper@anchorstart#1{%
7399   \Hy@SaveLastskip
7400   \special{mark: #1}%
7401   \Hy@activeanchortrue
7402 }
7403 \def\hyper@anchorend{%
7404   \Hy@activeanchorfalse
7405   \Hy@RestoreLastskip
7406 }
7407 \def\hyper@linkstart#1#2{%
7408   \expandafter\Hy@colorlink\csname @#1color\endcsname
7409   \special{button: %
7410     10000000 %
7411     \number\baselineskip\space
7412     #2%
7413   }%
7414 }
7415 \def\hyper@linkend{%
7416   \Hy@endcolorlink
7417 }
7418 \def\hyper@link#1#2#3{%
7419   \setbox\@tempboxa=\color@hbox #3\color@endbox
7420   \leavevmode
7421   \ifHy@raiselinks
7422     \@linkdim\dp\@tempboxa

```

```

7423 \lower\@linkdim\hbox{%
7424 \special{button: %
7425 \number\wd\@tempboxa\space
7426 \number\ht\@tempboxa\space
7427 #2%
7428 }%
7429 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7430 \Hy@endcolorlink
7431 }%
7432 \@linkdim\ht\@tempboxa
7433 \advance\@linkdim by -6.5\p@
7434 \raise\@linkdim\hbox{}%
7435 \else
7436 \special{button: %
7437 \number\wd\@tempboxa\space
7438 \number\ht\@tempboxa\space
7439 #2%
7440 }%
7441 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7442 \Hy@endcolorlink
7443 \fi
7444 }
7445 \def\hyper@linkurl#1#2{%
7446 \begingroup
7447 \hyper@chars
7448 \leavevmode
7449 \setbox\@tempboxa=\color@hbox #1\color@endbox
7450 \ifHy@raiselinks
7451 \@linkdim\dp\@tempboxa
7452 \lower\@linkdim\hbox{%
7453 \special{button: %
7454 \number\wd\@tempboxa\space
7455 \number\ht\@tempboxa\space
7456 launch: \wwwbrowser\space
7457 #2%
7458 }%
7459 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7460 }%
7461 \@linkdim\ht\@tempboxa
7462 \advance\@linkdim by -6.5\p@
7463 \raise\@linkdim\hbox{}%
7464 \else
7465 \special{button: %
7466 \number\wd\@tempboxa\space
7467 \number\ht\@tempboxa\space
7468 launch: \wwwbrowser\space
7469 #2%
7470 }%
7471 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7472 \fi
7473 \endgroup
7474 }
7475 \def\hyper@linkfile#1#2#3{%
7476 \begingroup
7477 \hyper@chars
7478 \leavevmode
7479 \setbox\@tempboxa=\color@hbox #1\color@endbox

```

```

7480 \ifHy@raiselinks
7481 \@linkdim\dp\@tempboxa
7482 \lower\@linkdim\hbox{%
7483 \special{button: %
7484 \number\wd\@tempboxa\space
7485 \number\ht\@tempboxa\space
7486 #3,%
7487 file: #2%
7488 }%
7489 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7490 }%
7491 \@linkdim\ht\@tempboxa
7492 \advance\@linkdim by -6.5\p@
7493 \raise\@linkdim\hbox{}%
7494 \else
7495 \special{button: %
7496 \number\wd\@tempboxa\space
7497 \number\ht\@tempboxa\space
7498 #3,%
7499 file: #2%
7500 }%
7501 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7502 \fi
7503 \endgroup
7504 }
7505 \ifx\@pdfproducer\relax
7506 \def\@pdfproducer{dviwindo + Distiller}%
7507 \fi
7508 \def\PDF@FinishDoc{%
7509 \Hy@UseMaketitleInfos
7510 \special{PDF: Keywords \@pdfkeywords}%
7511 \special{PDF: Title \@pdftitle}%
7512 \special{PDF: Creator \@pdfcreator}%
7513 \ifx\@pdfcreationdate\@empty
7514 \else
7515 \special{PDF: CreationDate \@pdfcreationdate}%
7516 \fi
7517 \ifx\@pdfmoddate\@empty
7518 \else
7519 \special{PDF: ModDate \@pdfmoddate}%
7520 \fi
7521 \special{PDF: Author \@pdfauthor}%
7522 \ifx\@pdfproducer\relax
7523 \else
7524 \special{PDF: Producer \@pdfproducer}%
7525 \fi
7526 \special{PDF: Subject \@pdfsubject}%
7527 \Hy@DisableOption{pdfauthor}%
7528 \Hy@DisableOption{pdftitle}%
7529 \Hy@DisableOption{pdfsubject}%
7530 \Hy@DisableOption{pdfcreator}%
7531 \Hy@DisableOption{pdfcreationdate}%
7532 \Hy@DisableOption{pdfmoddate}%
7533 \Hy@DisableOption{pdfproducer}%
7534 \Hy@DisableOption{pdfkeywords}%
7535 }
7536 \def\PDF@SetupDoc{%

```

```

7537 \ifx\@baseurl\@empty
7538 \else
7539 \special{PDF: Base \@baseurl}%
7540 \fi
7541 \ifx\@pdfpagescrop\@empty\else
7542 \special{PDF: BBox \@pdfpagescrop}%
7543 \fi
7544 \def\Hy@temp{}%
7545 \ifx\@pdfstartpage\@empty
7546 \else
7547 \ifx\@pdfstartview\@empty
7548 \else
7549 \edef\Hy@temp{%
7550 ,Page=\@pdfstartpage
7551 ,View=\@pdfstartview
7552 }%
7553 \fi
7554 \fi
7555 \edef\Hy@temp{%
7556 \noexpand\pdfmark{%
7557 pdfmark=/DOCVIEW,%
7558 PageMode=/\@pdfpagemode
7559 \Hy@temp
7560 }%
7561 }%
7562 \Hy@temp
7563 \ifx\@pdfpagescrop\@empty
7564 \else
7565 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7566 \fi
7567 \edef\Hy@temp{%
7568 \ifHy@toolbar\else /HideToolbar true\fi
7569 \ifHy@menubar\else /HideMenubar true\fi
7570 \ifHy@windowui\else /HideWindowUI true\fi
7571 \ifHy@fitwindow /FitWindow true\fi
7572 \ifHy@centerwindow /CenterWindow true\fi
7573 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7574 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7575 \Hy@UseNameKey{Direction}\@pdfdirection
7576 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7577 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7578 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7579 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7580 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7581 \Hy@UseNameKey{Duplex}\@pdfduplex
7582 \ifx\@pdfpicktraybypdfsize\@empty
7583 \else
7584 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7585 \fi
7586 \ifx\@pdfprintpagerange\@empty
7587 \else
7588 /PrintPageRange[\@pdfprintpagerange]%
7589 \fi
7590 \ifx\@pdfnumcopies\@empty
7591 \else
7592 /NumCopies \@pdfnumcopies
7593 \fi

```

```

7594 }%
7595 \pdfmark{pdfmark=/PUT,%
7596   Raw={%
7597     \string{Catalog\string}<<%
7598     \ifx\Hy@temp\@empty
7599     \else
7600     /ViewerPreferences<<\Hy@temp>>%
7601     \fi
7602     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7603     \ifx\@pdflang\@empty
7604     \else
7605     /Lang(\@pdflang)%
7606     \fi
7607   >>%
7608 }%
7609 }%
7610 }
7611 </dviwindo>
7612 <*dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7613 \providecommand*{\XR@ext}{pdf}
7614 \Hy@setbreaklinks{true}
7615 \newsavebox{\pdfm@box}
7616 \def\@pdfm@mark#1{\special{pdf:#1}}
7617 \def\@pdfm@dest#1{%
7618   \Hy@SaveLastskip
7619   \begingroup
7620     \Hy@pstringdef\Hy@pstringDest{#1}%
7621     \def\x{XYZ}%
7622     \ifx\x\@pdfview
7623       \def\x{XYZ @xpos @ypos null}%
7624     \else
7625       \def\x{FitH}%
7626       \ifx\x\@pdfview
7627         \def\x{FitH @ypos}%
7628       \else
7629         \def\x{FitBH}%
7630         \ifx\x\@pdfview
7631           \def\x{FitBH @ypos}%
7632         \else
7633           \def\x{FitV}%
7634           \ifx\x\@pdfview
7635             \def\x{FitV @xpos}%
7636           \else
7637             \def\x{FitBV}%
7638             \ifx\x\@pdfview
7639               \def\x{FitBV @xpos}%
7640             \else
7641               \def\x{Fit}%
7642               \ifx\x\@pdfview
7643                 \let\x\@pdfview
7644               \else
7645                 \def\x{FitB}%
7646                 \ifx\x\@pdfview

```

```

7647         \let\x\@pdfview
7648     \else
7649         \def\x{FitR}%
7650         \ifx\x\@pdfview
7651             \Hy@Warning{'pdfview=FitR' is not supported}%
7652             \def\x{XYZ @xpos @ypos null}%
7653         \else
7654             \@onelevel@sanitize\@pdfview
7655             \Hy@Warning{Unknown value '@pdfview' for pdfview}%
7656             \def\x{XYZ @xpos @ypos null}%
7657         \fi
7658     \fi
7659 \fi
7660 \fi
7661 \fi
7662 \fi
7663 \fi
7664 \fi
7665 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7666 \endgroup
7667 \Hy@RestoreLastskip
7668 }
7669 \providecommand*\@pdfview{XYZ}
7670 \providecommand*\@pdfborder{0 0 1}
7671 \providecommand*\@pdfborderstyle{}
7672 \def\hyper@anchor#1{%
7673     \@pdfm@dest{#1}%
7674 }
7675 \def\hyper@anchorstart#1{%
7676     \Hy@activeanchortrue
7677     \@pdfm@dest{#1}%
7678 }
7679 \def\hyper@anchorend{%
7680     \Hy@activeanchorfalse
7681 }
7682 \ifHy@ocgcolorlinks
7683     \def\OBJ@OCG@view{\OCG@view}%
7684     \@pdfm@mark{%
7685         obj \OBJ@OCG@view <<%
7686             /Type/OCG%
7687             /Name(View)%
7688             /Usage<<%
7689                 /Print<<%
7690                 /PrintState/OFF%
7691             >>%
7692             /View<<%
7693             /ViewState/ON%
7694             >>%
7695         >>%
7696     }%
7697 \@pdfm@mark{close \OBJ@OCG@view}%
7698 \def\OBJ@OCG@print{\OCG@print}%
7699 \@pdfm@mark{%
7700     obj \OBJ@OCG@print <<%
7701         /Type/OCG%
7702         /Name(Print)%

```



```

7704     /Usage<<%
7705     /Print<<%
7706         /PrintState/ON%
7707     >>%
7708     /View<<%
7709         /ViewState/OFF%
7710     >>%
7711 >>%
7712 >>%
7713 }%
7714 \@pdfmark{close \OBJ@OCG@print}%
7715 \def\OBJ@OCGs{@OCGs}%
7716 \@pdfmark{%
7717     obj \OBJ@OCGs [%
7718         \OBJ@OCG@view\space\OBJ@OCG@print
7719     ]%
7720 }%
7721 \@pdfmark{close \OBJ@OCGs}%
7722 \@pdfmark{%
7723     put @catalog <<%
7724         /OCProperties<<%
7725         /OCGs \OBJ@OCGs
7726         /D<<%
7727             /OFF[\OBJ@OCG@print]%
7728             /AS[%
7729                 <<%
7730                     /Event/View%
7731                     /OCGs \OBJ@OCGs
7732                     /Category[/View]%
7733                 >>%
7734                 <<%
7735                     /Event/Print%
7736                     /OCGs \OBJ@OCGs
7737                     /Category[/Print]%
7738                 >>%
7739                 <<%
7740                     /Event/Export%
7741                     /OCGs \OBJ@OCGs
7742                     /Category[/Print]%
7743                 >>%
7744             ]%
7745         >>%
7746     >>%
7747 >>%
7748 }%
7749 \@pdfmark{%
7750     put @resources <<%
7751         /Properties<<%
7752             /OCView \OBJ@OCG@view
7753             /OCPrint \OBJ@OCG@print
7754         >>%
7755     >>%
7756 }%
7757 \AtBeginDocument{%
7758     \def\Hy@colorlink#1{%
7759         \begingroup
7760         \ifHy@ocgcolorlinks

```

```

7761         \def\Hy@ocgcolor{#1}%
7762         \setbox0=\color@hbox
7763     \else
7764         \HyColor@UseColor#1%
7765     \fi
7766 }%
7767 \def\Hy@endcolorlink{%
7768     \ifHy@ocgcolorlinks
7769         \color@endbox
7770         \mbox{%
7771             \@pdfm@mark{content /OC/OCPrint BDC}%
7772             \rlap{\copy0}%
7773             \@pdfm@mark{content EMC/OC/OCView BDC}%
7774             \begingroup
7775                 \expandafter\HyColor@UseColor\Hy@ocgcolor
7776                 \box0 %
7777             \endgroup
7778             \@pdfm@mark{content EMC}%
7779         }%
7780     \fi
7781 \endgroup
7782 }%
7783 }%
7784 \else
7785     \Hy@DisableOption{ocgcolorlinks}%
7786 \fi

7787 \def\Hy@undefinedname{UNDEFINED}
7788 \def\hyper@linkstart#1#2{%
7789     \protected@edef\Hy@testname{#2}%
7790     \ifx\Hy@testname\@empty
7791         \let\Hy@testname\Hy@undefinedname
7792     \else
7793         \Hy@pstringdef\Hy@testname\Hy@testname
7794     \fi
7795     \@pdfm@mark{%
7796         bann<<%
7797         /Type/Annot%
7798         /Subtype/Link%
7799         \ifHy@pdfa /F 4\fi
7800         \Hy@setpdfborder
7801         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7802             \else
7803                 /C[\csname @#1bordercolor\endcsname]%
7804             \fi
7805             /A<<%
7806             /S/GoTo%
7807             /D(\Hy@testname)%
7808             >>%
7809         >>%
7810     }%
7811     \expandafter\Hy@colorlink\csname @#1color\endcsname
7812 }
7813 \def\hyper@linkend{%
7814     \Hy@endcolorlink
7815     \@pdfm@mark{eann}%
7816 }
7817 \def\hyper@link#1#2#3{%

```

```

7818 \hyper@linkstart{#1}{#2}#3\hyper@linkend
7819 }
7820 \def\hyper@linkfile#1#2#3{%
7821 \Hy@pstringdef\Hy@pstringF{#2}%
7822 \Hy@pstringdef\Hy@pstringD{#3}%
7823 \leavevmode
7824 \@pdfm@mark{%
7825     bann<<%
7826         /Type/Annot%
7827         /Subtype/Link%
7828         \ifHy@pdfa /F 4\fi
7829         \Hy@setpdfborder
7830         \ifx\@filebordercolor\relax
7831         \else
7832             /C[\@filebordercolor]%
7833         \fi
7834         /A<<%
7835         /S/GoToR%
7836         /F(\Hy@pstringF)%
7837         /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
7838         \Hy@SetNewWindow
7839     >>%
7840 >>%
7841 }%
7842 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7843 \@pdfm@mark{eann}%
7844 }
7845 \def\hyper@linkurl#1#2{%
7846 \Hy@pstringdef\Hy@pstringURI{#2}%
7847 \leavevmode
7848 \@pdfm@mark{%
7849     bann<<%
7850         /Type/Annot%
7851         /Subtype/Link%
7852         \ifHy@pdfa /F 4\fi
7853         \Hy@setpdfborder
7854         \ifx\@urlbordercolor\relax
7855         \else
7856             /C[\@urlbordercolor]%
7857         \fi
7858         /A<<%
7859         /S/URI%
7860         /URI(\Hy@pstringURI)%
7861     >>%
7862 >>%
7863 }%
7864 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7865 \@pdfm@mark{eann}%
7866 }
7867 \def\Acrobatmenu#1#2{%
7868 \Hy@Acrobatmenu{#1}{#2}{%
7869     \@pdfm@mark{%
7870         bann<<%
7871         /Type/Annot%
7872         /Subtype/Link%
7873         \ifHy@pdfa /F 4\fi
7874         /A<<%

```

```

7875         /S/Named%
7876         /N/#1%
7877     >>%
7878     \Hy@setpdfborder
7879     \ifx\@menubordercolor\relax
7880     \relax
7881     /C[\@menubordercolor]%
7882     \fi
7883 >>%
7884 }%
7885 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7886 \@pdfm@mark{eann}%
7887 }%
7888 }
7889 \ifx\@pdfproducer\relax
7890 \def\@pdfproducer{dvipdfm}%

```

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

```

7891 \begingroup\expandafter\expandafter\expandafter\endgroup
7892 \expandafter\ifx\csname XeTeXversion\endcsname\relax
7893 \else
7894 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
7895 \fi
7896 \fi
7897 \def\PDF@FinishDoc{%
7898 \Hy@UseMaketitleInfos
7899 \@pdfm@mark{%
7900 docinfo<<%
7901 /Title(\@pdftitle)%
7902 /Subject(\@pdfsubject)%
7903 /Creator(\@pdfcreator)%
7904 \ifx\@pdfcreationdate\@empty
7905 \else
7906 /CreationDate(\@pdfcreationdate)%
7907 \fi
7908 \ifx\@pdfmoddate\@empty
7909 \else
7910 /ModDate(\@pdfmoddate)%
7911 \fi
7912 /Author(\@pdfauthor)%
7913 \ifx\@pdfproducer\relax
7914 \else
7915 /Producer(\@pdfproducer)%
7916 \fi
7917 /Keywords(\@pdfkeywords)%
7918 >>%
7919 }%
7920 \Hy@DisableOption{pdfauthor}%
7921 \Hy@DisableOption{pdftitle}%
7922 \Hy@DisableOption{pdfsubject}%
7923 \Hy@DisableOption{pdfcreator}%
7924 \Hy@DisableOption{pdfcreationdate}%
7925 \Hy@DisableOption{pdfmoddate}%
7926 \Hy@DisableOption{pdfproducer}%
7927 \Hy@DisableOption{pdfkeywords}%
7928 }
7929 \def\PDF@SetupDoc{%

```

```

7930 \edef\Hy@temp{%
7931   \ifHy@toolbar\else /HideToolbar true\fi
7932   \ifHy@menubar\else /HideMenubar true\fi
7933   \ifHy@windowui\else /HideWindowUI true\fi
7934   \ifHy@fitwindow /FitWindow true\fi
7935   \ifHy@centerwindow /CenterWindow true\fi
7936   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7937   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7938   \Hy@UseNameKey{Direction}\@pdfdirection
7939   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7940   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7941   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7942   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7943   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7944   \Hy@UseNameKey{Duplex}\@pdfduplex
7945   \ifx\@pdfpicktraybypdfsize\@empty
7946   \else
7947     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7948   \fi
7949   \ifx\@pdfprintpagerange\@empty
7950   \else
7951     /PrintPageRange[\@pdfprintpagerange]%
7952   \fi
7953   \ifx\@pdfnumcopies\@empty
7954   \else
7955     /NumCopies \@pdfnumcopies
7956   \fi
7957 }%
7958 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7959 \@pdfm@mark{%
7960   docview<<%
7961     \ifx\@pdfstartpage\@empty
7962     \else
7963       \ifx\@pdfstartview\@empty
7964       \else
7965         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
7966       \fi
7967     \fi
7968     \ifx\@baseurl\@empty
7969     \else
7970       /URI<</Base(\Hy@pstringB)>>%
7971     \fi
7972     /PageMode/\@pdfpagemode
7973     \ifx\Hy@temp\@empty
7974     \else
7975       /ViewerPreferences<<\Hy@temp>>%
7976     \fi
7977     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7978     \ifx\@pdflang\@empty
7979     \else
7980       /Lang(\@pdflang)%
7981     \fi
7982   >>%
7983 }%
7984 \ifx\@pdfpagescrop\@empty
7985 \else
7986   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%

```

```

7987 \fi
7988 }
7989 </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.

```

7990 <*vtxhtml>
7991 \providecommand*{\XR@ext}{htm}
7992 \RequirePackage{vtxhtml}
7993 \newif\if@Localurl
7994 \def\PDF@FinishDoc{}
7995 \def\PDF@SetupDoc{%
7996   \ifx\@baseurl\@empty
7997   \else
7998     \special{!direct <base href="\@baseurl">}%
7999   \fi
8000 }
8001 \def\@urltype{url}
8002 \def\hyper@link#1#2#3{%
8003   \leavevmode
8004   \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}%
8005   #3%
8006   \special{!direct </a>}%
8007 }
8008 \def\hyper@linkurl#1#2{%
8009   \begingroup
8010     \hyper@chars
8011     \leavevmode
8012     \MathBSuppress=1\relax
8013     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8014     #1%
8015     \MathBSuppress=0\relax
8016     \special{!direct </a>}%
8017   \endgroup
8018 }
8019 \def\hyper@linkfile#1#2#3{%
8020   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8021 }
8022 \def\hyper@linkstart#1#2{%
8023   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8024     \@Localurltrue
8025     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8026   \else
8027     \@Localurlfalse
8028     \begingroup
8029       \hyper@chars
8030       \special{!aref #2}%
8031     \endgroup
8032   \fi
8033 }
8034 \def\hyper@linkend{%
8035   \if@Localurl
8036     \special{!endaref}%
8037   \else
8038     \special{!direct </a>}%

```

```

8039 \fi
8040 }
8041 \def\hyper@anchorstart#1{%
8042   \Hy@SaveLastskip
8043   \begingroup
8044     \hyper@chars
8045     \special{!aname #1}%
8046     \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
8047   \endgroup
8048   \Hy@activeanchortrue
8049 }
8050 \def\hyper@anchorend{%
8051   \special{!direct </a>}%
8052   \Hy@activeanchorfalse
8053   \Hy@RestoreLastskip
8054 }
8055 \def\hyper@anchor#1{%
8056   \Hy@SaveLastskip
8057   \begingroup
8058     \let\protect=\string
8059     \hyper@chars
8060     \leavevmode
8061     \special{!aname #1}%
8062     \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
8063   \endgroup
8064   \Hy@activeanchortrue
8065   \bgroup\anchor@spot\egroup
8066   \special{!direct </a>}%
8067   \Hy@activeanchorfalse
8068   \Hy@RestoreLastskip
8069 }
8070 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8071 \def\@endForm{}
8072 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8073   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8074 }
8075 \def\@TextField[#1]#2{% parameters, label
8076   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8077 }
8078 \def\@CheckBox[#1]#2{% parameters, label
8079   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8080 }
8081 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8082   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8083 }
8084 \def\@PushButton[#1]#2{% parameters, label
8085   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8086 }
8087 \def\@Reset[#1]#2{%
8088   \typeout{Sorry, TeXpider does not yet support FORMs}%
8089 }
8090 \def\@Submit[#1]#2{%
8091   \typeout{Sorry, TeXpider does not yet support FORMs}%
8092 }
8093 </vtexhtml>
8094 <*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.

```

8095 \ifx\mediaheight\@undefined
8096 \else
8097   \ifx\mediaheight\relax
8098   \else
8099     \ifHy@setpagesize
8100       \providecommand*\VTexInitMediaSize{%
8101         \@ifundefined{stockwidth}{%
8102           \ifdim\paperheight>0pt %
8103             \setlength\mediaheight\paperheight
8104           \fi
8105           \ifdim\paperheight>0pt %
8106             \setlength\mediawidth\paperwidth
8107           \fi
8108         }{%
8109           \ifdim\stockheight>0pt %
8110             \setlength\mediaheight\stockheight
8111           \fi
8112           \ifdim\stockwidth>0pt %
8113             \setlength\mediawidth\stockwidth
8114           \fi
8115         }%
8116       }%
8117     \AtBeginDocument{\VTexInitMediaSize}%
8118   \fi
8119   \Hy@DisableOption{setpagesize}%
8120 \fi
8121 \fi

```

Older versions of VTeX require xyz in lower case.

```

8122 \providecommand*\@pdfview{xyz}
8123 \providecommand*\@pdfborder{0 0 1}
8124 \providecommand*\@pdfborderstyle{}
8125 \let\CurrentBorderColor\@linkbordercolor
8126 \def\hyper@anchor#1{%
8127   \Hy@SaveLastskip
8128   \begingroup
8129     \let\protect=\string
8130     \hyper@chars
8131     \special{!aname #1;\@pdfview}%
8132   \endgroup
8133   \Hy@activeanchortrue
8134   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8135   \Hy@activeanchorfalse
8136   \Hy@RestoreLastskip
8137 }
8138 \def\hyper@anchorstart#1{%
8139   \Hy@SaveLastskip
8140   \begingroup
8141     \hyper@chars
8142     \special{!aname #1;\@pdfview}%
8143   \endgroup
8144   \Hy@activeanchortrue
8145 }
8146 \def\hyper@anchorend{%
8147   \Hy@activeanchorfalse

```



```

8148 \Hy@RestoreLastskip
8149 }
8150 \def\@urltype{url}
8151 \def\Hy@undefinedname{UNDEFINED}
8152 \def\hyper@linkstart#1#2{%
8153   \Hy@pstringdef\Hy@pstringURI{#2}%
8154   \expandafter\Hy@colorlink\csname @#1color\endcsname
8155   \@ifundefined{#@1bordercolor}{%
8156     \let\CurrentBorderColor\relax
8157   }{%
8158     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8159   }%
8160   \def\Hy@tempa{#1}%
8161   \ifx\Hy@tempa\@urltype
8162     \special{!%
8163       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8164       a=<%
8165         \ifHy@pdfa /F 4\fi
8166         \Hy@setpdfborder
8167         \ifx\CurrentBorderColor\relax
8168           \else
8169             /C [\CurrentBorderColor]%
8170           \fi
8171         >%
8172       }%
8173   \else
8174     \protected@edef\Hy@testname{#2}%
8175     \ifx\Hy@testname\@empty
8176       \let\Hy@testname\Hy@undefinedname
8177     \fi
8178     \special{!%
8179       aref \Hy@testname;%
8180       a=<%
8181         \ifHy@pdfa /F 4\fi
8182         \Hy@setpdfborder
8183         \ifx\CurrentBorderColor\relax
8184           \else
8185             /C [\CurrentBorderColor]%
8186           \fi
8187         >%
8188       }%
8189     \fi
8190   }
8191 \def\hyper@linkend{%
8192   \special{!endaref}%
8193   \Hy@endcolorlink
8194 }
8195 \def\hyper@linkfile#1#2#3{%
8196   \leavevmode
8197   \special{!%
8198     aref <%
8199     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8200     f=#2>#3;%
8201     a=<%
8202       \ifHy@pdfa /F 4\fi
8203       \Hy@setpdfborder
8204       \ifx\@filebordercolor\relax

```

```

8205     \else
8206     /C [\@filebordercolor]%
8207     \fi
8208     >%
8209 }%
8210 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8211 \special{!endaref}%
8212 }
8213 \def\hyper@linkurl#1#2{%
8214   \begingroup
8215     \Hy@pstringdef\Hy@pstringURI{#2}%
8216     \hyper@chars
8217     \leavevmode
8218     \special{!%
8219       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8220       a=<%
8221         \ifHy@pdfa /F 4\fi
8222         \Hy@setpdfborder
8223         \ifx\@urlbordercolor\relax
8224         \else
8225         /C [\@urlbordercolor]%
8226         \fi
8227       >%
8228     }%
8229     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8230     \special{!endaref}%
8231   \endgroup
8232 }
8233 \def\hyper@link#1#2#3{%
8234   \@ifundefined{@#1bordercolor}{%
8235     \let\CurrentBorderColor\relax
8236   }{%
8237     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8238   }%
8239   \leavevmode
8240   \protected@edef\Hy@testname{#2}%
8241   \ifx\Hy@testname\@empty
8242     \let\Hy@testname\Hy@undefinedname
8243   \fi
8244   \special{!%
8245     aref \Hy@testname;%
8246     a=<%
8247       \ifHy@pdfa /F 4\fi
8248       \Hy@setpdfborder
8249       \ifx\CurrentBorderColor\relax
8250       \else
8251       /C [\CurrentBorderColor]%
8252       \fi
8253     >%
8254   }%
8255   \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8256   \special{!endaref}%
8257 }
8258 \def\hyper@image#1#2{%
8259   \hyper@linkurl{#2}{#1}%
8260 }
8261 \def\@hyper@launch run:#1\#2#3{%

```

```

8262 \Hy@pstringdef\Hy@pstringF{#1}%
8263 \Hy@pstringdef\Hy@pstringP{#3}%
8264 \leavevmode
8265 \special{!aref %
8266   <u=%
8267     /Type/Action%
8268     /S/Launch%
8269     /F(\Hy@pstringF)%
8270     \Hy@SetNewWindow
8271     \ifx\#3\\\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8272   >;%
8273   a=<%
8274     \ifHy@pdfa /F 4\fi
8275     \Hy@setpdfborder
8276     \ifx\@runbordercolor\relax
8277     \else
8278       /C[\@runbordercolor]%
8279     \fi
8280   >%
8281 }%
8282 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8283 \special{!endaref}%
8284 }
8285 \def\Acrobatmenu#1#2{%
8286   \Hy@Acrobatmenu{#1}{#2}{%
8287     \special{!%
8288       aref <u=/S /Named /N /#1>;%
8289       a=<%
8290         \ifHy@pdfa /F 4\fi
8291         \Hy@setpdfborder
8292         \ifx\@menubordercolor\relax
8293         \else
8294           /C[\@menubordercolor]%
8295         \fi
8296       >%
8297     }%
8298     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8299     \special{!endaref}%
8300   }%
8301 }

```

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

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

Please never use $\text{\ifundefined{VTeXversion}}\{..\}\{..\}$ *globally*.

```

8302 \ifnum\Hy@VTeXversion<702 %
8303 \else
8304   \def\hyper@pagetransition{%
8305     \ifx\@pdfpagetransition\relax
8306     \else
8307       \ifx\@pdfpagetransition\empty

```

Standard incantation.

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

```

8308     \else
8309       \hvtex@parse@trans\@pdfpagetransition
8310     \fi
8311   \fi
8312 }%

```

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

Syntax of VT_EX \special{!trans <transition_effect>}:

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

Transition codes:

```
8313 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8314 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8315 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8316 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8317 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8318 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8319 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
8320 \def\hvtex@par@dimension{/Dm}%
8321 \def\hvtex@par@direction{/Di}%
8322 \def\hvtex@par@duration{/D}%
8323 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8324 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%
```

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

```
8325 \def\hvtex@gettoken@#1 #2\@nil{%
8326   \edef\hvtex@token{#1}%
8327   \edef\hvtex@buffer{#2}%
8328 }%
8329 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8330 \let\hvtex@trans@code\@empty
8331 \let\hvtex@param@dimension\@empty
8332 \let\hvtex@param@direction\@empty
8333 \let\hvtex@param@duration\@empty
8334 \let\hvtex@param@motion\@empty
8335 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8336 \hvtex@gettoken
8337 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
8338 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```

8339     \else
8340     \hvtex@gettoken
8341     \fi
8342     \fi
8343     \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8344     \hvtex@trans@params
8345 }%

```

Reentrant macro to parse optional parameters.

```

8346 \def\hvtex@trans@params{%
8347     \ifx\hvtex@buffer\@empty
8348     \else
8349     \hvtex@gettoken
8350     \let\hvtex@trans@par\hvtex@token
8351     \ifx\hvtex@buffer\@empty
8352     \else
8353     \hvtex@gettoken
8354     \ifx\hvtex@trans@par\hvtex@par@duration

```

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

```

8355         \let\hvtex@param@duration\hvtex@token
8356     \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8357         \expandafter\edef\expandafter\hvtex@param@motion
8358         \expandafter{\expandafter\@gobble\hvtex@token}%
8359     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8360         \expandafter\edef\expandafter\hvtex@param@dimension
8361         \expandafter{\expandafter\@gobble\hvtex@token}%
8362     \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).

```

8363         \let\hvtex@param@direction\hvtex@token
8364     \fi\fi\fi\fi
8365     \fi
8366     \fi
8367     \ifx\hvtex@buffer\@empty
8368     \let\next\hvtex@produce@trans
8369     \else
8370     \let\next\hvtex@trans@params
8371     \fi
8372     \next
8373 }%

```

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

```

8374 \def\hvtex@produce@trans{%
8375     \let\vtex@trans@special\@empty
8376     \if S\hvtex@trans@code
8377     \edef\vtex@trans@special{\hvtex@trans@code
8378     \hvtex@param@dimension\hvtex@param@motion}%
8379     \else\if B\hvtex@trans@code
8380     \edef\vtex@trans@special{%
8381     \hvtex@trans@code\hvtex@param@dimension

```

```

8382     }%
8383     \else\if X\hvtex@trans@code
8384         \edef\vtex@trans@special{%
8385             \hvtex@trans@code\hvtex@param@motion
8386         }%
8387     \else\if W\hvtex@trans@code
8388         \edef\vtex@trans@special{%
8389             \hvtex@trans@code\hvtex@param@direction
8390         }%
8391     \else\if D\hvtex@trans@code
8392         \let\vtex@trans@special\hvtex@trans@code
8393     \else\if R\hvtex@trans@code
8394         \let\vtex@trans@special\hvtex@trans@code
8395     \else\if G\hvtex@trans@code
8396         \edef\vtex@trans@special{%
8397             \hvtex@trans@code\hvtex@param@direction
8398         }%
8399     \fi\fi\fi\fi\fi\fi
8400     \ifx\vtex@trans@special\@empty
8401     \else
8402         \ifx\hvtex@param@duration\@empty
8403         \else
8404             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8405         \multiply\dimen@\@m
8406         \edef\vtex@trans@special{%
8407             \vtex@trans@special,\strip@pt\dimen@
8408         }%
8409     \fi

```

And all the mess is just for this.

```

8410     \special{!trans \vtex@trans@special}%
8411     \fi
8412 }%
8413 \def\hyper@pageduration{%
8414     \ifx\@pdfpageduration\relax
8415     \else
8416         \ifx\@pdfpageduration\@empty
8417             \special{!duration-}%
8418         \else
8419             \special{!duration \@pdfpageduration}%
8420         \fi
8421     \fi
8422 }%
8423 \def\hyper@pagehidden{%
8424     \ifHy@useHidKey
8425         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8426     \fi
8427 }%
8428 \g@addto@macro\Hy@EveryPageBoxHook{%
8429     \hyper@pagetransition
8430     \hyper@pageduration
8431     \hyper@pagehidden
8432 }%
8433 \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

```

8434 \ifx\@pdfproducer\relax
8435   \def\@pdfproducer{VTeX}%
8436   \ifnum\Hy@VTeXversion>\z@
8437     \count@VTeXversion
8438     \divide\count@ 100 %
8439     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8440     \multiply\count@ -100 %
8441     \advance\count@VTeXversion
8442     \edef\@pdfproducer{%
8443       \@pdfproducer
8444       .\ifnum\count@<10 0\fi\the\count@
8445       \ifx\VTeXOS\@undefined\else
8446         \ifnum\VTeXOS>0 %
8447           \ifnum\VTeXOS<6 %
8448             \space(
8449             \ifcase\VTeXOS
8450               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8451             \fi
8452             )%
8453           \fi
8454         \fi
8455       \fi
8456       ,\space
8457       \ifnum\OpMode=\@ne PDF\else PS\fi
8458       \space backend%
8459       \ifx\gexmode\@undefined\else
8460         \ifnum\gexmode>\z@\space with GeX\fi
8461       \fi
8462     }%
8463   \fi
8464 \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).

```

8465 \def\PDF@SetupDoc{%
8466   \ifx\@pdfpagescrop\@empty

```

```

8467 \else
8468   \special{!pdfinfo b=<\@pdfpagescrop>}%
8469 \fi
8470 \ifx\@pdfstartpage\@empty
8471 \else
8472   \ifx\@pdfstartview\@empty
8473   \else
8474     \special{!onopen Page\@pdfstartpage}%
8475   \fi
8476 \fi
8477 \special{!pdfinfo p=</\@pdfpagemode>}%
8478 \ifx\@baseurl\@empty
8479 \else
8480   \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8481 \fi
8482 \special{!pdfinfo v=<<<%
8483   \ifHy@toolbar\else /HideToolbar true\fi
8484   \ifHy@menubar\else /HideMenubar true\fi
8485   \ifHy@windowui\else /HideWindowUI true\fi
8486   \ifHy@fitwindow /FitWindow true\fi
8487   \ifHy@centerwindow /CenterWindow true\fi
8488   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8489   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8490   \Hy@UseNameKey{Direction}\@pdfdirection
8491   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8492   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8493   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8494   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8495   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8496   \Hy@UseNameKey{Duplex}\@pdfduplex
8497   \ifx\@pdfpicktraybypdfsize\@empty
8498   \else
8499     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8500   \fi
8501   \ifx\@pdfprintpagerange\@empty
8502   \else
8503     /PrintPageRange[\@pdfprintpagerange]%
8504   \fi
8505   \ifx\@pdfnumcopies\@empty
8506   \else
8507     /NumCopies \@pdfnumcopies
8508   \fi
8509 >>>}%
8510 \ifx\@pdfpagelayout\@empty
8511 \else
8512   \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8513 \fi
8514 }%
8515 \def\PDF@FinishDoc{%
8516   \Hy@UseMaketitleInfos
8517   \special{!pdfinfo a=<\@pdfauthor>}%
8518   \special{!pdfinfo t=<\@pdftitle>}%
8519   \special{!pdfinfo s=<\@pdfsubject>}%
8520   \special{!pdfinfo c=<\@pdfcreator>}%
8521   \ifx\@pdfproducer\relax
8522   \else
8523     \special{!pdfinfo r=<\@pdfproducer>}%

```



```

8524 \fi
8525 \special{!pdfinfo k=<\pdfkeywords>}%
8526 \Hy@DisableOption{pdfauthor}%
8527 \Hy@DisableOption{pdftitle}%
8528 \Hy@DisableOption{pdfsubject}%
8529 \Hy@DisableOption{pdfcreator}%
8530 \Hy@DisableOption{pdfcreationdate}%
8531 \Hy@DisableOption{pdfmoddate}%
8532 \Hy@DisableOption{pdfproducer}%
8533 \Hy@DisableOption{pdfkeywords}%
8534 }
8535 </vtx>

```

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.

```

8536 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8537 <package>\providecommand*{\Hy@DistillerDestFix}{}
8538 <*pdfmark | dviwindo>
8539 \def\Hy@DistillerDestFix{%
8540   \begingroup
8541     \let\x\literalps@out

```

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

```

8542   \ifnum \@ifundefined{OpMode}{0}{}%
8543     \@ifundefined{gexmode}{0}{}%
8544     \ifnum\gexmode>0 \OpMode\else 0\fi
8545   }>1 %
8546   \def\x##1{%
8547     \immediate\special{! =##1}%
8548   }%
8549   \fi
8550   \x{%
8551     /product where{%
8552       pop %
8553       product(Distiller)search{%
8554         pop pop pop %
8555         version(.)search{%
8556           exch pop exch pop%
8557           (3011)eq{%
8558             gsave %
8559             newpath 0 0 moveto closepath clip%
8560             /Courier findfont 10 scalefont setfont %
8561             72 72 moveto(.)show %
8562             grestore%
8563           }if%
8564           }{pop}ifelse%
8565         }{pop}ifelse%

```

```

8566     }if%
8567   }%
8568   \endgroup
8569 }
8570 </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

```

```

8571 <*pdfmark>
8572 \Hy@breaklinks@unsupported
8573 \def\hyper@anchor#1{%
8574   \Hy@SaveLastskip
8575   \begingroup
8576     \pdfmark[\anchor@spot]{%
8577       pdfmark=/DEST,%
8578       linktype=anchor,%
8579       View=/\@pdfview \@pdfviewparams,%
8580       DestAnchor={#1}%
8581     }%
8582   \endgroup
8583   \Hy@RestoreLastskip
8584 }
8585 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8586 \def\hyper@anchorstart#1{%
8587   \Hy@SaveLastskip
8588   \literalps@out{H.S}%
8589   \xdef\hyper@currentanchor{#1}%
8590   \Hy@activeanchortrue
8591 }
8592 \def\hyper@anchorend{%
8593   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8594   \pdfmark{%
8595     pdfmark=/DEST,%
8596     linktype=anchor,%
8597     View=/\@pdfview \@pdfviewparams,%
8598     DestAnchor=\hyper@currentanchor,%
8599   }%
8600   \Hy@activeanchorfalse
8601   \Hy@RestoreLastskip
8602 }
8603 \def\hyper@linkstart#1#2{%
8604   \ifHy@breaklinks
8605     \else
8606       \leavevmode\hbox\bgroup

```

```

8607 \fi
8608 \expandafter\Hy@colorlink\csname @#1color\endcsname
8609 \literalps@out{H.S}%
8610 \xdef\hyper@currentanchor{#2}%
8611 \gdef\hyper@currentlinktype{#1}%
8612 }
8613 \def\hyper@linkend{%
8614 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8615 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8616 \let\Hy@tempcolor\relax
8617 }{%
8618 \edef\Hy@tempcolor{%
8619 \csname @\hyper@currentlinktype bordercolor\endcsname
8620 }%
8621 }%
8622 \pdfmark{%
8623 pdfmark=/ANN,%
8624 linktype=link,%
8625 Subtype=/Link,%
8626 PDFAFlags=4,%
8627 Dest=\hyper@currentanchor,%
8628 AcroHighlight=\@pdfhighlight,%
8629 Border=\@pdfborder,%
8630 BorderStyle=\@pdfborderstyle,%
8631 Color=\Hy@tempcolor,%
8632 Raw=H.B%
8633 }%
8634 \Hy@endcolorlink
8635 \ifHy@breaklinks
8636 \else
8637 \egroup
8638 \fi
8639 }

```

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.

```

8640 \begingroup
8641 \catcode'P=12 %
8642 \catcode'T=12 %
8643 \lowercase{\endgroup
8644 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8645 }
8646 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8647 \def\hyper@pagetransition{%
8648 \ifx\@pdfpagetransition\relax
8649 \else
8650 \ifx\@pdfpagetransition\@empty
8651 % 1. Does an old entry have to be deleted?
8652 % 2. If 1=yes, how to delete?
8653 \else
8654 \pdfmark{%
8655 pdfmark=/PUT,%
8656 Raw={%
8657 \string{ThisPage\string}%

```

```

8658         <</Trans << /S /\@pdfpagetransition\space >> >>%
8659     }%
8660 }%
8661 \fi
8662 \fi
8663 }

```

\hyper@pageduration

```

8664 \def\hyper@pageduration{%
8665   \ifx\@pdfpageduration\relax
8666   \else
8667     \ifx\@pdfpageduration\@empty
8668       % 1. Does an old entry have to be deleted?
8669       % 2. If 1=yes, how to delete?
8670     \else
8671       \pdfmark{%
8672         pdfmark=/PUT,%
8673         Raw={%
8674           \string{ThisPage\string}%
8675           <</Dur \@pdfpageduration>>%
8676         }%
8677       }%
8678     \fi
8679   \fi
8680 }

```

\hyper@pagehidden

```

8681 \def\hyper@pagehidden{%
8682   \ifHy@useHidKey
8683     \pdfmark{%
8684       pdfmark=/PUT,%
8685       Raw={%
8686         \string{ThisPage\string}%
8687         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8688       }%
8689     }%
8690   \fi
8691 }

```

```

8692 \g@addto@macro\Hy@EveryPageBoxHook{%
8693   \hyper@pagetransition
8694   \hyper@pageduration
8695   \hyper@pagehidden
8696 }

```

```

8697 \def\hyper@image#1#2{%
8698   \hyper@linkurl{#2}{#1}%
8699 }
8700 \def\Hy@undefinedname{UNDEFINED}
8701 \def\hyper@link#1#2#3{%
8702   \@ifundefined{@#1bordercolor}{%
8703     \let\Hy@tempcolor\relax
8704   }{%
8705     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8706   }%
8707   \begingroup
8708     \protected@edef\Hy@testname{#2}%
8709     \ifx\Hy@testname\@empty

```

```

8710     \let\Hy@testname\Hy@undefinedname
8711     \fi
8712     \pdfmark[{#3}]{%
8713         Color=\Hy@tempcolor,%
8714         linktype={#1},%
8715         AcroHighlight=\@pdfhighlight,%
8716         Border=\@pdfborder,%
8717         BorderStyle=\@pdfborderstyle,%
8718         pdfmark=/ANN,%
8719         Subtype=/Link,%
8720         PDFAFlags=4,%
8721         Dest=\Hy@testname
8722     }%
8723 \endgroup
8724 }
8725 \newtoks\pdf@docset
8726 \def\PDF@FinishDoc{%
8727     \Hy@UseMaketitleInfos
8728     \let\Hy@temp\@empty
8729     \ifx\@pdfcreationdate\@empty
8730     \else
8731         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8732     \fi
8733     \ifx\@pdfmoddate\@empty
8734     \else
8735         \expandafter\def\expandafter\Hy@temp\expandafter{%
8736             \Hy@temp
8737             ModDate=\@pdfmoddate,%
8738         }%
8739     \fi
8740     \ifx\@pdfproducer\relax
8741     \else
8742         \expandafter\def\expandafter\Hy@temp\expandafter{%
8743             \Hy@temp
8744             Producer=\@pdfproducer,%
8745         }%
8746     \fi
8747     \expandafter
8748     \pdfmark\expandafter{%
8749         \Hy@temp
8750         pdfmark=/DOCINFO,%
8751         Title=\@pdftitle,%
8752         Subject=\@pdfsubject,%
8753         Creator=\@pdfcreator,%
8754         Author=\@pdfauthor,%
8755         Keywords=\@pdfkeywords
8756     }%
8757     \Hy@DisableOption{pdfauthor}%
8758     \Hy@DisableOption{pdftitle}%
8759     \Hy@DisableOption{pdfsubject}%
8760     \Hy@DisableOption{pdfcreator}%
8761     \Hy@DisableOption{pdfcreationdate}%
8762     \Hy@DisableOption{pdfmoddate}%
8763     \Hy@DisableOption{pdfproducer}%
8764     \Hy@DisableOption{pdfkeywords}%
8765 }
8766 \def\PDF@SetupDoc{%

```

```

8767 \def\Hy@temp{}%
8768 \ifx\@pdfstartpage\@empty
8769 \else
8770 \ifx\@pdfstartview\@empty
8771 \else
8772 \edef\Hy@temp{%
8773     ,Page=\@pdfstartpage
8774     ,View=\@pdfstartview
8775 }%
8776 \fi
8777 \fi
8778 \edef\Hy@temp{%
8779     \noexpand\pdfmark{%
8780         pdfmark=/DOCVIEW,%
8781         PageMode=/\@pdfpagemode
8782         \Hy@temp
8783     }%
8784 }%
8785 \Hy@temp
8786 \ifx\@pdfpagescrop\@empty
8787 \else
8788 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8789 \fi
8790 \edef\Hy@temp{%
8791     \ifHy@toolbar\else /HideToolbar true\fi
8792     \ifHy@menubar\else /HideMenubar true\fi
8793     \ifHy>windowui\else /HideWindowUI true\fi
8794     \ifHy@fitwindow /FitWindow true\fi
8795     \ifHy@centerwindow /CenterWindow true\fi
8796     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8797     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8798     \Hy@UseNameKey{Direction}\@pdfdirection
8799     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8800     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8801     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8802     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8803     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8804     \Hy@UseNameKey{Duplex}\@pdfduplex
8805     \ifx\@pdfpicktraybypdfsize\@empty
8806     \else
8807         /PickTrayByPDFSize \@pdfpicktraybypdfsize
8808     \fi
8809     \ifx\@pdfprintpagerange\@empty
8810     \else
8811         /PrintPageRange[\@pdfprintpagerange]%
8812     \fi
8813     \ifx\@pdfnumcopies\@empty
8814     \else
8815         /NumCopies \@pdfnumcopies
8816     \fi
8817 }%
8818 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8819 \pdfmark{%
8820     pdfmark=/PUT,%
8821     Raw={%
8822         \string{Catalog\string}<<%
8823         \ifx\Hy@temp\@empty

```

```

8824         \else
8825             /ViewerPreferences<<\Hy@temp>>%
8826         \fi
8827         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8828         \ifx\@pdflang\@empty
8829         \else
8830             /Lang(\@pdflang)%
8831         \fi
8832         \ifx\@baseurl\@empty
8833         \else
8834             /URI<</Base(\Hy@pstringB)>>%
8835         \fi
8836     >>%
8837 }%
8838 }%
8839 }
8840 </pdfmark>
8841 <*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.

```

8842 \newif\ifHy@pdfmarkerror
8843 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
8844 \def\pdfmark@[#1]#2{%
8845     \Hy@pdfmarkerrorfalse
8846     \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
8847     \@processme
8848     \let\pdf@type\relax
8849     \setkeys{PDF}{#2}%
8850     \ifHy@pdfmarkerror
8851     \else
8852         \ifx\pdf@type\relax
8853             \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
8854             \ifx\#1\%
8855             \else
8856                 \pdf@rect{#1}%
8857             \fi
8858         \else
8859             \ifx\#1\%
8860                 \literalps@out{%
8861                     [\the\pdf@toks\space\pdf@type\space pdfmark%
8862                 }%
8863             \else
8864                 \@ifundefined{@\pdf@linktype color}{%
8865                     \Hy@colorlink\@linkcolor
8866                 }{%
8867                     \expandafter\Hy@colorlink
8868                         \csname @\pdf@linktype color\endcsname
8869                 }%
8870                 \pdf@rect{#1}%
8871                 \literalps@out{%
8872                     [\the\pdf@toks\space\pdf@type\space pdfmark%
8873                 }%
8874                 \Hy@endcolorlink

```

```

8875      \fi
8876      \fi
8877      \fi
8878 }

```

The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the `/Rect` key. This solution originates with Toby Thain (`tobyth@netspace.net.au`).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

8879 \newsavebox{\pdf@box}
8880 \providecommand*{\Hy@setouterhbox}{\sbox}
8881 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
8882 \def\Hy@DEST{/DEST}
8883 \def\pdf@rect#1{%
8884   \leavevmode
8885   \ifHy@breaklinks
8886     \Hy@setouterhbox\pdf@box{#1}%
8887   \else
8888     \sbox\pdf@box{#1}%
8889   \fi
8890   \dimen@{\ht\pdf@box}
8891   \ifdim\dp\pdf@box=\z@
8892     \literalps@out{H.S}%
8893   \else
8894     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
8895   \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...).

```

8896   \ifHy@breaklinks
8897     \expandafter\Hy@breaklinksunhbox
8898   \else
8899     \expandafter\box
8900   \fi
8901   \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

8902   \ifdim\dimen@=\z@
8903     \literalps@out{H.R}%
8904   \else
8905     \raise\dimen@\hbox{\literalps@out{H.R}}%
8906   \fi
8907   \ifx\pdf@type\Hy@DEST
8908   \else
8909     \pdf@addtoksx{H.B}%
8910   \fi
8911 }

```


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.

```

8912 \newtoks\pdf@toks
8913 \newtoks\pdf@defaulttoks
8914 \pdf@defaulttoks={}%
8915 \def\pdf@addtoks#1#2{%
8916   \edef\@processme{\pdf@toks{\the\pdf@toks\space /#2 #1}}%
8917   \@processme
8918 }
8919 \def\pdf@addtoksx#1{%
8920   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
8921   \@processme
8922 }
8923 \def\PDFdefaults#1{%
8924   \pdf@defaulttoks={#1}%
8925 }

```

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

```

8926 % what is the type of pdfmark?
8927 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
8928 % what is the link type?
8929 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
8930 \def\pdf@linktype{link}
8931 % parameter is a stream of PDF
8932 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
8933 % parameter is a name
8934 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
8935 % parameter is a array
8936 \define@key{PDF}{Border}{%
8937   \edef\Hy@temp{#1}%
8938   \ifx\Hy@temp\@empty
8939   \else
8940     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
8941   \fi
8942 }
8943 \let\Hy@BorderArrayPatch\@empty
8944 % parameter is a dictionary
8945 \define@key{PDF}{BorderStyle}{%
8946   \edef\Hy@temp{#1}%
8947   \ifx\Hy@temp\@empty
8948   \else
8949     \pdf@addtoks{<<#1>>}{BS}%
8950   \fi
8951 }
8952 % parameter is a array
8953 \define@key{PDF}{Color}{%
8954   \ifx\relax#1\relax
8955   \else
8956     \pdf@addtoks{[#1]}{Color}% hash-ok
8957   \fi
8958 }
8959 % parameter is a string
8960 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
8961 % parameter is a integer
8962 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
8963 % parameter is a array
8964 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
8965 % parameter is a string

```

```

8966 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
8967 % parameter is a string or file
8968 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
8969 % parameter is a destination
8970 \define@key{PDF}{Dest}{%
8971   \Hy@pstringdef\Hy@pstringDest{#1}%
8972   \ifx\Hy@pstringDest\@empty
8973     \Hy@pdfmarkerrortrue
8974     \Hy@Warning{Destination with empty name ignored}%
8975   \else
8976     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8977   \fi
8978 }
8979 \define@key{PDF}{DestAnchor}{%
8980   \Hy@pstringdef\Hy@pstringDest{#1}%
8981   \ifx\Hy@pstringDest\@empty
8982     \Hy@pdfmarkerrortrue
8983     \Hy@Warning{Destination with empty name ignored}%
8984   \else
8985     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8986   \fi
8987 }
8988 % parameter is a string
8989 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
8990 % parameter is a string
8991 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
8992 % parameter is a int
8993 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
8994 \define@key{PDF}{PDFAFlags}{%
8995   \ifHy@pdfa
8996     \pdf@addtoks{#1}{F}%
8997   \fi
8998 }
8999 % parameter is a name
9000 \define@key{PDF}{AcroHighlight}{%
9001   \begingroup
9002     \edef\x{#1}%
9003     \expandafter\endgroup\ifx\x\@empty
9004   \else
9005     \pdf@addtoks{#1}{H}%
9006   \fi
9007 }
9008 % parameter is a string
9009 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9010 % parameter is a string
9011 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9012 % parameter is a string
9013 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9014 % parameter is a string
9015 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9016 % parameter is a Boolean
9017 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9018 % parameter is a integer or name
9019 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9020 % parameter is a name
9021 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9022 % parameter is a string

```

```

9023 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9024 % parameter is a array
9025 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9026 % parameter is a integer
9027 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9028 % parameter is a name
9029 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9030 % parameter is a string
9031 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9032 % parameter is a string
9033 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9034 % parameter is a string
9035 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9036 % parameter is an array
9037 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9038 % parameter is a string
9039 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9040 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9041 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9042 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9043 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9044 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9045 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9046 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9047 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9048 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9049 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9050 </pdfmarkbase>
9051 <*pdfmark>
9052 \def\Acrobatmenu#1#2{%
9053   \Hy@Acrobatmenu{#1}{#2}{%
9054     \pdfmark[#{#2}]{%
9055       linktype=menu,%
9056       pdfmark=/ANN,%
9057       AcroHighlight=\@pdfhighlight,%
9058       Border=\@pdfborder,%
9059       BorderStyle=\@pdfborderstyle,%
9060       Action={<< /Subtype /Named /N /#1 >>},%
9061       Subtype=/Link,%
9062       PDFAFlags=4%
9063     }%
9064   }%
9065 }

```

And now for some useful examples:

```

9066 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9067 \def\PDFNextPage@[#1]#2{%
9068   \pdfmark[#{#2}]{%
9069     #1,%
9070     Border=\@pdfborder,%
9071     BorderStyle=\@pdfborderstyle,%
9072     Color=.2 .1 .5,%
9073     pdfmark=/ANN,%
9074     Subtype=/Link,%
9075     PDFAFlags=4,%
9076     Page=/Next%

```

```

9077 }%
9078 }
9079 \def\PDFPreviousPage{%
9080 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9081 }
9082 \def\PDFPreviousPage@[#1]#2{%
9083 \pdfmark[#2]{%
9084 #1,%
9085 Border=\pdfborder,%
9086 BorderStyle=\pdfborderstyle,%
9087 Color=.4 .4 .1,%
9088 pdfmark=/ANN,%
9089 Subtype=/Link,%
9090 PDFAFlags=4,%
9091 Page=/Prev%
9092 }%
9093 }
9094 \def\PDFOpen#1{%
9095 \pdfmark{#1,pdfmark=/DOCVIEW}%
9096 }

```

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

```

9097 \def\hyper@linkurl#1#2{%
9098 \begingroup
9099 \Hy@pstringdef\Hy@pstringURI{#2}%
9100 \hyper@chars
9101 \leavevmode
9102 \pdfmark[#1]{%
9103 pdfmark=/ANN,%
9104 linktype=url,%
9105 AcroHighlight=\pdfhighlight,%
9106 Border=\pdfborder,%
9107 BorderStyle=\pdfborderstyle,%
9108 Color=\@urlbordercolor,%
9109 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9110 Subtype=/Link,%
9111 PDFAFlags=4%
9112 }%
9113 \endgroup
9114 }
9115 \def\hyper@linkfile#1#2#3{%
9116 \begingroup
9117 \Hy@pstringdef\Hy@pstringF{#2}%
9118 \Hy@pstringdef\Hy@pstringD{#3}%
9119 \leavevmode
9120 \pdfmark[#1]{%
9121 pdfmark=/ANN,%
9122 Subtype=/Link,%
9123 PDFAFlags=4,%
9124 AcroHighlight=\pdfhighlight,%
9125 Border=\pdfborder,%
9126 BorderStyle=\pdfborderstyle,%
9127 linktype=file,%
9128 Color=\@filebordercolor,%
9129 Action={%
9130 <<%
9131 /S/GoToR%
9132 \Hy@SetNewWindow

```

```

9133         /F(\Hy@pstringF)%
9134         /D\ifx\#3\[\[O \@pdfstartview]\else(\Hy@pstringD)cvn\fi
9135     >>%
9136 }%
9137 }%
9138 \endgroup
9139 }
9140 \def\@hyper@launch run:#1\#2#3{%
9141     \begingroup
9142     \Hy@pstringdef\Hy@pstringF{#1}%
9143     \Hy@pstringdef\Hy@pstringP{#3}%
9144     \leavevmode
9145     \pdfmark[{#2}]{%
9146         pdfmark=/ANN,%
9147         Subtype=/Link,%
9148         PDFAFlags=4,%
9149         AcroHighlight=\@pdfhighlight,%
9150         Border=\@pdfborder,%
9151         BorderStyle=\@pdfborderstyle,%
9152         linktype=run,%
9153         Color=\@runbordercolor,%
9154         Action={%
9155             <<%
9156             /S/Launch%
9157             \Hy@SetNewWindow
9158             /F(\Hy@pstringF)%
9159             \ifx\#3\[%
9160             \else
9161             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9162             \fi
9163             >>%
9164             }%
9165         }%
9166     \endgroup
9167 }
9168 </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.

```

9169 <*dvips>
9170 \providecommand*\XR@ext}{pdf}
9171 \def\Hy@raisedlink{}
9172 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9173 \def\headerps@out#1{\special{! #1}}%
9174 \input{pdfmark.def}%
9175 \ifx\@pdfproducer\relax
9176     \def\@pdfproducer{dvips + Distiller}%
9177 \fi
9178 \providecommand*\@pdfborder{0 0 1}
9179 \providecommand*\@pdfborderstyle{}
9180 \providecommand*\@pdfview{XYZ}

```

```

9181 \providecommand*\@pdfviewparams{ H.V}
9182 \def\Hy@BorderArrayPatch{BorderArrayPatch}

9183 \g@addto@macro\Hy@FirstPageHook{%
9184   \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.

```

9185   /DvipsToPDF{72.27 mul Resolution div} def%
9186   /PDFToDvips{72.27 div Resolution mul} def%
9187   /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.

```

9188   /BorderArrayPatch{%
9189     [exch{%
9190       dup dup type/integertype eq exch type/realtype eq or%
9191       {BPToDvips}if%
9192     }forall]%
9193   }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.

```

9194   /HyperBorder {1 PDFToDvips} def%
9195   /H.V {pdf@hoff pdf@voff null} def%
9196   /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

```

9197   /H.S {%
9198     currentpoint %
9199     HyperBorder add /pdf@lly exch def %
9200     dup DvipsToPDF 72 add /pdf@hoff exch def %
9201     HyperBorder sub /pdf@llx exch def%
9202   } 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`

```

9203   /H.L {%
9204     2 sub dup%
9205     /HyperBasePt exch def %
9206     PDFToDvips /HyperBaseDvips exch def %

```

```

9207     currentpoint %
9208     HyperBaseDvips sub /pdf@ury exch def%
9209     /pdf@urx exch def%
9210   } def%
9211   /H.A {%
9212     H.L %
9213 % | /pdf@voff| = the distance from the top of the page to a point
9214 % | \baselineskip| above the current point in PDF coordinates
9215     currentpoint exch pop %
9216     vsize 72 sub exch DvipsToPDF %
9217     HyperBasePt sub % baseline skip
9218     sub /pdf@voff exch def%
9219   } def%
9220   /H.R {%
9221     currentpoint %
9222     HyperBorder sub /pdf@ury exch def %
9223     HyperBorder add /pdf@urx exch def %
9224 % | /pdf@voff| = the distance from the top of the page to the current point, in
9225 % PDF coordinates
9226     currentpoint exch pop vsize 72 sub %
9227     exch DvipsToPDF sub /pdf@voff exch def%
9228   } def%
9229 }%
9230 }
9231 \AfterBeginDocument{%
9232   \ifx\special@paper\@empty\else
9233     \ifHy@setpagesize
9234       \special{papersize=\special@paper}%
9235     \fi
9236     \Hy@DisableOption{setpagesize}%
9237   \fi
9238 }
9239 </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.

```

9240 <*vtexpdfmark>
9241 \providecommand*\XR@ext{}{pdf}
9242 \def\Hy@raisedlink{}
9243 \def\literalps@out#1{\special{pS:#1}}%
9244 \def\headerps@out#1{\immediate\special{pS:#1}}%
9245 \input{pdfmark.def}%
9246 \ifx\@pdfproducer\relax
9247   \ifnum\OpMode=\@ne
9248     \def\@pdfproducer{VTeX}%
9249   \else
9250     \def\@pdfproducer{VTeX + Distiller}%
9251   \fi
9252 \fi
9253 \providecommand*\@pdfborder{0 0 1}
9254 \providecommand*\@pdfborderstyle{}
9255 \providecommand*\@pdfview{XYZ}
9256 \providecommand*\@pdfviewparams{ H.V}

```

```

9257 \g@addto@macro\Hy@FirstPageHook{%
9258   \headerps@out{%
9259     /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.

```

9260   /HyperBorder {1} def%
9261   /H.V {pdf@hoff pdf@voff null} def%
9262   /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: pdf@lly = $Y_c - \text{HyperBorder}$, pdf@hoff = $X_c + 72$, pdf@llx = $X_c - \text{HyperBorder}$

```

9263   /H.S {%
9264     currentpoint %
9265     HyperBorder sub%
9266     /pdf@lly exch def %
9267     dup 72 add /pdf@hoff exch def %
9268     HyperBorder sub%
9269     /pdf@llx exch def%
9270   } def%

```

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

```

9271   /H.L {%
9272     2 sub%
9273     /HyperBasePt exch def %
9274     currentpoint %
9275     HyperBasePt add HyperBorder add%
9276     /pdf@ury exch def %
9277     HyperBorder add%
9278     /pdf@urx exch def%
9279   } def%
9280   /H.A {%
9281     H.L %
9282     currentpoint exch pop %
9283     vsize 72 sub exch %
9284     HyperBasePt add add%
9285     /pdf@voff exch def%
9286   } def%

```

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

```

9287   /H.R {%
9288     currentpoint %
9289     HyperBorder add%
9290     /pdf@ury exch def %
9291     HyperBorder add%
9292     /pdf@urx exch def %
9293     currentpoint exch pop vsize 72 sub add%
9294     /pdf@voff exch def%
9295   } def%
9296 }%
9297 }
9298 </vtxpdfmark>

```

46.11 Textures

```

9299 <*textures>

```



```
9300 \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.

```
9301 \begingroup
9302   \obeylines %
9303   \gdef\Hy@ps@CR{\noexpand
9304     }%
9305 \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`.

```
9306 \def\literalps@out#1{%
9307   \special{postscript 0 0 transform}%
9308   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9309 }%
9310 %
```

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.

```
9311 \def\headerps@out#1{%
9312   \special{%
9313     prepostscript TeXdict begin\Hy@ps@CR
9314       #1\Hy@ps@CR
9315     end%
9316   }%
9317 }%
9318 %
```

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.

```
9319 \g@addto@macro\Hy@FirstPageHook{%
9320   \headerps@out{%
9321     /betterpdfmark {%
9322       systemdict begin %
9323         dup /BP eq%
9324         {cleartomark gsave nulldevice []}%
9325         {dup /EP eq%
9326           {cleartomark cleartomark grestore}%
9327           {cleartomark}%
9328         }ifelse%
9329       }ifelse %
```

```

9330     end%
9331   }def\Hy@ps@CR
9332   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9333 }% end of \headerps@out
9334}% end of \AtBeginShipoutFirst
9335 %
9336 \input{pdfmark.def}%
9337 %
9338 \ifx\@pdfproducer\relax
9339   \def\@pdfproducer{Textures + Distiller}%
9340 \fi
9341 \providecommand*\@pdfborder{0 0 1}
9342 \providecommand*\@pdfborderstyle{}
9343 \providecommand*\@pdfview{XYZ}
9344 \providecommand*\@pdfviewparams{ H.V}
9345 %

```

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 .

```

9346 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9347 /vsize {\Hy@pageheight} def%
9348 /DvipsToPDF {} def%
9349 /PDFToDvips {} def%
9350 /BPToDvips {} def%
9351 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9352 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9353 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9354 /H.S {%
9355   currentpoint %
9356   HyperBorder add /pdf@lly exch def %
9357   dup DvipsToPDF 72 add /pdf@hoff exch def %
9358   HyperBorder sub /pdf@llx exch def%
9359 } def\Hy@ps@CR
9360 /H.L {%
9361   2 sub %
9362   PDFToDvips /HyperBase exch def %
9363   currentpoint %
9364   HyperBase sub /pdf@ury exch def%
9365   /pdf@urx exch def%
9366 } def\Hy@ps@CR
9367 /H.A {%
9368   H.L %
9369   currentpoint exch pop %
9370   vsize 72 sub exch DvipsToPDF %
9371   HyperBase sub % baseline skip
9372   sub /pdf@voff exch def%
9373 } def\Hy@ps@CR
9374 /H.R {%
9375   currentpoint %
9376   HyperBorder sub /pdf@ury exch def %
9377   HyperBorder add /pdf@urx exch def %
9378   currentpoint exch pop vsize 72 sub %
9379   exch DvipsToPDF sub /pdf@voff exch def%

```

```

9380 } def\Hy@ps@CR
9381 }

9382 \AfterBeginDocument{%
9383   \ifHy@colorlinks
9384     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9385   \fi
9386 }

```

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.

```

9387 \expandafter\let\expandafter\keepPDF@SetupDoc
9388   \csname PDF@SetupDoc\endcsname
9389 \def\PDF@SetupDoc{%
9390   \ifx\@baseurl\@empty
9391   \else
9392     \special{html:<base href="\@baseurl">}%
9393   \fi
9394   \keepPDF@SetupDoc
9395 }

9396 \def\hyper@anchor#1{%
9397   \Hy@SaveLastskip
9398   \begingroup
9399     \let\protect=\string
9400     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
9401   \endgroup
9402   \Hy@activeanchortrue
9403   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9404   \special{html:</a>}%
9405   \Hy@activeanchorfalse
9406   \Hy@RestoreLastskip
9407 }

9408 \def\hyper@anchorstart#1{%
9409   \Hy@SaveLastskip
9410   \begingroup
9411     \hyper@chars
9412     \special{html:<a name=\hyper@quote#1\hyper@quote>}%
9413   \endgroup
9414   \Hy@activeanchortrue
9415 }

9416 \def\hyper@anchorend{%
9417   \special{html:</a>}%
9418   \Hy@activeanchorfalse
9419   \Hy@RestoreLastskip
9420 }

9421 \def\@urltype{url}
9422 \def\hyper@linkstart#1#2{%
9423   \expandafter\Hy@colorlink\csname @#1color\endcsname
9424   \def\Hy@tempa{#1}%
9425   \ifx\Hy@tempa\@urltype
9426     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9427   \else
9428     \begingroup
9429       \hyper@chars
9430       \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
9431     \endgroup
9432   \fi
9433 }

```

```

9434 \def\hyper@linkend{%
9435   \special{html:</a>}%
9436   \Hy@endcolorlink
9437 }
9438 \def\hyper@linkfile#1#2#3{%
9439   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9440 }
9441 \def\hyper@linkurl#1#2{%
9442   \leavevmode
9443   \ifHy@raiselinks
9444     \setbox\@tempboxa=\color@hbox #1\color@endbox
9445     \@linkdim\dp\@tempboxa
9446     \lower\@linkdim\hbox{%
9447       \hyper@chars
9448       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9449   }%
9450   \Hy@colorlink\@urlcolor#1%
9451   \@linkdim\ht\@tempboxa
9452   \advance\@linkdim by -6.5\p@
9453   \raise\@linkdim\hbox{\special{html:</a>}}%
9454   \Hy@endcolorlink
9455 \else
9456   \begingroup
9457   \hyper@chars
9458   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9459   \Hy@colorlink\@urlcolor#1%
9460   \special{html:</a>}}%
9461   \Hy@endcolorlink
9462 \endgroup
9463 \fi
9464 }
9465 \def\hyper@link#1#2#3{%
9466   \hyper@linkurl{#3}{\##2}%
9467 }
9468 \def\hyper@image#1#2{%
9469   \begingroup
9470   \hyper@chars
9471   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9472 \endgroup
9473 }
9474 </textures>

```

46.12 dvipsone

```

9475 % \subsection{dvipsone driver}
9476 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9477 % |\special| commands.
9478 <*dvipsone>
9479 \providecommand*\XR@ext{pdf}
9480 \def\Hy@raisedlink{}
9481 \providecommand*\@pdfborder{0 0 1}
9482 \providecommand*\@pdfborderstyle{}
9483 \def\literalps@out#1{\special{ps:#1}}%
9484 \def\headerps@out#1{\special{headertext=#1}}%
9485 \input{pdfmark.def}%
9486 \ifx\@pdfproducer\relax
9487   \def\@pdfproducer{dvipsone + Distiller}%

```

```

9488 \fi
9489 \def\PDF@FinishDoc{%
9490   \Hy@UseMaketitleInfos
9491   \special{PDF: Keywords \@pdfkeywords}%
9492   \special{PDF: Title \@pdftitle}%
9493   \special{PDF: Creator \@pdfcreator}%
9494   \ifx\@pdfcreationdate\@empty
9495   \else
9496     \special{PDF: CreationDate \@pdfcreationdate}%
9497   \fi
9498   \ifx\@pdfmoddate\@empty
9499   \else
9500     \special{PDF: ModDate \@pdfmoddate}%
9501   \fi
9502   \special{PDF: Author \@pdfauthor}%
9503   \ifx\@pdfproducer\relax
9504   \else
9505     \special{PDF: Producer \@pdfproducer}%
9506   \fi
9507   \special{PDF: Subject \@pdfsubject}%
9508   \Hy@DisableOption{pdfauthor}%
9509   \Hy@DisableOption{pdftitle}%
9510   \Hy@DisableOption{pdfsubject}%
9511   \Hy@DisableOption{pdfcreator}%
9512   \Hy@DisableOption{pdfcreationdate}%
9513   \Hy@DisableOption{pdfmoddate}%
9514   \Hy@DisableOption{pdfproducer}%
9515   \Hy@DisableOption{pdfkeywords}%
9516 }
9517 \def\PDF@SetupDoc{%
9518   \def\Hy@temp{%
9519     \ifx\@pdfstartpage\@empty
9520     \else
9521       \ifx\@pdfstartview\@empty
9522       \else
9523         \edef\Hy@temp{%
9524           ,Page=\@pdfstartpage
9525           ,View=\@pdfstartview
9526         }%
9527       \fi
9528     \fi
9529     \edef\Hy@temp{%
9530       \noexpand\pdfmark{%
9531         pdfmark=/DOCVIEW,%
9532         PageMode=/\@pdfpagemode
9533       }\Hy@temp
9534     }%
9535   }%
9536   \Hy@temp
9537   \ifx\@pdfpagescrop\@empty
9538   \else
9539     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9540   \fi
9541   \edef\Hy@temp{%
9542     \ifHy@toolbar\else /HideToolbar true\fi
9543     \ifHy@menubar\else /HideMenubar true\fi
9544     \ifHy>windowui\else /HideWindowUI true\fi

```

```

9545 \ifHy@fitwindow /FitWindow true\fi
9546 \ifHy@centerwindow /CenterWindow true\fi
9547 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9548 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9549 \Hy@UseNameKey{Direction}\@pdfdirection
9550 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9551 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9552 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9553 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9554 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9555 \Hy@UseNameKey{Duplex}\@pdfduplex
9556 \ifx\@pdfpicktraybypdfsize\@empty
9557 \else
9558 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9559 \fi
9560 \ifx\@pdfprintpagerange\@empty
9561 \else
9562 /PrintPageRange[\@pdfprintpagerange]%
9563 \fi
9564 \ifx\@pdfnumcopies\@empty
9565 \else
9566 /NumCopies \@pdfnumcopies
9567 \fi
9568 }%
9569 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9570 \pdfmark{%
9571 pdfmark=/PUT,%
9572 Raw={%
9573 \string{Catalog\string}<<%
9574 \ifx\Hy@temp\@empty
9575 \else
9576 /ViewerPreferences<<\Hy@temp>>%
9577 \fi
9578 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9579 \ifx\@pdflang\@empty
9580 \else
9581 /Lang(\@pdflang)%
9582 \fi
9583 \ifx\@baseurl\@empty
9584 \else
9585 /URI<</Base(\Hy@pstringB)>>%
9586 \fi
9587 >>%
9588 }%
9589 }%
9590 }
9591 \providecommand*\@pdfview{XYZ}
9592 \providecommand*\@pdfviewparams{ %
9593 gsave revscl currentpoint grestore %
9594 72 add exch pop null exch null%
9595 }
9596 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

9597 \g@addto@macro\Hy@FirstPageHook{%
9598   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9599   /DvipsToPDF { 65781 div } def%
9600   /PDFToDvips { 65781 mul } def%
9601   /BPToDvips{65781 mul}def%
9602   /HyperBorder { 1 PDFToDvips } def%
9603   /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.

```

9604   /BorderArrayPatch{%
9605     [exch{%
9606       dup dup type/integertype eq exch type/realtype eq or%
9607       {BPToDvips}if%
9608     }forall]]%
9609   }def%
9610   /H.S {%
9611     currentpoint %
9612     HyperBorder add /pdf@lly exch def %
9613     dup DvipsToPDF 72 add /pdf@hoff exch def %
9614     HyperBorder sub /pdf@llx exch def%
9615   } def%
9616   /H.L {%
9617     2 sub %
9618     PDFToDvips /HyperBase exch def %
9619     currentpoint %
9620     HyperBase sub /pdf@ury exch def%
9621     /pdf@urx exch def%
9622   } def%
9623   /H.A {%
9624     H.L %
9625     currentpoint exch pop %
9626     HyperBase sub % baseline skip
9627     DvipsToPDF /pdf@voff exch def%
9628   } def%
9629   /H.R {%
9630     currentpoint %
9631     HyperBorder sub /pdf@ury exch def %
9632     HyperBorder add /pdf@urx exch def %
9633     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9634   } def%
9635 }%
9636 }
9637 </dvipsone>

```

46.13 TeX4ht

```

9638 <*tex4ht>
9639 \providecommand*{\XR@ext}{html}
9640 \def\Hy@raisedlink{}
9641 \@ifpackageloaded{tex4ht}{%
9642   \typeout{hyperref tex4ht: tex4ht already loaded}%
9643 }{%
9644   \RequirePackage[htex4ht]{tex4ht}%
9645 }
9646 \hyperlinkfileprefix{}

```

```

9647 \def\PDF@FinishDoc{}
9648 \def\PDF@SetupDoc{%
9649   \ifx\@baseurl\@empty
9650   \else
9651     \special{t4ht=<base href="\@baseurl">}%
9652   \fi
9653 }
9654 \def\hyper@anchor#1{%
9655   \Hy@SaveLastskip
9656   \begingroup
9657     \let\protect=\string
9658     \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
9659   \endgroup
9660   \Hy@activeanchortrue
9661   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9662   \special{t4ht=</a>}%
9663   \Hy@activeanchorfalse
9664   \Hy@RestoreLastskip
9665 }
9666 \def\hyper@anchorstart#1{%
9667   \Hy@SaveLastskip
9668   \begingroup
9669     \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}%
9670   \endgroup
9671   \Hy@activeanchortrue
9672 }
9673 \def\hyper@anchorend{%
9674   \special{t4ht=</a>}%
9675   \Hy@activeanchorfalse
9676   \Hy@RestoreLastskip
9677 }
9678 \def\@urltype{url}
9679 \def\hyper@linkstart#1#2{%
9680   \expandafter\Hy@colorlink\csname @#1color\endcsname
9681   \def\Hy@tempa{#1}%
9682   \ifx\Hy@tempa\@urltype
9683     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9684   \else
9685     \begingroup
9686       \hyper@chars
9687       \special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}%
9688     \endgroup
9689   \fi
9690 }
9691 \def\hyper@linkend{%
9692   \special{t4ht=</a>}%
9693   \Hy@endcolorlink
9694 }
9695 \def\hyper@linkfile#1#2#3{%
9696   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9697 }
9698 \def\hyper@linkurl#1#2{%
9699   \leavevmode
9700   \ifHy@raiselinks
9701     \setbox\@tempboxa=\color@hbox #1\color@endbox
9702     \@linkdim\dp\@tempboxa
9703     \lower\@linkdim\hbox{%

```



```

9704     \begingroup
9705     \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9706     \endgroup
9707 }%
9708 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9709 \@linkdim\ht\@tempboxa
9710 \advance\@linkdim by -6.5\p@
9711 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9712 \else
9713   \begingroup
9714   \hyper@chars
9715   \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9716   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9717   \special{t4ht=</a>}}%
9718   \endgroup
9719 \fi
9720 }
9721 \def\hyper@link#1#2#3{%
9722   \hyper@linkurl{#3}{\##2}}%
9723 }
9724 \def\hyper@image#1#2{%
9725   \begingroup
9726   \hyper@chars
9727   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
9728   \endgroup
9729 }
9730 \let\autoref\ref
9731 \ifx \rEfLiNK \UnDef
9732   \def\rEfLiNK #1#2{#2}%
9733 \fi
9734 \def\backref#1{}
9735 </tex4ht>
9736 <*tex4htcfg>
9737 \IfFileExists{\jobname.cfg}{\endinput}{}
9738 \Preamble{html}
9739   \begin{document}%
9740 \EndPreamble
9741 \def\TeX{TeX}
9742 \def\OMEGA{\Omega}
9743 \def\LaTeX{LaTeX}
9744 \def\LaTeXe{\LaTeX2e}
9745 \def\eTeX{e-TeX}
9746 \def\MF{Metafont}
9747 \def\MP{Metapost}
9748 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

9749 <*pdfmark>
9750 \long\def\@Form[#1]{%
9751 \g@addto@macro\Hy@FirstPageHook{%
9752   \headerps@out{%
9753 [%
9754   /_objdef{pdfDocEncoding}%
9755   /type/dict%
9756 /OBJ pdfmark%

```

```

9757 [%
9758   {pdfDocEncoding}%
9759   <<%
9760     /Type/Encoding%
9761     /Differences[%
9762       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9763       /tilde %
9764       39/quotesingle %
9765       96/grave %
9766       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9767       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9768       /quotedblbase/quotedblleft/quotedblright/quoteleft%
9769       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9770       /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9771       164/currency %
9772       166/brokenbar %
9773       168/dieresis/copyright/ordfeminine %
9774       172/logicalnot/.notdef/registered/macron/degree/plusminus%
9775       /twosuperior/threesuperior/acute/mu %
9776       183/periodcentered/cedilla/onesuperior/ordmasculine %
9777       188/onequarter/onehalf/threequarters %
9778       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9779       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9780       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9781       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
9782       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9783       /agrave/aacute/acircumflex/tilde/adieresis/aring/ae%
9784       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9785       /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
9786       /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9787       /ucircumflex/udieresis/yacute/thorn/ydieresis%
9788     ]%
9789   >>%
9790 /PUT pdfmark%
9791 [%
9792   /_objdef{ZaDb}%
9793   /type/dict%
9794 /OBJ pdfmark%
9795 [%
9796   {ZaDb}%
9797   <<%
9798     /Type/Font%
9799     /Subtype/Type1%
9800     /Name/ZaDb%
9801     /BaseFont/ZapfDingbats%
9802   >>%
9803 /PUT pdfmark%
9804 [%
9805   /_objdef{Helv}%
9806   /type/dict%
9807 /OBJ pdfmark%
9808 [%
9809   {Helv}%
9810   <<%
9811     /Type/Font%
9812     /Subtype/Type1%
9813     /Name/Helv%

```

```

9814     /BaseFont/Helvetica%
9815     /Encoding{pdfDocEncoding}%
9816   >>%
9817 /PUT pdfmark%
9818 [%
9819   /_objdef{aform}%
9820   /type/dict%
9821 /OBJ pdfmark%
9822 [%
9823   /_objdef{afields}%
9824   /type/array%
9825 /OBJ pdfmark%
9826 {%
9827   [%
9828     /BBox[0 0 100 100]%
9829     /_objdef{Check}%
9830   /BP pdfmark %
9831   1 0 0 setrgbcolor%
9832   /ZapfDingbats 80 selectfont %
9833   20 20 moveto%
9834   (4)show%
9835   [/EP pdfmark%
9836   [%
9837     /BBox[0 0 100 100]%
9838     /_objdef{Cross}%
9839   /BP pdfmark %
9840   1 0 0 setrgbcolor%
9841   /ZapfDingbats 80 selectfont %
9842   20 20 moveto%
9843   (8)show%
9844   [/EP pdfmark%
9845   [%
9846     /BBox[0 0 250 100]%
9847     /_objdef{Submit}%
9848   /BP pdfmark %
9849   0.6 setgray %
9850   0 0 250 100 rectfill %
9851   1 setgray %
9852   2 2 moveto %
9853   2 98 lineto %
9854   248 98 lineto %
9855   246 96 lineto %
9856   4 96 lineto %
9857   4 4 lineto %
9858   fill %
9859   0.34 setgray %
9860   248 98 moveto %
9861   248 2 lineto %
9862   2 2 lineto %
9863   4 4 lineto %
9864   246 4 lineto %
9865   246 96 lineto %
9866   fill%
9867   /Helvetica 76 selectfont %
9868   0 setgray %
9869   8 22.5 moveto%
9870   (Submit)show%

```

```

9871 [/EP pdfmark%
9872 [%
9873   /BBox[0 0 250 100]%
9874   /_objdef{SubmitP}%
9875 /BP pdfmark %
9876 0.6 setgray %
9877 0 0 250 100 rectfill %
9878 0.34 setgray %
9879 2 2 moveto %
9880 2 98 lineto %
9881 248 98 lineto %
9882 246 96 lineto %
9883 4 96 lineto %
9884 4 4 lineto %
9885 fill %
9886 1 setgray %
9887 248 98 moveto %
9888 248 2 lineto %
9889 2 2 lineto %
9890 4 4 lineto %
9891 246 4 lineto %
9892 246 96 lineto %
9893 fill%
9894 /Helvetica 76 selectfont %
9895 0 setgray %
9896 10 20.5 moveto%
9897 (Submit)show%
9898 [/EP pdfmark%
9899 } ?pdfmark%
9900 [%
9901 {aform}%
9902 <<%
9903   /Fields{afields}%
9904   /DR<<%
9905     /Font<<%
9906       /ZaDb{ZaDb}%
9907       /Helv{Helv}%
9908     >>%
9909   >>%
9910   /DA(/Helv 10 Tf 0 g)%
9911   /CO{corder}%
9912   \ifHy@pdfa
9913   \else
9914     /NeedAppearances true%
9915   \fi
9916 >>%
9917 /PUT pdfmark%
9918 [%
9919 {Catalog}%
9920 <<%
9921   /AcroForm{aform}%
9922 >>%
9923 /PUT pdfmark%
9924 [%
9925   /_objdef{corder}%
9926   /type/array%
9927 /OBJ pdfmark% dps

```

```

9928 }}%
9929 \setkeys{Form}{#1}%
9930 }
9931 \def\@endForm{}
9932 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9933 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
9934 }
9935 \def\@TextField[#1]#2{% parameters, label
9936 \def\Fld@name{#2}%
9937 \def\Fld@default{}%
9938 \let\Fld@value\@empty
9939 \def\Fld@width{\DefaultWidthofText}%
9940 \def\Fld@height{%
9941 \ifFld@multiline
9942 \DefaultHeightofTextMultiline
9943 \else
9944 \DefaultHeightofText
9945 \fi
9946 }%
9947 \begingroup
9948 \Field@toks={ }%
9949 \expandafter\HyField@SetKeys\expandafter{%
9950 \DefaultOptionsofText,#1%
9951 }%
9952 \HyField@FlagsText
9953 \ifFld@hidden\def\Fld@width{1sp}\fi
9954 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
9955 \LayoutTextField{#2}{%
9956 \Hy@escapeform\PDFForm@Text
9957 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
9958 pdfmark=/ANN,Raw={\PDFForm@Text}%
9959 }%
9960 }%
9961 \endgroup
9962 }
9963 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9964 \def\Fld@name{#2}%
9965 \let\Fld@default\relax
9966 \let\Fld@value\relax
9967 \def\Fld@width{\DefaultWidthofChoiceMenu}%
9968 \def\Fld@height{\DefaultHeightofChoiceMenu}%
9969 \begingroup
9970 \Fld@menulength=0 %
9971 \@tempdima\z@
9972 \@for\@curropt:=#3\do{%
9973 \expandafter\Fld@checkequals\@curropt==\%
9974 \Hy@StepCount\Fld@menulength
9975 \settowidth{\@tempdimb}{\@currDisplay}%
9976 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
9977 }%
9978 \advance\@tempdima by 15\p@
9979 \Field@toks={ }%
9980 \begingroup
9981 \HyField@SetKeys{#1}%
9982 \edef\x{\endgroup
9983 \noexpand\expandafter
9984 \noexpand\HyField@SetKeys

```

```

9985     \noexpand\expandafter{%
9986     \expandafter\noexpand\csname DefaultOptionsof%
9987     \ifFld@radio
9988     Radio%
9989     \else
9990     \ifFld@combo
9991     \ifFld@popdown
9992     PopdownBox%
9993     \else
9994     ComboBox%
9995     \fi
9996     \else
9997     ListBox%
9998     \fi
9999     \fi
10000     \endcsname
10001     }%
10002 } \x
10003 \HyField@SetKeys{#1}%
10004 \ifFld@hidden\def\Fld@width{1sp}\fi
10005 \ifx\Fld@value\relax
10006 \let\Fld@value\Fld@default
10007 \fi
10008 \LayoutChoiceField{#2}{%
10009 \ifFld@radio
10010 \HyField@FlagsRadioButton
10011 \@@Radio{#3}%
10012 \else
10013 \beginingroup
10014 \HyField@FlagsChoice
10015 \ifdim\Fld@width<\@tempdima
10016 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10017 \edef\Fld@width{\the\@tempdima}%
10018 \fi
10019 \ifFld@combo
10020 \else
10021 \@tempdima=\the\Fld@menulength\Fld@charsize
10022 \advance\@tempdima by \Fld@borderwidth bp %
10023 \advance\@tempdima by \Fld@borderwidth bp %
10024 \edef\Fld@height{\the\@tempdima}%
10025 \fi
10026 \@@ListBox{#3}%
10027 \endgroup
10028 \fi
10029 }%
10030 \endgroup
10031 }
10032 \def\@@Radio#1{%
10033 \Fld@listcount=0 %
10034 \@for\@curropt:=#1\do{%
10035 \expandafter\Fld@checkequals\@curropt==\%
10036 \Hy@StepCount\Fld@listcount
10037 \@currDisplay\space
10038 \Hy@escapeform\PDFForm@Radio
10039 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10040 pdfmark=/ANN,%
10041 Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}}%

```

```

10042     } % deliberate space between radio buttons
10043 }%
10044 }
10045 \newcount\Fld@listcount
10046 \def\@@ListBox#1{%
10047   \HyField@PDFChoices{#1}%
10048   \Hy@escapeform\PDFForm@List
10049   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10050     pdfmark=/ANN,Raw={\PDFForm@List}%
10051   }%
10052 }
10053 \def\@PushButton[#1]#2{% parameters, label
10054   \def\Fld@name{#2}%
10055   \begingroup
10056     \Field@toks={ }%
10057     \expandafter\HyField@SetKeys\expandafter{%
10058       \DefaultOptionsofPushButton,#1%
10059     }%
10060     \ifHy@pdfa
10061       \PackageError{hyperref}{%
10062         PDF/A: Push button with JavaScript is prohibited%
10063       }{@ehc
10064       \LayoutPushButtonField{%
10065         \leavevmode
10066         \MakeButtonField{#2}%
10067       }%
10068     \else
10069       \HyField@FlagsPushButton
10070       \ifFld@hidden\def\Fld@width{1sp}\fi
10071       \LayoutPushButtonField{%
10072         \leavevmode
10073         \Hy@escapeform\PDFForm@Push
10074         \pdfmark[\MakeButtonField{#2}]{%
10075           pdfmark=/ANN,Raw={\PDFForm@Push}%
10076         }%
10077       }%
10078     \fi
10079   \endgroup
10080 }
10081 \def\@Submit[#1]#2{%
10082   \Field@toks={ }%
10083   \def\Fld@width{\DefaultWidthofSubmit}%
10084   \def\Fld@height{\DefaultHeightofSubmit}%
10085   \begingroup
10086     \expandafter\HyField@SetKeys\expandafter{%
10087       \DefaultOptionsofSubmit,#1%
10088     }%
10089     \HyField@FlagsPushButton
10090     \HyField@FlagsSubmit
10091     \ifFld@hidden\def\Fld@width{1sp}\fi
10092     \Hy@escapeform\PDFForm@Submit
10093     \pdfmark[\MakeButtonField{#2}]{%
10094       pdfmark=/ANN,%
10095       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10096     }%
10097   \endgroup
10098 }

```

```

10099 \def \@Reset[#1]#2{%
10100   \Field@toks={ }%
10101   \def \Fld@width{\DefaultWidthofReset}%
10102   \def \Fld@height{\DefaultHeightofReset}%
10103   \begingroup
10104     \expandafter \HyField@SetKeys \expandafter {%
10105       \DefaultOptionsofReset,#1%
10106     }%
10107     \leavevmode
10108     \ifHy@pdfa
10109       \PackageError{hyperref}{%
10110         PDF/A: Reset action is prohibited%
10111       } \@ehc
10112       \MakeButtonField{#2}%
10113     \else
10114       \HyField@FlagsPushButton
10115       \ifFld@hidden \def \Fld@width{1sp} \fi
10116       \Hy@escapeform \PDFForm@Reset
10117       \pdfmark[\MakeButtonField{#2}]{%
10118         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10119       }%
10120     \fi
10121   \endgroup
10122 }%
10123 \def \@CheckBox[#1]#2{% parameters, label
10124   \def \Fld@name{#2}%
10125   \def \Fld@default{0}%
10126   \begingroup
10127     \def \Fld@width{\DefaultWidthofCheckBox}%
10128     \def \Fld@height{\DefaultHeightofCheckBox}%
10129     \Field@toks={ }%
10130     \expandafter \HyField@SetKeys \expandafter {%
10131       \DefaultOptionsofCheckBox,#1%
10132     }%
10133     \HyField@FlagsCheckBox
10134     \ifFld@hidden \def \Fld@width{1sp} \fi
10135     \LayoutCheckField{#2}{%
10136       \Hy@escapeform \PDFForm@Check
10137       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10138         pdfmark=/ANN,Raw={\PDFForm@Check}%
10139       }%
10140     }%
10141   \endgroup
10142 }
10143 \pdfmark

```

47.2 HyperTeX

```

10144 \hypertex
10145 \def \@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10146 \def \@endForm{}
10147 \def \@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10148   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10149 }
10150 \def \@TextField[#1]#2{% parameters, label
10151   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10152 }
10153 \def \@CheckBox[#1]#2{% parameters, label

```



```

10154 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10155 }
10156 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10157 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10158 }
10159 \def\@PushButton[#1]#2{% parameters, label
10160 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10161 }
10162 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10163 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10164 </hypertex>

```

47.3 TeX4ht

```

10165 <*tex4ht>
10166 \def\@Form[#1]{%
10167 \setkeys{Form}{#1}%
10168 \HCode{<form action="\Form@action" method="\Form@method">}%
10169 }
10170 \def\@endForm{\HCode{</form>}}
10171 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10172 \typeout{Sorry, TeX4ht does not support gauges}%
10173 }
10174 \def\@TextField[#1]#2{% parameters, label
10175 \let\Hy@reserved@a\@empty
10176 \def\Fld@name{#2}%
10177 \def\Fld@default{}%
10178 \bgroup
10179 \Field@toks={ }%
10180 \setkeys{Field}{#1}%
10181 \HCode{<label for="\Fld@name">#2</label>}%
10182 \ifFld@password
10183 \@@PasswordField
10184 \else
10185 \@@TextField
10186 \fi
10187 \egroup
10188 }
10189 \def\@@PasswordField{%
10190 \HCode{%
10191 <input type="password" %
10192 id="\Fld@name" %
10193 name="\Fld@name" %
10194 \ifFld@hidden type="hidden" \fi
10195 value="\Fld@default" %
10196 \the\Field@toks
10197 >%
10198 }%
10199 }
10200 \def\@@TextField{%
10201 \ifFld@multiline
10202 \HCode{<textarea %
10203 \ifFld@readonly readonly \fi
10204 id="\Fld@name" %
10205 name="\Fld@name" %
10206 \ifFld@hidden type="hidden" \fi
10207 \the\Field@toks>%
10208 }%

```

```

10209     \Fld@default
10210     \HCode{</textarea>}%
10211 \else
10212     \HCode{<input type="textbox" %
10213         \ifFld@readonly readonly \fi
10214         id="\Fld@name" %
10215         name="\Fld@name" %
10216         \ifFld@hidden type="hidden" \fi
10217         value="\Fld@default" %
10218         \the\Field@toks>%
10219     }%
10220 \fi
10221 }
10222 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10223 \def\Fld@name{#2}%
10224 \def\Fld@default{}%
10225 \let\Hy@reserved@a\relax
10226 \begingroup
10227     \expandafter\Fld@findlength#3\\%
10228     \Field@toks={ }%
10229     \setkeys{Field}{#1}%
10230     #2%
10231     \ifFld@radio
10232         \expandafter\@@Radio#3\\%
10233     \else
10234         \expandafter\@@Menu#3\\%
10235     \fi
10236 \endgroup
10237 }
10238 \def\Fld@findlength#1\\{%
10239     \Fld@menulength=0 %
10240     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10241 }
10242 \def\@@Menu#1\\{%
10243     \HCode{<select size="\the\Fld@menulength" %
10244         name="\Fld@name" %
10245         \the\Field@toks>%
10246     }%
10247     \@for\@curropt:=#1\do{%
10248         \expandafter\Fld@checkequals\@curropt==\\%
10249         \HCode{<option %
10250             \ifx\@curropt\Fld@default selected \fi
10251             value="\@currValue">\@currDisplay</option>%
10252         }%
10253     }%
10254     \HCode{</select>}%
10255 }
10256 \def\@@Radio#1\\{%
10257     \@for\@curropt:=#1\do{%
10258         \expandafter\Fld@checkequals\@curropt==\\%
10259         \HCode{<input type="radio" %
10260             \ifx\@curropt\Fld@default checked \fi
10261             name="\Fld@name" %
10262             value="\@currValue" %
10263             \the\Field@toks>%
10264         }%
10265         \@currDisplay

```

```

10266 }%
10267 }
10268 \def\@PushButton[#1]#2{% parameters, label
10269   \def\Fld@name{#2}%
10270   \bgroup
10271     \Field@toks={ }%
10272     \setkeys{Field}{#1}%
10273     \HCode{<input type="button" %
10274       name="\Fld@name" %
10275       value="#2" %
10276       \the\Field@toks>%
10277     }%
10278     \HCode{</button>}%
10279   \egroup
10280 }
10281 \def\@Submit[#1]#2{%
10282   \HCode{<button type="submit">#2</button>}%
10283 }
10284 \def\@Reset[#1]#2{%
10285   \HCode{<button type="reset">#2</button>}%
10286 }
10287 \def\@CheckBox[#1]#2{% parameters, label
10288   \let\Hy@reserved@a\@empty
10289   \def\Fld@name{#2}%
10290   \def\Fld@default{0}%
10291   \bgroup
10292     \Field@toks={ }%
10293     \setkeys{Field}{#1}%
10294     \HCode{<input type="checkbox" %
10295       \ifFld@checked checked \fi
10296       \ifFld@disabled disabled \fi
10297       \ifFld@readonly readonly \fi
10298       name="\Fld@name" %
10299       \ifFld@hidden type="hidden" \fi
10300       value="\Fld@default" %
10301       \the\Field@toks>%
10302     #2%
10303   }%
10304   \egroup
10305 }
10306 </tex4ht>

```

47.4 pdfTeX

```

10307 <*pdfTeX>
10308 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10309   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10310 }
10311 \def\MakeFieldObject#1#2{\sbox0{#1}%
10312   \immediate\pdfxform0 %
10313   \expandafter\edef\csname #2Object\endcsname{%
10314     \the\pdflastxform\space 0 R%
10315   }%
10316   \hbox to \Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10317 }%
10318 \def\@Form[#1]{%
10319   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10320   \setkeys{Form}{#1}%

```

```

10321 \ifnum\pdfTeXversion>13 %
10322 \pdfrefobj\OBJ@pdfdocencoding
10323 \pdfrefobj\OBJ@ZaDb
10324 \pdfrefobj\OBJ@Helv
10325 \pdfrefobj\OBJ@acroform
10326 \fi
10327 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10328 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10329 \begingroup
10330 \fontfamily{pzd}%
10331 \fontencoding{U}%
10332 \fontseries{m}%
10333 \fontshape{n}%
10334 \selectfont
10335 \char123 %
10336 \endgroup
10337 }{Ding}%
10338 \MakeFieldObject{%
10339 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10340 }{Submit}%
10341 \MakeFieldObject{%
10342 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10343 }{SubmitP}%
10344 }
10345 \def\@endForm{}
10346 \def\@TextField[#1]#2{% parameters, label
10347 \def\Fld@name{#2}%
10348 \def\Fld@default{}%
10349 \let\Fld@value\@empty
10350 \def\Fld@width{\DefaultWidthofText}%
10351 \def\Fld@height{%
10352 \ifFld@multiline
10353 \DefaultHeightofTextMultiline
10354 \else
10355 \DefaultHeightofText
10356 \fi
10357 }%
10358 \begingroup
10359 \Field@toks={ }%
10360 \expandafter\HyField@SetKeys\expandafter{%
10361 \DefaultOptionsofText,#1%
10362 }%
10363 \PDFForm@Name
10364 \HyField@FlagsText
10365 \ifFld@hidden\def\Fld@width{1sp}\fi
10366 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10367 \LayoutTextField{#2}{%
10368 \Hy@escapeform\PDFForm@Text
10369 \pdfstartlink user {\PDFForm@Text}\relax
10370 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10371 }%
10372 \endgroup
10373 }
10374 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10375 \def\Fld@name{#2}%
10376 \let\Fld@default\relax

```

```

10377 \let\Fld@value\relax
10378 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10379 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10380 \beginingroup
10381   \Fld@menulength=0 %
10382   \@tempdima\z@
10383   \@for\@curropt:=#3\do{%
10384     \expandafter\Fld@checkequals\@curropt==\%
10385     \Hy@StepCount\Fld@menulength
10386     \settowidth{\@tempdimb}{\@currDisplay}%
10387     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10388   }%
10389   \advance\@tempdima by 15\p@
10390   \Field@toks={ }%
10391   \beginingroup
10392     \HyField@SetKeys{#1}%
10393   \edef\x{\endgroup
10394     \noexpand\expandafter
10395     \noexpand\HyField@SetKeys
10396     \noexpand\expandafter{%
10397       \expandafter\noexpand\csname DefaultOptionsof%
10398       \ifFld@radio
10399         Radio%
10400       \else
10401         \ifFld@combo
10402           \ifFld@popdown
10403             PopdownBox%
10404           \else
10405             ComboBox%
10406           \fi
10407         \else
10408           ListBox%
10409         \fi
10410       \fi
10411     \endcsname
10412   }%
10413   }\x
10414   \HyField@SetKeys{#1}%
10415   \PDFForm@Name
10416   \ifFld@hidden\def\Fld@width{1sp}\fi
10417   \ifx\Fld@value\relax
10418     \let\Fld@value\Fld@default
10419   \fi
10420   \LayoutChoiceField{#2}{%
10421     \ifFld@radio
10422       \HyField@FlagsRadioButton
10423       \@@Radio{#3}%
10424     \else
10425       \beginingroup
10426         \HyField@FlagsChoice
10427         \ifdim\Fld@width<\@tempdima
10428           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10429           \edef\Fld@width{\the\@tempdima}%
10430         \fi
10431         \ifFld@combo
10432         \else
10433           \@tempdima=\the\Fld@menulength\Fld@charsize

```

```

10434         \advance\@tempdima by \Fld@borderwidth bp %
10435         \advance\@tempdima by \Fld@borderwidth bp %
10436         \edef\Fld@height{\the\@tempdima}%
10437     \fi
10438     \@@ListBox{#3}%
10439 \endgroup
10440 \fi
10441 }%
10442 \endgroup
10443 }
10444 \def\@@Radio#1{%
10445     \Fld@listcount=0 %
10446     \@for\@curropt:=#1\do{%
10447         \expandafter\Fld@checkequals\@curropt==\%
10448         \Hy@StepCount\Fld@listcount
10449         \@currDisplay\space
10450         \leavevmode
10451         \Hy@escapeform\PDFForm@Radio
10452         \pdfstartlink user {%
10453             \PDFForm@Radio
10454             /AP<<%
10455             /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.

```

10456         /\@currValue\space \DingObject
10457         >>%
10458         >>%
10459     }%
10460     \relax
10461     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10462     \space % deliberate space between radio buttons
10463 }%
10464 }
10465 \newcount\Fld@listcount
10466 \def\@@ListBox#1{%
10467     \HyField@PDFChoices{#1}%
10468     \leavevmode
10469     \Hy@escapeform\PDFForm@List
10470     \pdfstartlink user {\PDFForm@List}\relax
10471     \MakeChoiceField{\Fld@width}{\Fld@height}%
10472     \pdfendlink
10473 }
10474 \def\@PushButton[#1]#2{% parameters, label
10475     \def\Fld@name{#2}%
10476     \begingroup
10477         \Field@toks={ }%
10478         \expandafter\HyField@SetKeys\expandafter{%
10479             \DefaultOptionsofPushButton,#1%
10480         }%
10481         \PDFForm@Name
10482         \ifHy@pdfa
10483             \PackageError{hyperref}{%
10484                 PDF/A: Push button with JavaScript is prohibited%
10485             }\@ehc
10486         \LayoutPushButtonField{%
10487             \leavevmode

```

```

10488         \MakeButtonField{#2}%
10489     }%
10490     \else
10491         \HyField@FlagsPushButton
10492         \ifFld@hidden\def\Fld@width{1sp}\fi
10493         \LayoutPushButtonField{%
10494             \leavevmode
10495             \Hy@escapeform\PDFForm@Push
10496             \pdfstartlink user {\PDFForm@Push}\relax
10497             \MakeButtonField{#2}%
10498             \pdfendlink
10499         }%
10500     \fi
10501 \endgroup
10502 }
10503 \def\@Submit[#1]#2{%
10504     \Field@toks={ }%
10505     \def\Fld@width{\DefaultWidthofSubmit}%
10506     \def\Fld@height{\DefaultHeightofSubmit}%
10507     \begingroup
10508         \expandafter\HyField@SetKeys\expandafter{%
10509             \DefaultOptionsofSubmit,#1%
10510         }%
10511         \HyField@FlagsPushButton
10512         \HyField@FlagsSubmit
10513         \ifFld@hidden\def\Fld@width{1sp}\fi
10514         \leavevmode
10515         \Hy@escapeform\PDFForm@Submit
10516         \pdfstartlink user {%
10517             \PDFForm@Submit
10518             /AP<</N \SubmitObject/D \SubmitPObject>>%
10519         }%
10520         \relax
10521         \MakeButtonField{#2}%
10522         \pdfendlink
10523     \endgroup
10524 }
10525 \def\@Reset[#1]#2{%
10526     \Field@toks={ }%
10527     \def\Fld@width{\DefaultWidthofReset}%
10528     \def\Fld@height{\DefaultHeightofReset}%
10529     \begingroup
10530         \expandafter\HyField@SetKeys\expandafter{%
10531             \DefaultOptionsofReset,#1%
10532         }%
10533         \leavevmode
10534         \ifHy@pdfa
10535             \PackageError{hyperref}{%
10536                 PDF/A: Reset action is prohibited%
10537             }\@ehc
10538             \MakeButtonField{#2}%
10539         \else
10540             \HyField@FlagsPushButton
10541             \ifFld@hidden\def\Fld@width{1sp}\fi
10542             \Hy@escapeform\PDFForm@Reset
10543             \pdfstartlink user {\PDFForm@Reset}\relax
10544             \MakeButtonField{#2}%

```

```

10545     \pdfendlink
10546     \fi
10547 \endgroup
10548 }
10549 \def\@CheckBox[#1]#2{% parameters, label
10550 \def\Fld@name{#2}%
10551 \def\Fld@default{0}%
10552 \begingroup
10553 \def\Fld@width{\DefaultWidthofCheckBox}%
10554 \def\Fld@height{\DefaultHeightofCheckBox}%
10555 \Field@toks={ }%
10556 \expandafter\HyField@SetKeys\expandafter{%
10557 \DefaultOptionsofCheckBox,#1%
10558 }%
10559 \PDFForm@Name
10560 \HyField@FlagsCheckBox
10561 \ifFld@hidden\def\Fld@width{1sp}\fi
10562 \LayoutCheckField{#2}{%
10563 \Hy@escapeform\PDFForm@Check
10564 \pdfstartlink user {\PDFForm@Check}\relax
10565 \MakeCheckField{\Fld@width}{\Fld@height}%
10566 \pdfendlink
10567 }%
10568 \endgroup
10569 }
10570 \pdfobj {%
10571 <<%
10572 /Type/Encoding%
10573 /Differences[%
10574 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10575 /ring/tilde %
10576 39/quotesingle %
10577 96/grave %
10578 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10579 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10580 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10581 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10582 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10583 164/currency %
10584 166/brokenbar %
10585 168/dieresis/copyright/ordfeminine %
10586 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10587 /twosuperior/threesuperior/acute/mu %
10588 183/periodcentered/cedilla/onesuperior/ordmasculine %
10589 188/onequarter/onehalf/threequarters %
10590 192/Agave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10591 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10592 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10593 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10594 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10595 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10596 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10597 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10598 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
10599 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10600 ]%
10601 >>%

```



```

10602 }
10603 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10604 \pdfobj{%
10605   <<%
10606     /Type/Font%
10607     /Subtype/Type1%
10608     /Name/ZaDb%
10609     /BaseFont/ZapfDingbats%
10610   >>%
10611 }
10612 \edef\OBJ@ZaDb{\the\pdflastobj}
10613 \pdfobj{%
10614   <<%
10615     /Type/Font%
10616     /Subtype/Type1%
10617     /Name/Helv%
10618     /BaseFont/Helvetica%
10619     /Encoding \OBJ@pdfdocencoding\space 0 R%
10620   >>%
10621 }
10622 \edef\OBJ@Helv{\the\pdflastobj}
10623 \pdfobj{%
10624   <<%
10625     /Fields[]%
10626     /DR<<%
10627       /Font<<%
10628         /ZaDb \OBJ@ZaDb\space 0 R%
10629         /Helv \OBJ@Helv\space 0 R%
10630       >>%
10631     >>%
10632     /DA(/Helv 10 Tf 0 g)%
10633     \ifHy@pdfa
10634     \else
10635       /NeedAppearances true%
10636     \fi
10637   >>%
10638 }
10639 \edef\OBJ@acroform{\the\pdflastobj}
10640 </pdftex>

```

47.5 dvipdfm

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
10641 <*dvipdfm>
```

\@Gauge

```

10642 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10643   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10644 }

```

\@Form

```

10645 \def\@Form[#1]{%
10646   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10647   \setkeys{Form}{#1}%
10648   \@pdfm@mark{obj @afields []}%
10649   \@pdfm@mark{obj @corder []}%

```

```

10650 \pdfmark{%
10651   obj @aform <<%
10652     /Fields @afields%
10653     /DR<<%
10654       /Font<<%
10655         /ZaDb @OBJZaDb%
10656         /Helv @OBJHelv%
10657       >>%
10658     >>%
10659     /DA(/Helv 10 Tf 0 g)%
10660     /CO @corder%
10661     \ifHy@pdfa
10662     \else
10663       /NeedAppearances true%
10664     \fi
10665   >>%
10666 }%
10667 \pdfmark{put @catalog <</AcroForm @aform>>}%
10668 }

\@endForm

10669 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
10670 \def\dvipdfm@setdim{%
10671   height \the\ht\pdfm@box\space
10672   width \the\wd\pdfm@box\space
10673   depth \the\dp\pdfm@box\space
10674 }

\HyField@AnnotCount
10675 \newcount\HyField@AnnotCount
10676 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
10677 \def\HyField@AdvanceAnnotCount{%
10678   \global\advance\HyField@AnnotCount\@ne
10679 }

\HyField@TheAnnotCount
10680 \def\HyField@TheAnnotCount{%
10681   \the\HyField@AnnotCount
10682 }

\@TextField
10683 \def\@TextField[#1]#2{% parameters, label
10684   \def\Fld@name{#2}%
10685   \def\Fld@default{}%
10686   \let\Fld@value\@empty
10687   \def\Fld@width{\DefaultWidthofText}%
10688   \def\Fld@height{%
10689     \ifFld@multiline
10690       \DefaultHeightofTextMultiline
10691     \else
10692       \DefaultHeightofText
10693     \fi

```

```

10694 }%
10695 \beginngroup
10696   \Field@toks={ }%
10697   \expandafter\HyField@SetKeys\expandafter{%
10698     \DefaultOptionsofText,#1%
10699   }%
10700   \PDFForm@Name
10701   \HyField@FlagsText
10702   \ifFld@hidden\def\Fld@width{1sp}\fi
10703   \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10704   \setbox\pdfm@box=\hbox{%
10705     \MakeTextField{\Fld@width}{\Fld@height}%
10706   }%
10707   \HyField@AdvanceAnnotCount
10708   \LayoutTextField{#2}{%
10709     \Hy@escapeform\PDFForm@Text
10710     \@pdfm@mark{%
10711       ann @text\HyField@TheAnnotCount\space
10712       \dvipdfm@setdim << \PDFForm@Text >>%
10713     }%
10714   }%
10715   \unhbox\pdfm@box
10716   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10717   % record in @afields array
10718 \endgroup
10719 }

```

\@ChoiceMenu

```

10720 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10721   \def\Fld@name{#2}%
10722   \let\Fld@default\relax
10723   \let\Fld@value\relax
10724   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10725   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10726   \beginngroup
10727     \Fld@menulength=0 %
10728     \@tempdima\z@
10729     \@for\@curropt:=#3\do{%
10730       \expandafter\Fld@checkequals\@curropt==\%
10731       \Hy@StepCount\Fld@menulength
10732       \settowidth{\@tempdimb}{\@currDisplay}%
10733       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10734     }%
10735     \advance\@tempdima by 15\p@
10736     \Field@toks={ }%
10737     \beginngroup
10738       \HyField@SetKeys{#1}%
10739     \edef\x{\endgroup
10740       \noexpand\expandafter
10741       \noexpand\HyField@SetKeys
10742       \noexpand\expandafter{%
10743         \expandafter\noexpand\csname DefaultOptionsof%
10744           \ifFld@radio
10745             Radio%
10746           \else
10747             \ifFld@combo
10748               \ifFld@popdown

```

```

10749         PopdownBox%
10750     \else
10751         ComboBox%
10752     \fi
10753 \else
10754     ListBox%
10755 \fi
10756 \fi
10757 \endcsname
10758 }%
10759 }\x
10760 \HyField@SetKeys{#1}%
10761 \PDFForm@Name
10762 \ifFld@hidden\def\Fld@width{1sp}\fi
10763 \ifx\Fld@value\relax
10764     \let\Fld@value\Fld@default
10765 \fi
10766 \LayoutChoiceField{#2}{%
10767     \ifFld@radio
10768         \HyField@FlagsRadioButton
10769         \@@Radio{#3}%
10770     \else
10771         \begingroup
10772             \HyField@FlagsChoice
10773             \ifdim\Fld@width<\@tempdima
10774                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10775                 \edef\Fld@width{\the\@tempdima}%
10776             \fi
10777             \ifFld@combo
10778             \else
10779                 \@tempdima=\the\Fld@menulength\Fld@charsize
10780                 \advance\@tempdima by \Fld@borderwidth bp %
10781                 \advance\@tempdima by \Fld@borderwidth bp %
10782                 \edef\Fld@height{\the\@tempdima}%
10783             \fi
10784             \@@Listbox{#3}%
10785         \endgroup
10786     \fi
10787 }%
10788 \endgroup
10789 }

\@@Radio

10790 \def\@@Radio#1{%
10791     \Fld@listcount=0 %
10792     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
10793     \@for\@curropt:=#1\do{%
10794         \expandafter\Fld@checkequals\@curropt==\%
10795         \Hy@StepCount\Fld@listcount
10796         \@currDisplay\space
10797         \leavevmode
10798         \Hy@escapeform\PDFForm@Radio
10799         \ifnum\Fld@listcount=1 %
10800             \HyField@AdvanceAnnotCount
10801         \fi
10802         \@pdfm@mark{%
10803             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi

```

```

10804      \dviPdfm@setdim
10805      <<%
10806      \PDFForm@Radio
10807      /AP<</N<</\@currValue /null>>>>%
10808      >>%
10809      }%
10810      \unhcopy\pdfm@box\space% deliberate space between radio buttons
10811      \ifnum\Fld@listcount=1 %
10812      \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
10813      \fi
10814      }%
10815  }

\Fld@listcount

10816 \newcount\Fld@listcount

\@@Listbox

10817 \def\@@Listbox#1{%
10818   \HyField@PDFChoices{#1}%
10819   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
10820   \leavevmode
10821   \Hy@escapeform\PDFForm@List
10822   \HyField@AdvanceAnnotCount
10823   \@pdfm@mark{%
10824     ann @list\HyField@TheAnnotCount\space
10825     \dviPdfm@setdim
10826     <<\PDFForm@List>>%
10827   }%
10828   \unhbox\pdfm@box
10829   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
10830 }

\@PushButton

10831 \def\@PushButton[#1]#2{% parameters, label
10832   \def\Fld@name{#2}%
10833   \begin{group}
10834     \Field@toks={ }%
10835     \expandafter\HyField@SetKeys\expandafter{%
10836       \DefaultOptionsOfPushButton,#1%
10837     }%
10838     \PDFForm@Name
10839     \ifHy@pdfa
10840       \PackageError{hyperref}{%
10841         PDF/A: Push button with JavaScript is prohibited%
10842       }\@ehc
10843       \LayoutPushButtonField{%
10844         \leavevmode
10845         \MakeButtonField{#2}%
10846       }%
10847     \else
10848       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10849       \HyField@FlagsPushButton
10850       \ifFld@hidden\def\Fld@width{1sp}\fi
10851       \HyField@AdvanceAnnotCount
10852       \LayoutPushButtonField{%
10853         \leavevmode
10854         \Hy@escapeform\PDFForm@Push

```

```

10855         \@pdfm@mark{%
10856             ann @push\HyField@TheAnnotCount\space
10857             \dvipdfm@setdim
10858             <<\PDFForm@Push>>%
10859         }%
10860     }%
10861     \unhbox\pdfm@box
10862     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
10863     \fi
10864 \endgroup
10865 }

\@Submit

10866 \def\@Submit[#1]#2{%
10867     \Field@toks={ }%
10868     \def\Fld@width{\DefaultWidthofSubmit}%
10869     \def\Fld@height{\DefaultHeightofSubmit}%
10870     \begingroup
10871         \expandafter\HyField@SetKeys\expandafter{%
10872             \DefaultOptionsofSubmit,#1%
10873         }%
10874         \HyField@FlagsPushButton
10875         \HyField@FlagsSubmit
10876         \ifFld@hidden\def\Fld@width{1sp}\fi
10877         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10878         \leavevmode
10879         \Hy@escapeform\PDFForm@Submit
10880         \HyField@AdvanceAnnotCount
10881         \@pdfm@mark{%
10882             ann @submit\HyField@TheAnnotCount\space
10883             \dvipdfm@setdim
10884             <<\PDFForm@Submit>>%
10885         }%
10886         \unhbox\pdfm@box%
10887         \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
10888     \endgroup
10889 }

\@Reset

10890 \def\@Reset[#1]#2{%
10891     \Field@toks={ }%
10892     \def\Fld@width{\DefaultWidthofReset}%
10893     \def\Fld@height{\DefaultHeightofReset}%
10894     \begingroup
10895         \expandafter\HyField@SetKeys\expandafter{%
10896             \DefaultOptionsofReset,#1%
10897         }%
10898         \leavevmode
10899         \ifHy@pdfa
10900             \PackageError{hyperref}{%
10901                 PDF/A: Reset action is prohibited%
10902             }\@ehc
10903             \MakeButtonField{#2}%
10904         \else
10905             \HyField@FlagsPushButton
10906             \ifFld@hidden\def\Fld@width{1sp}\fi
10907             \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%

```

```

10908 \Hy@escapeform\PDFForm@Reset
10909 \HyField@AdvanceAnnotCount
10910 \@pdfm@mark{%
10911     ann @reset\HyField@TheAnnotCount\space
10912     \dvipdfm@setdim
10913     <<\PDFForm@Reset>>%
10914 }%
10915 \unhbox\pdfm@box
10916 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
10917 \fi
10918 \endgroup
10919 }

```

\@CheckBox

```

10920 \def\@CheckBox[#1]#2{% parameters, label
10921     \def\Fld@name{#2}%
10922     \def\Fld@default{0}%
10923     \begingroup
10924         \def\Fld@width{\DefaultWidthofCheckBox}%
10925         \def\Fld@height{\DefaultHeightofCheckBox}%
10926         \Field@toks={ }%
10927         \expandafter\HyField@SetKeys\expandafter{%
10928             \DefaultOptionsofCheckBox,#1%
10929         }%
10930         \PDFForm@Name
10931         \HyField@FlagsCheckBox
10932         \ifFld@hidden\def\Fld@width{1sp}\fi
10933         \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
10934         \HyField@AdvanceAnnotCount
10935         \LayoutCheckField{#2}{%
10936             \Hy@escapeform\PDFForm@Check
10937             \@pdfm@mark{%
10938                 ann @check\HyField@TheAnnotCount\space
10939                 \dvipdfm@setdim
10940                 <<\PDFForm@Check>>%
10941             }%
10942             \unhbox\pdfm@box
10943             \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
10944         }%
10945     \endgroup
10946 }

10947 \@pdfm@mark{obj @OBJpdfdocencoding%
10948 <<%
10949     /Type/Encoding%
10950     /Differences[%
10951         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
10952         39/quotesingle %
10953         96/grave %
10954         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10955         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10956         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
10957         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
10958         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10959         164/currency %
10960         166/brokenbar %
10961         168/dieresis/copyright/ordfeminine %
10962         172/logicalnot/.notdef/registered/macron/degree/plusminus%

```

```

10963      /twosuperior/threesuperior/acute/mu %
10964      183/periodcentered/cedilla/onesuperior/ordmasculine %
10965      188/onequarter/onehalf/threequarters %
10966      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10967      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
10968      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
10969      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
10970      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
10971      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
10972      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
10973      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
10974      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
10975      /thorn/ydieresis%
10976      ]%
10977      >>%
10978 }
10979 \pdfmark{obj @OBJZaDb%
10980 <<%
10981      /Type/Font%
10982      /Subtype/Type1%
10983      /Name/ZaDb%
10984      /BaseFont/ZapfDingbats%
10985      >>%
10986 }
10987 \pdfmark{obj @OBJHelv%
10988 <<%
10989      /Type/Font%
10990      /Subtype/Type1%
10991      /Name/Helv%
10992      /BaseFont/Helvetica%
10993      /Encoding @OBJpdfdocencoding%
10994      >>%
10995 }
10996 </dvipdfm>

```

47.6 Common forms part

```
10997 <{*pdfform}>
```

\Hy@escapestring

```

10998 \begingroup\expandafter\expandafter\expandafter\endgroup
10999 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11000   \let\Hy@escapestring\@firstofone
11001   \def\Hy@escapeform#1{%
11002     \ifHy@escapeform
11003       \def\Hy@escapestring##1{%
11004         \noexpand\Hy@escapestring{\noexpand##1}%
11005       }%
11006     \edef\Hy@temp{#1}%
11007     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11008     \def\Hy@escapestring##1{%
11009       \@ifundefined{Hy@esc@\string##1}{%
11010         ##1%
11011         \ThisShouldNotHappen
11012       }{%
11013         \csname Hy@esc@\string##1\endcsname
11014       }%

```



```

11015     }%
11016     \else
11017         \let\Hy@escapestring\@firstofone
11018     \fi
11019 }%
11020 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11021     \ifx\#3\%
11022     \else
11023         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11024         \Hy@ReturnAfterFi{%
11025             \Hy@@escapeform#3\@nil
11026         }%
11027     \fi
11028 }%
11029 \else
11030 \def\Hy@escapeform#1{%
11031     \ifHy@escapeform
11032         \let\Hy@escapestring\pdfescapestring
11033     \else
11034         \let\Hy@escapestring\@firstofone
11035     \fi
11036 }%
11037 \Hy@escapeform{}%
11038 \fi

```

\PDFForm@Name

```

11039 \def\PDFForm@Name{%
11040     \begingroup
11041         \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11042             \ifHy@unicode
11043                 \Hy@unicodedefalse
11044             \fi
11045         \fi
11046         \pdfstringdef\Hy@gtemp\Fld@name
11047     \endgroup
11048     \let\Fld@name\Hy@gtemp
11049 }

```

\PDFForm@Check

```

11050 \def\PDFForm@Check{%
11051     /Subtype/Widget%
11052     \Fld@annotflags
11053     /T(\Fld@name)%
11054     /FT/Btn%
11055     \Fld@flags
11056     /Q \Fld@align
11057     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11058     /MK<<%
11059         \ifnum\Fld@rotation=\z@
11060         \else
11061             /R \Fld@rotation
11062         \fi
11063         \ifx\Fld@bordercolor\relax
11064         \else
11065             /BC[\Fld@bordercolor]%
11066         \fi
11067         \ifx\Fld@bcolor\relax

```

```

11068     \else
11069         /BG[\Fld@bcolor]%
11070     \fi
11071     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11072 >>%
11073 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11074     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11075 /H/P%
11076 \ifFld@checked /V/Yes\else /V/Off\fi
11077 }

```

\PDFForm@Push

```

11078 \ifHy@pdfa
11079 \else
11080 \def\PDFForm@Push{%
11081     /Subtype/Widget%
11082     \Fld@annotflags
11083     /T(\Fld@name)%
11084     /FT/Btn%
11085     \Fld@flags
11086     /H/P%
11087     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11088     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11089         \ifx\Fld@bordercolor\relax\else 1\fi
11090         \space
11091     \else
11092         /MK<<%
11093         \ifnum\Fld@rotation=\z@
11094         \else
11095             /R \Fld@rotation
11096         \fi
11097         \ifx\Fld@bordercolor\relax
11098         \else
11099             /BC[\Fld@bordercolor]%
11100         \fi
11101         >>%
11102     \fi
11103     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11104 }%
11105 \fi

```

\Fld@additionalactions

```

11106 \def\Fld@@additionalactions{%
K input (keystroke) format
11107 \ifx\Fld@keystroke@code\@empty
11108 \else
11109     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11110 \fi
F display format
11111 \ifx\Fld@format@code\@empty
11112 \else
11113     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11114 \fi
V validation
11115 \ifx\Fld@validate@code\@empty

```

```

11116 \else
11117     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11118 \fi
C calculation
11119 \ifx\Fld@calculate@code\@empty
11120 \else
11121     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11122 \fi
Fo receiving the input focus
11123 \ifx\Fld@onfocus@code\@empty
11124 \else
11125     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11126 \fi
Bl loosing the input focus (blurred)
11127 \ifx\Fld@onblur@code\@empty
11128 \else
11129     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11130 \fi
D pressing the mouse button (down)
11131 \ifx\Fld@onmousedown@code\@empty
11132 \else
11133     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11134 \fi
U releasing the mouse button (up)
11135 \ifx\Fld@onmouseup@code\@empty
11136 \else
11137     /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11138 \fi
E cursor enters the annotation's active area.
11139 \ifx\Fld@onenter@code\@empty
11140 \else
11141     /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11142 \fi
X cursor exits the annotation's active area.
11143 \ifx\Fld@onexit@code\@empty
11144 \else
11145     /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11146 \fi
11147 }
11148 \def\Fld@additionalactions{%
11149 \if-\Fld@@additionalactions-%
11150 \else
11151     \ifHy@pdfa
11152     \else
11153         /AA<<\Fld@@additionalactions>>%
11154     \fi
11155 \fi
11156 }

```

\PDFForm@List

```

11157 \def\PDFForm@List{%
11158     /Subtype/Widget%
11159     \Fld@annotflags

```

```

11160 /T(\Fld@name)%
11161 /FT/Ch%
11162 \Fld@flags
11163 /Q \Fld@align
11164 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11165 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11166 \ifx\Fld@bordercolor\relax\else 1\fi
11167 \ifx\Fld@bcolor\relax \else 1\fi
11168 \space
11169 \else
11170 /MK<<%
11171 \ifnum\Fld@rotation=\z@
11172 \else
11173 /R \Fld@rotation
11174 \fi
11175 \ifx\Fld@bordercolor\relax
11176 \else
11177 /BC[\Fld@bordercolor]%
11178 \fi
11179 \ifx\Fld@bcolor\relax
11180 \else
11181 /BG[\Fld@bcolor]%
11182 \fi
11183 >>%
11184 \fi
11185 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11186 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11187 \Fld@choices
11188 \Fld@additionalactions
11189 }

```

\PDFForm@Radio

```

11190 \def\PDFForm@Radio{%
11191 /Subtype/Widget%
11192 \Fld@annotflags
11193 /T(\Fld@name)%
11194 /FT/Btn%
11195 \Fld@flags
11196 /H/P%
11197 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11198 /MK<<%
11199 \ifnum\Fld@rotation=\z@
11200 \else
11201 /R \Fld@rotation
11202 \fi
11203 \ifx\Fld@bordercolor\relax
11204 \else
11205 /BC[\Fld@bordercolor]%
11206 \fi
11207 \ifx\Fld@bcolor\relax
11208 \else
11209 /BG[\Fld@bcolor]%
11210 \fi
11211 /CA(H)%
11212 >>%
11213 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11214 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

```

11215 \ifx\@currValue\Fld@default
11216 /V/\Fld@default
11217 \else
11218 /V/Off%
11219 \fi
11220 \Fld@additionalactions
11221 }

```

\PDFForm@Text

```

11222 \def\PDFForm@Text{%
11223 /Subtype/Widget%
11224 \Fld@annotflags
11225 /T(\Fld@name)%
11226 /FT/Tx%
11227 \Fld@flags
11228 /Q \Fld@align
11229 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11230 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11231 \ifx\Fld@bordercolor\relax\else 1\fi
11232 \ifx\Fld@bcolor\relax \else 1\fi
11233 \space
11234 \else
11235 /MK<<%
11236 \ifnum\Fld@rotation=\z@
11237 \else
11238 /R \Fld@rotation
11239 \fi
11240 \ifx\Fld@bordercolor\relax
11241 \else
11242 /BC[\Fld@bordercolor]%
11243 \fi
11244 \ifx\Fld@bcolor\relax
11245 \else
11246 /BG[\Fld@bcolor]%
11247 \fi
11248 >>%
11249 \fi
11250 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11251 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11252 /DV(\Hy@escapestring{\Fld@default})%
11253 /V(\Hy@escapestring{\Fld@value})%
11254 \Fld@additionalactions
11255 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11256 }

```

\PDFForm@Submit

```

11257 \def\PDFForm@Submit{%
11258 /Subtype/Widget%
11259 \Fld@annotflags
11260 /T(\Fld@name)%
11261 /FT/Btn%
11262 \Fld@flags
11263 /H/P%
11264 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11265 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11266 \ifx\Fld@bordercolor\relax\else 1\fi
11267 \space

```

```

11268 \else
11269   /MK<<%
11270   \ifnum\Fld@rotation=\z@
11271   \else
11272     /R \Fld@rotation
11273   \fi
11274   \ifx\Fld@bordercolor\relax
11275   \else
11276     /BC[\Fld@bordercolor]%
11277   \fi
11278   >>%
11279 \fi
11280 /A<<%
11281 /S/SubmitForm%
11282 /F<<%
11283 /FS/URL%
11284 /F(\Hy@escapestring{\Form@action})%
11285 >>%
11286 \Fld@submitflags
11287 >>%
11288 }

```

\PDFForm@Reset

```

11289 \ifHy@pdfa
11290 \else
11291   \def\PDFForm@Reset{%
11292     /Subtype/Widget%
11293     \Fld@annotflags
11294     /T(\Fld@name)%
11295     /FT/Btn%
11296     \Fld@flags
11297     /H/P%
11298     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11299     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11300       \ifx\Fld@bordercolor\relax\else 1\fi
11301       \space
11302     \else
11303       /MK<<%
11304       \ifnum\Fld@rotation=\z@
11305       \else
11306         /R \Fld@rotation
11307       \fi
11308       \ifx\Fld@bordercolor\relax
11309       \else
11310         /BC[\Fld@bordercolor]%
11311       \fi
11312 %     /CA (Clear)
11313 %     /AC (Done)
11314     >>%
11315   \fi
11316   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11317   /A<</S/ResetForm>>%
11318 }%
11319 \fi

11320 </pdfform>
11321 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
11322 \def\phantomsection{%
11323   \Hy@GlobalStepCount\Hy@linkcounter
11324   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11325   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11326 }
11327 \</package>
```

48.1 Bookmarks

```
11328 \<*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`.

```
11329 \def\Hy@writebookmark#1#2#3#4#5{%
11330   % section number, text, label, level, file
11331   \ifx\WriteBookmarks\relax%
11332   \else
11333     \ifnum#4>\Hy@bookmarksdepth\relax
11334     \else
11335       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11336     \fi
11337   \fi
11338 }
11339 \def\Hy@currentbookmarklevel{0}
11340 \def\Hy@numberline#1{#1 }
11341 \def\@writetorep#1#2#3#4#5{%
11342   \begingroup
11343     \edef\Hy@tempa{#5}%
11344     \ifx\Hy@tempa\Hy@bookmarkstype
11345       \edef\Hy@level{#4}%
11346       \ifx\Hy@levelcheck Y%
11347         \@tempcnta\Hy@level\relax
11348         \advance\@tempcnta by -1 %
11349         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11350           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11351           \advance\@tempcnta by 1 %
11352           \Hy@Warning{%
11353             Difference (\the\@tempcnta) between bookmark levels is %
11354             greater \MessageBreak than one, level fixed%
11355           }%
11356           \@tempcnta\Hy@currentbookmarklevel
11357           \advance\@tempcnta by 1 %
11358           \edef\Hy@level{\the\@tempcnta}%

```

```

11359     \fi
11360   \else
11361     \global\let\Hy@levelcheck Y%
11362   \fi
11363   \global\let\Hy@currentbookmarklevel\Hy@level
11364   \@tempcnta\Hy@level\relax
11365   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11366   \advance\@tempcnta by -1 %
11367   \edef\Hy@tempa{#3}%
11368   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11369   \ifx\Hy@tempa\Hy@tempb
11370     \Hy@Warning{%
11371       The anchor of a bookmark and its parent's must not%
11372       \MessageBreak be the same. Added a new anchor%
11373     }%
11374     \phantomsection
11375   \fi
11376   \ifHy@bookmarksnumbered
11377     \let\numberline\Hy@numberline
11378     \let\partnumberline\Hy@numberline
11379     \let\chapternumberline\Hy@numberline
11380   \else
11381     \let\numberline\@gobble
11382     \let\partnumberline\@gobble
11383     \let\chapternumberline\@gobble
11384   \fi
11385   \pdfstringdef\Hy@tempa{#2}%
11386   \if@filesw
11387     \protected@write\@outlinefile{}{%
11388       \protect\BOOKMARK
11389       [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11390       {\Hy@tempa}{\Hy@tempb}%
11391     }%
11392   \fi
11393   \fi
11394 \endgroup
11395 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

11396 \newcommand{\currentpdfbookmark}{%
11397   \pdfbookmark[\Hy@currentbookmarklevel]%
11398 }
11399 \newcommand{\subpdfbookmark}{%
11400   \@tempcnta\Hy@currentbookmarklevel
11401   \Hy@StepCount\@tempcnta
11402   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11403 }
11404 \newcommand{\belowpdfbookmark}[2]{%
11405   \@tempcnta\Hy@currentbookmarklevel
11406   \Hy@StepCount\@tempcnta
11407   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11408   \advance\@tempcnta by -1 %
11409   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11410 }

```

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.

```

11411 \renewcommand\pdfbookmark[3][0]{%
11412   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11413   \hyper@anchorstart{#3.#1}\hyper@anchorend
11414 }
11415 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
11416 \def\@BOOKMARK[#1]{\ifnextchar[{\@BOOKMARK[#1]}{\@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo pdf macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

11417 <*vtex>
11418 \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.

```

11419 \begingroup
11420   \catcode'\'=12 %
11421   \ifnum\Hy@VTeXversion<650 %
11422     \catcode'\=12 %
11423     \gdef\hv@pdf@char#1#2#3{%
11424       \char
11425       \ifcase'#1#2#3 %
11426         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11427         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11428         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11429         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11430         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11431         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11432         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11433         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11434         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11435         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11436         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11437         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11438         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11439         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11440         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11441         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11442         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11443         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11444         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11445         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11446         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11447         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11448         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11449         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11450         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11451         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11452         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11453         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11454         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11455         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11456         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

```

```

11457 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11458 \fi
11459 }%
11460 \else
11461 \gdef\hv@pdf@char{\char'}%
11462 \fi
11463 \endgroup

```

\@@BOOKMARK

```

11464 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11465 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11466 \edef\@mycount{\the\@serial@counter}%
11467 \Hy@StepCount\@serial@counter
11468 \edef\@parcount{%
11469 \expandafter\ifx\csname @count@#5\endcsname\relax
11470 0%
11471 \else
11472 \csname @count@#5\endcsname
11473 \fi
11474 }%
11475 \immediate\special{%
11476 !outline #3;p=\@parcount,i=\@mycount,%
11477 s=\ifx#2-c\else o\fi,t=#4%
11478 }%
11479 }%

```

\ReadBookmarks

```

11480 \def\ReadBookmarks{%
11481 \begingroup
11482 \def\0{\hv@pdf@char 0}%
11483 \def\1{\hv@pdf@char 1}%
11484 \def\2{\hv@pdf@char 2}%
11485 \def\3{\hv@pdf@char 3}%
11486 \def\({}%
11487 \def\)}%
11488 \def\do##1{%
11489 \ifnum\the\catcode'##1=\active
11490 \@makeother##1%
11491 \fi
11492 }%
11493 \dospecials
11494 \InputIfFileExists{\jobname.out}{\}{}%
11495 \endgroup
11496 \ifx\WriteBookmarks\relax
11497 \else
11498 \if@filesw
11499 \newwrite\@outlinefile
11500 \immediate\openout\@outlinefile=\jobname.out\relax
11501 \ifHy@typexml
11502 \immediate\write\@outlinefile{<relaxxml>\relax}%
11503 \fi
11504 \fi
11505 \fi
11506 }

11507 </vtex>
11508 <!*vtex>

```

```

11509 \def\ReadBookmarks{%
11510   \begingroup
11511   \escapechar='\'%
11512   \let\escapechar\@gobble %
11513   \def\@@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11514   \InputIfFileExists{\jobname.out}{-}{-}%
11515   \ifx\WriteBookmarks\relax
11516     \global\let\WriteBookmarks\relax
11517   \fi
11518   \def\@@BOOKMARK[##1][##2]##3##4##5{%
11519     \def\Hy@temp{##4}%
11520 \<pdfTex>
11521     \Hy@pstringdef\Hy@pstringName{##3}%
11522     \Hy@OutlineName{}\Hy@pstringName{%
11523       ##2\check@bm@number{##3}%
11524     }{%
11525       \expandafter\strip@prefix\meaning\Hy@temp
11526     }%
11527 \</pdfTex>
11528 \<pdfmark>
11529     \Hy@pstringdef\Hy@pstringName{##3}%
11530     \pdfmark{%
11531       pdfmark=/OUT,%
11532       Count={##2\check@bm@number{##3}},%
11533       Dest={\Hy@pstringName},%
11534       Title=\expandafter\strip@prefix\meaning\Hy@temp
11535     }%
11536 \</pdfmark>
11537 \<dvipdfm>
11538     \Hy@pstringdef\Hy@pstringName{##3}%
11539     \@pdfm@mark{%
11540       outline \ifHy@DvipdfmxOutlineOpen
11541         [%
11542           \ifnum##21>\z@
11543           \else
11544             -%
11545           \fi
11546         ] %
11547       \fi
11548       ##1<<%
11549       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11550       /A<<%
11551       /S/GoTo%
11552       /D(\Hy@pstringName)%
11553       >>%
11554     >>%
11555   }%
11556 \</dvipdfm>
11557 }%
11558 {%
11559   \def\WriteBookmarks{0}%
11560   \InputIfFileExists{\jobname.out}{-}{-}%
11561 }%
11562 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11563 \ifx\WriteBookmarks\relax
11564 \else
11565   \if@filesW

```

```

11566      \newwrite\@outlinefile
11567      \immediate\openout\@outlinefile=\jobname.out\relax
11568      \ifHy@typexml
11569        \immediate\write\@outlinefile{<relaxxml>\relax}%
11570      \fi
11571    \fi
11572  \fi
11573  \endgroup
11574 }
11575 < *pdftex >
11576 \def\Hy@OutlineName#1#2#3#4{%
11577   \pdfoutline goto name{#2}count#3{#4}%
11578 }
11579 < /pdftex >
11580 \def\check@bm@number#1{%
11581   \expandafter\ifx\csname B_#1\endcsname\relax
11582     0%
11583   \else
11584     \csname B_#1\endcsname
11585   \fi
11586 }
11587 \def\calc@bm@number#1{%
11588   \@tempcnta=\check@bm@number{#1}\relax
11589   \advance\@tempcnta by 1 %
11590   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11591 }
11592 < /!vtex >

11593 \ifHy@implicit
11594 \else
11595   \expandafter\endinput
11596 \fi

11597 < /outlines >
11598 < *outlines | hypertex >

11599 \let\H@old@ssect\@ssect
11600 \def\@ssect#1#2#3#4#5{%
11601   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11602   \phantomsection
11603 }
11604 \let\H@old@schapter\@schapter
11605 \def\@schapter#1{%
11606   \H@old@schapter{#1}%
11607   \begingroup
11608     \let\@mkboth\@gobbletwo
11609     \Hy@GlobalStepCount\Hy@linkcounter
11610     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11611     \Hy@raisedlink{%
11612       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11613     }%
11614   \endgroup
11615 }

```

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:

```

11616 \@ifundefined{@chapter}{-}{%
11617   \let\Hy@org@chapter\@chapter

```

```

11618 \def\@chapter{%
11619   \def\Hy@next{%
11620     \Hy@GlobalStepCount\Hy@linkcounter
11621     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11622     \Hy@raisedlink{%
11623       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11624     }%
11625   }%
11626   \ifnum\c@secnumdepth>\m@ne
11627     \@ifundefined{if@mainmatter}%
11628     \iftrue{\csname if@mainmatter\endcsname}%
11629     \let\Hy@next\relax
11630   \fi
11631 \fi
11632 \Hy@next
11633 \Hy@org@chapter
11634 }%
11635 }

11636 \let\H@old@part\@part
11637 \begingroup\expandafter\expandafter\expandafter\endgroup
11638 \expandafter\ifx\csname chapter\endcsname\relax
11639   \let\Hy@secnum@part\z@
11640 \else
11641   \let\Hy@secnum@part\m@ne
11642 \fi
11643 \def\@part{%
11644   \ifnum\Hy@secnum@part>\c@secnumdepth
11645     \phantomsection
11646   \fi
11647   \H@old@part
11648 }

11649 \let\H@old@spart\@spart
11650 \def\@spart#1{%
11651   \H@old@spart{#1}%
11652   \Hy@GlobalStepCount\Hy@linkcounter
11653   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11654   \Hy@raisedlink{%
11655     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11656   }%
11657 }

11658 \let\H@old@sect\@sect
11659 \def\@sect#1#2#3#4#5#6[#7]#8{%
11660   \ifnum #2>\c@secnumdepth
11661     \Hy@GlobalStepCount\Hy@linkcounter
11662     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11663   \fi
11664   \H@old@sect{#1}-{#2}-{#3}-{#4}-{#5}-{#6}[#{7}]{#8}%
11665   \ifnum #2>\c@secnumdepth
11666     \Hy@raisedlink{%
11667       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11668     }%
11669   \fi
11670 }

11671 </outlines | hypertex>
11672 <*outlines>

11673 \expandafter\def\csname Parent-4\endcsname{}

```

```

11674 \expandafter\def\csname Parent-3\endcsname{}
11675 \expandafter\def\csname Parent-2\endcsname{}
11676 \expandafter\def\csname Parent-1\endcsname{}
11677 \expandafter\def\csname Parent0\endcsname{}
11678 \expandafter\def\csname Parent1\endcsname{}
11679 \expandafter\def\csname Parent2\endcsname{}
11680 \expandafter\def\csname Parent3\endcsname{}
11681 \expandafter\def\csname Parent4\endcsname{}
11682 </outlines>

```

49 Compatibility with koma-script classes

```
11683 <(*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

11684 \def\Hy@tempa{%
11685   \def\@addchap[##1]##2{%
11686     \typeout{##2}%
11687     \if@twoside
11688       \mkboth{##1}{}%
11689     \else
11690       \mkboth{}{##1}%
11691     \fi
11692     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11693     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11694     \Hy@GlobalStepCount\Hy@linkcounter
11695     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11696     \Hy@raisedlink{%
11697       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11698     }%
11699     \if@twocolumn
11700       \topnewpage[\@makeschapterhead{##2}]%
11701     \else
11702       \@makeschapterhead{##2}%
11703       \@afterheading
11704     \fi
11705     \addcontentsline{toc}{chapter}{##1}%
11706   }%
11707 }
11708 \@ifclassloaded{scrbook}{%
11709   \@ifclasslater{scrbook}{2001/01/01}{%
11710     \let\Hy@tempa\@empty
11711   }{}%
11712 }{%
11713   \@ifclassloaded{scrreprt}{%
11714     \@ifclasslater{scrreprt}{2001/01/01}{%
11715       \let\Hy@tempa\@empty
11716     }{}%
11717   }{%
11718     \let\Hy@tempa\@empty
11719   }%
11720 }%
11721 \Hy@tempa
11722 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

50.1 PD1 encoding

```
11723 <*pd1enc>
11724 \DeclareFontEncoding{PD1}{-}{-}
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
11725 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
11726 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
11727 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
11728 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
11729 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed
```

Accents

```
11730 \DeclareTextAccent{\'}{PD1}{\textgrave}
11731 \DeclareTextAccent{\'}{PD1}{\textacute}
11732 \DeclareTextAccent{\`}{PD1}{\textcircumflex}
11733 \DeclareTextAccent{\~}{PD1}{\texttilde}
11734 \DeclareTextAccent{\"}{PD1}{\textdieresis}
11735 \DeclareTextAccent{\r}{PD1}{\textring}
11736 \DeclareTextAccent{\v}{PD1}{\textcaron}
11737 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11738 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11739 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textgrave}
11740 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11741 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textcircumflex}
11742 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11743 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
11744 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11745 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
11746 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11747 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11748 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
```

Accent glyph names

```
11749 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
11750 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
11751 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
11752 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
11753 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut
11754 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
11755 \DeclareTextCommand{\textring}{PD1}{\036} % ring
11756 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde
```

\040: space

\041: exclam

```
11757 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
11758 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
11759 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
11760 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
11761 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand
```

\047: quotesingle

```
11762 \DeclareTextCommand{\textparenleft}{PD1}{\string\({} % parenleft \050
11763 \DeclareTextCommand{\textparenright}{PD1}{\string\)} % parenright \051
```

\052: asterisk

\053: plus

\054: comma
\055: hyphen
\056: period
\057: slash
\060... \071: 0...9
\072: colon
\073: semicolon
11764 \DeclareTextCommand{\textless}{PD1}{<} % less \074
\075: equal
11765 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076
\077: question
\100: at
\101... \132: A...Z
\133: bracketleft
11766 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
\135: bracketright
11767 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
11768 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
11769 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
\141... \172: a...z
11770 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
11771 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
11772 \DeclareTextCommand{\textbar}{PD1}{|} % bar
11773 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
11774 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
No glyph \177 in PDFDocEncoding.
11775 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
11776 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
11777 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
11778 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
11779 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
11780 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
11781 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
11782 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
11783 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
11784 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
11785 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
11786 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
11787 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
11788 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
11789 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
11790 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
11791 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
11792 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
11793 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
11794 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
11795 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
11796 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
11797 \DeclareTextCommand{\OE}{PD1}{\226} % OE
11798 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
11799 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230} % Ydieresis
11800 \DeclareTextCommand{\IJ}{PD1}{\230}
11801 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231
11802 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
11803 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233


```

11804 \DeclareTextCommand{\oe}{PD1}{\234} % oe
11805 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
11806 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236} % zcaron, 236

```

No glyph \237 in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

```

11807 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
11808 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
11809 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
11810 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
11811 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
11812 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
11813 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
11814 \DeclareTextCommand{\textsection}{PD1}{\247} % section
11815 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
11816 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
11817 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
11818 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
11819 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11820 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
11821 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
11822 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
11823 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
11824 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
11825 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
11826 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
11827 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
11828 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
11829 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
11830 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
11831 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
11832 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
11833 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
11834 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
11835 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
11836 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
11837 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
11838 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
11839 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301} % Aacute
11840 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302} % Acircumflex
11841 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303} % Atilde
11842 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304} % Adieresis
11843 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
11844 \DeclareTextCommand{\AE}{PD1}{\306} % AE
11845 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
11846 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
11847 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311} % Eacute
11848 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312} % Ecircumflex
11849 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313} % Edieresis
11850 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
11851 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315} % Iacute
11852 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316} % Icircumflex
11853 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317} % Idieresis
11854 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
11855 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
11856 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321} % Ntilde
11857 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322} % Ograve

```

```

11858 \DeclareTextCompositeCommand{\'}{PD1}{0}{\323} % Oacute
11859 \DeclareTextCompositeCommand{\^}{PD1}{0}{\324} % Ocircumflex
11860 \DeclareTextCompositeCommand{\~}{PD1}{0}{\325} % Otilde
11861 \DeclareTextCompositeCommand{\"}{PD1}{0}{\326} % Odieresis
11862 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
11863 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
11864 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331} % Ugrave
11865 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
11866 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333} % Ucircumflex
11867 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
11868 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
11869 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
11870 \DeclareTextCommand{\ss}{PD1}{\337} % germanbls
11871 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340} % agrave
11872 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute
11873 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342} % acircumflex
11874 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
11875 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
11876 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
11877 \DeclareTextCommand{\ae}{PD1}{\346} % ae
11878 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
11879 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350} % egrave
11880 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
11881 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
11882 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
11883 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11884 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11885 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11886 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11887 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11888 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356} % icircumflex
11889 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11890 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11891 \DeclareTextCommand{\dh}{PD1}{\360} % eth
11892 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
11893 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362} % ograve
11894 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
11895 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
11896 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
11897 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
11898 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
11899 \DeclareTextCommand{\o}{PD1}{\370} % oslash
11900 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371} % ugrave
11901 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
11902 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
11903 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
11904 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
11905 \DeclareTextCommand{\th}{PD1}{\376} % thorn
11906 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
11907 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

11908 \DeclareTextCommand{\SS}{PD1}{SS}
11909 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

11910 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
11911 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
11912 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}

```

```

11913 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
11914 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
11915 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
11916 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
11917 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

11918 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
11919 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
11920 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
11921 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
11922 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
11923 \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;

```

11924 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
11925 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
11926 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
11927 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
11928 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
11929 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
11930 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
11931 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
11932 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
11933 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
11934 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
11935 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
11936 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
11937 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot

```

```

11938 </pdlenc>

```

50.2 PU encoding

```

11939 <*puenc>
11940 \DeclareFontEncoding{PU}{-}{-}

```

50.2.1 Basic Latin

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11941 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
11942 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
11943 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
11944 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
11945 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

11946 \DeclareTextAccent{\'}{PU}{\textgrave}
11947 \DeclareTextAccent{\'}{PU}{\textacute}
11948 \DeclareTextAccent{\^}{PU}{\textcircumflex}
11949 \DeclareTextAccent{\~}{PU}{\texttilde}
11950 \DeclareTextAccent{"}{PU}{\textdieresis}
11951 \DeclareTextAccent{\r}{PU}{\textring}
11952 \DeclareTextAccent{\v}{PU}{\textcaron}
11953 \DeclareTextAccent{\.}{PU}{\textdotaccent}
11954 \DeclareTextAccent{\c}{PU}{\textcedilla}
11955 \DeclareTextAccent{\U}{PU}{\textbreve}
11956 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
11957 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textgrave}
11958 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}

```

```

11959 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textcircumflex}
11960 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
11961 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
11962 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
11963 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
11964 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
11965 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
11966 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
11967 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
11968 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
11969 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
11970 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
11971 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

Accent glyph names
11972 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
11973 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
11974 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
11975 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
11976 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
11977 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
11978 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
11979 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
11980 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

11981 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
11982 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
11983 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
11984 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
11985 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

11986 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
11987 \DeclareTextCommand{\textparenright}{PU}{\80\051} % parenright

\052: asterisk
\053: plus
\054: comma
\055: hyphen
\056: period
\057: slash
\060... \071: 0...9
\072: colon
\073: semicolon

11988 \DeclareTextCommand{\textless}{PU}{<} % less \80\074
\075: equal

11989 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076
\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

11990 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash
\135: bracketright

11991 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum

```

```

11992 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
11993 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
\141...\172: a...z
11994 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
11995 \DeclareTextCommand{\j}{PU}{j} % jdotless
11996 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
11997 \DeclareTextCommand{\textbar}{PU}{|} % bar
11998 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
11999 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
No glyph \177 in PDFDocEncoding.

```

50.2.2 Latin-1 Supplement

```

12000 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
12001 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
12002 \DeclareTextCommand{\textfl}{PU}{fl} % fl ?? \80\224

```

There are two positions for the glyphs from \80\225 until \80\236. See the test files testbmoe., testbml, testbmisc, testbmzc, and testbmyi for details. Problematic are all positions, but especially \OE, \oe, and \i.

```

12003 \DeclareTextCommand{\OE}{PU}{OE} % OE
12004 \DeclareTextCommand{\oe}{PU}{oe} % oe

```

The euro \240 is inserted in version 1.3 of the pdf specification.

```

12005 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
12006 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
12007 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
12008 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
12009 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
12010 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
12011 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
12012 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
12013 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
12014 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
12015 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
12016 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

12017 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
12018 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
12019 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
12020 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
12021 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
12022 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
12023 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
12024 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
12025 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
12026 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
12027 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
12028 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
12029 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
12030 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
12031 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
12032 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
12033 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
12034 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
12035 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300} % Agrave
12036 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute

```

12037 \DeclareTextCompositeCommand{`}{PU}{A}{\80\302} % Acircumflex
12038 \DeclareTextCompositeCommand{~}{PU}{A}{\80\303} % Atilde
12039 \DeclareTextCompositeCommand{"}{PU}{A}{\80\304} % Adieresis
12040 \DeclareTextCompositeCommand{r}{PU}{A}{\80\305} % Aring
12041 \DeclareTextCommand{AE}{PU}{\80\306} % AE
12042 \DeclareTextCompositeCommand{c}{PU}{C}{\80\307} % Ccedilla
12043 \DeclareTextCompositeCommand{'}{PU}{E}{\80\310} % Egrave
12044 \DeclareTextCompositeCommand{'}{PU}{E}{\80\311} % Eacute
12045 \DeclareTextCompositeCommand{^}{PU}{E}{\80\312} % Ecircumflex
12046 \DeclareTextCompositeCommand{"}{PU}{E}{\80\313} % Edieresis
12047 \DeclareTextCompositeCommand{'}{PU}{I}{\80\314} % Igrave
12048 \DeclareTextCompositeCommand{'}{PU}{I}{\80\315} % Iacute
12049 \DeclareTextCompositeCommand{^}{PU}{I}{\80\316} % Icircumflex
12050 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317} % Idieresis
12051 \DeclareTextCommand{DH}{PU}{\80\320} % Eth
12052 \DeclareTextCompositeCommand{~}{PU}{N}{\80\321} % Ntilde
12053 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322} % Ograve
12054 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323} % Oacute
12055 \DeclareTextCompositeCommand{^}{PU}{O}{\80\324} % Ocircumflex
12056 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325} % Otilde
12057 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326} % Odieresis
12058 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
12059 \DeclareTextCommand{O}{PU}{\80\330} % Oslash
12060 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331} % Ugrave
12061 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332} % Uacute
12062 \DeclareTextCompositeCommand{^}{PU}{U}{\80\333} % Ucircumflex
12063 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334} % Udieresis
12064 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335} % Yacute
12065 \DeclareTextCommand{TH}{PU}{\80\336} % Thorn
12066 \DeclareTextCommand{ss}{PU}{\80\337} % germandbls
12067 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340} % agrave
12068 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341} % aacute
12069 \DeclareTextCompositeCommand{^}{PU}{a}{\80\342} % acircumflex
12070 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343} % atilde
12071 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344} % adieresis
12072 \DeclareTextCompositeCommand{r}{PU}{a}{\80\345} % aring
12073 \DeclareTextCommand{ae}{PU}{\80\346} % ae
12074 \DeclareTextCompositeCommand{c}{PU}{c}{\80\347} % ccedilla
12075 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350} % egrave
12076 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351} % eacute
12077 \DeclareTextCompositeCommand{^}{PU}{e}{\80\352} % ecircumflex
12078 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353} % edieresis
12079 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354} % igrave
12080 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354} % igrave
12081 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355} % iacute
12082 \DeclareTextCompositeCommand{^}{PU}{i}{\80\355} % iacute
12083 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356} % icircumflex
12084 \DeclareTextCompositeCommand{~}{PU}{i}{\80\356} % icircumflex
12085 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357} % idieresis
12086 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357} % idieresis
12087 \DeclareTextCommand{dh}{PU}{\80\360} % eth
12088 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361} % ntilde
12089 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362} % ograve
12090 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363} % oacute
12091 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364} % ocircumflex
12092 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365} % otilde
12093 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366} % odieresis

```

12094 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
12095 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
12096 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
12097 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
12098 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373} % ucircumflex
12099 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
12100 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
12101 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
12102 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
12103 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```

12104 \DeclareTextCommand{\SS}{PU}{SS}

```

Aliases (german.sty)

```

12105 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
12106 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
12107 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
12108 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
12109 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
12110 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
12111 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
12112 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

12113 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
12114 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
12115 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
12116 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
12117 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

50.2.3 Latin Extended-A

```

12118 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
12119 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
12120 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
12121 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
12122 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% Aogonek
12123 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% aogonek
12124 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% Cacute
12125 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% cacute
12126 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% Ccircumflex
12127 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% ccircumflex
12128 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% Cdot
12129 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% cdot
12130 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% Ccaron
12131 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% ccaron
12132 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% Dcaron
12133 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% dcaron
12134 \DeclareTextCommand{\DJ}{PU}{\81\020}% Dslash
12135 \DeclareTextCommand{\dj}{PU}{\81\021}% dslash
12136 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% Emacron
12137 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% emacron
12138 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% Ebreve
12139 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% ebreve
12140 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% Edot
12141 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% edot
12142 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% Eogonek
12143 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% eogonek
12144 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% Ecaron

```

```

12145 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
12146 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
12147 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % Gcircumflex
12148 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
12149 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
12150 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
12151 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
12152 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
12153 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
12154 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
12155 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % Hcircumflex
12156 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
12157 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
12158 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
12159 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12160 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12161 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
12162 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12163 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12164 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
12165 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12166 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12167 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
12168 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12169 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12170 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
12171 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
12172 % IJlig
12173 % ijlig
12174 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
12175 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12176 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12177 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
12178 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
12179 % kgreen
12180 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
12181 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
12182 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
12183 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
12184 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
12185 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
12186 % L middle dot
12187 % l middle dot
12188 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
12189 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
12190 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
12191 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
12192 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
12193 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
12194 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
12195 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
12196 % n apostrophe
12197 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
12198 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
12199 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron
12200 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
12201 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve

```



```

12202 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
12203 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
12204 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
12205 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
12206 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
12207 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
12208 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
12209 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
12210 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
12211 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
12212 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
12213 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
12214 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
12215 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex
12216 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135} % scircumflex
12217 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
12218 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
12219 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
12220 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
12221 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
12222 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
12223 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
12224 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
12225 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
12226 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
12227 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
12228 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
12229 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
12230 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
12231 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
12232 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
12233 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
12234 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
12235 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
12236 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
12237 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
12238 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
12239 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
12240 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
12241 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex
12242 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167} % ycircumflex
12243 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170} % Ydieresis
12244 \DeclareTextCommand{\IJ}{PU}{\81\170}
12245 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
12246 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
12247 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
12248 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
12249 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
12250 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

```

50.2.4 Latin Extended-B

```

12251 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
12252 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
12253 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
12254 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
12255 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12256 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron

```

```

12257 \DeclareTextCompositeCommand{\v}{PU}{0}{\81\321} % Ocaron
12258 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
12259 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
12260 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
12261 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
12262 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
12263 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
12264 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
12265 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
12266 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
12267 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
12268 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

```

50.2.5 Greek

```

12269 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
12270 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
12271 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
12272 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
12273 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
12274 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
12275 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
12276 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
12277 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
12278 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
12279 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
12280 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
12281 \DeclareTextCommand{\textBeta}{PU}{\83\222}
12282 \DeclareTextCommand{\textGamma}{PU}{\83\223}
12283 \DeclareTextCommand{\textDelta}{PU}{\83\224}
12284 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
12285 \DeclareTextCommand{\textZeta}{PU}{\83\226}
12286 \DeclareTextCommand{\textEta}{PU}{\83\227}
12287 \DeclareTextCommand{\textTheta}{PU}{\83\230}
12288 \DeclareTextCommand{\textIota}{PU}{\83\231}
12289 \DeclareTextCommand{\textKappa}{PU}{\83\232}
12290 \DeclareTextCommand{\textLambda}{PU}{\83\233}
12291 \DeclareTextCommand{\textMu}{PU}{\83\234}
12292 \DeclareTextCommand{\textNu}{PU}{\83\235}
12293 \DeclareTextCommand{\textXi}{PU}{\83\236}
12294 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
12295 \DeclareTextCommand{\textPi}{PU}{\83\240}
12296 \DeclareTextCommand{\textRho}{PU}{\83\241}
12297 \DeclareTextCommand{\textSigma}{PU}{\83\243}
12298 \DeclareTextCommand{\textTau}{PU}{\83\244}
12299 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
12300 \DeclareTextCommand{\textPhi}{PU}{\83\246}
12301 \DeclareTextCommand{\textChi}{PU}{\83\247}
12302 \DeclareTextCommand{\textPsi}{PU}{\83\250}
12303 \DeclareTextCommand{\textOmega}{PU}{\83\251}
12304 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}
12305 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}
12306 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
12307 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
12308 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
12309 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
12310 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
12311 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}

```

```

12312 \DeclareTextCommand{\textalpha}{PU}{\83\261}
12313 \DeclareTextCommand{\textbeta}{PU}{\83\262}
12314 \DeclareTextCommand{\textgamma}{PU}{\83\263}
12315 \DeclareTextCommand{\textdelta}{PU}{\83\264}
12316 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
12317 \DeclareTextCommand{\textzeta}{PU}{\83\266}
12318 \DeclareTextCommand{\texteta}{PU}{\83\267}
12319 \DeclareTextCommand{\texttheta}{PU}{\83\270}
12320 \DeclareTextCommand{\textiota}{PU}{\83\271}
12321 \DeclareTextCommand{\textkappa}{PU}{\83\272}
12322 \DeclareTextCommand{\textlambda}{PU}{\83\273}
12323 \DeclareTextCommand{\textmu}{PU}{\83\274}
12324 \DeclareTextCommand{\textnu}{PU}{\83\275}
12325 \DeclareTextCommand{\textxi}{PU}{\83\276}
12326 \DeclareTextCommand{\textomicron}{PU}{\83\277}
12327 \DeclareTextCommand{\textpi}{PU}{\83\300}
12328 \DeclareTextCommand{\textrho}{PU}{\83\301}
12329 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
12330 \DeclareTextCommand{\textsigma}{PU}{\83\303}
12331 \DeclareTextCommand{\texttau}{PU}{\83\304}
12332 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
12333 \DeclareTextCommand{\textphi}{PU}{\83\306}
12334 \DeclareTextCommand{\textchi}{PU}{\83\307}
12335 \DeclareTextCommand{\textpsi}{PU}{\83\310}
12336 \DeclareTextCommand{\textomega}{PU}{\83\311}
12337 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}
12338 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}
12339 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}
12340 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}
12341 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}
12342 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
12343 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
12344 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
12345 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
12346 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
12347 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
12348 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
12349 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
12350 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
12351 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}
12352 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}
12353 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
12354 %\DeclareTextCommand{\textvarrho}{PU}{\83\361}

```

50.2.6 Cyrillic

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

```

12355 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
12356 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}%
12357 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
12358 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% GJE
12359 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
12360 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
12361 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
12362 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
12363 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
12364 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE

```

12365 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
12366 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
12367 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
12368 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
12369 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
12370 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
12371 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
12372 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
12373 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
12374 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
12375 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
12376 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
12377 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
12378 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
12379 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
12380 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
12381 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
12382 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
12383 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
12384 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
12385 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
12386 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
12387 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
12388 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
12389 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
12390 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
12391 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
12392 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
12393 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
12394 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
12395 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
12396 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
12397 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
12398 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
12399 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
12400 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
12401 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
12402 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
12403 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
12404 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
12405 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
12406 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
12407 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
12408 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
12409 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
12410 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
12411 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
12412 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
12413 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
12414 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
12415 \DeclareTextCommand{\cyrl}{PU}{\84\073}% el
12416 \DeclareTextCommand{\cyrm}{PU}{\84\074}% em
12417 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
12418 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
12419 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
12420 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
12421 \DeclareTextCommand{\cyrs}{PU}{\84\101}% es

12422 \DeclareTextCommand{\cyr t}{PU}{\84\102}% te
12423 \DeclareTextCommand{\cyr u}{PU}{\84\103}% u
12424 \DeclareTextCommand{\cyr f}{PU}{\84\104}% ef
12425 \DeclareTextCommand{\cyr h}{PU}{\84\105}% ha
12426 \DeclareTextCommand{\cyr c}{PU}{\84\106}% tse
12427 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% che
12428 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% sha
12429 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% shcha
12430 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% hard sign
12431 \DeclareTextCommand{\cyr rery}{PU}{\84\113}% yeru
12432 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% soft sign
12433 \DeclareTextCommand{\cyr rerev}{PU}{\84\115}% e
12434 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% yu
12435 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% ya
12436 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% io
12437 \DeclareTextCompositeCommand{\ "}{PU}{\cyr e}{\84\121}%
12438 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% dje
12439 \DeclareTextCompositeCommand{\ '}{PU}{\cyr g}{\84\123}% gje
12440 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% ukrainian ie
12441 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% dze
12442 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% byelorussian-ukrainian i
12443 \DeclareTextCommand{\cyr yi}{PU}{\84\127}% yi
12444 \DeclareTextCommand{\cyr je}{PU}{\84\130}% je
12445 \DeclareTextCommand{\cyr lje}{PU}{\84\131}% lje
12446 \DeclareTextCommand{\cyr nje}{PU}{\84\132}% nje
12447 \DeclareTextCommand{\cyr tshe}{PU}{\84\133}% tshe
12448 \DeclareTextCompositeCommand{\ '}{PU}{\cyr k}{\84\134}% kje
12449 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% short u
12450 \DeclareTextCommand{\cyr dzhe}{PU}{\84\137}% dzhe
12451 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
12452 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
12453 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
12454 \DeclareTextCommand{\cyryat}{PU}{\84\143}% yat
12455 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
12456 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
12457 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
12458 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% little yus
12459 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
12460 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% iotified little yus
12461 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS
12462 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% big yus
12463 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
12464 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% iotified big yus
12465 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
12466 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% ksi
12467 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
12468 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% psi
12469 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
12470 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% fita
12471 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
12472 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% izhitsa
12473 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
12474 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% izhitsa double grave
12475 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
12476 \DeclareTextCommand{\cyruk}{PU}{\84\171}% uk
12477 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
12478 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega

12479 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
12480 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
12481 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
12482 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
12483 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
12484 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
12485 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
12486 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
12487 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
12488 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
12489 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
12490 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
12491 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
12492 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
12493 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
12494 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
12495 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
12496 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
12497 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
12498 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
12499 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
12500 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
12501 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% ka descender
12502 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
12503 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
12504 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
12505 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% ka stroke
12506 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
12507 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
12508 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
12509 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
12510 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
12511 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
12512 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
12513 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
12514 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
12515 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
12516 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
12517 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
12518 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
12519 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% te descender
12520 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
12521 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
12522 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
12523 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% straight u stroke
12524 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
12525 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
12526 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
12527 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% ligature te tse
12528 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
12529 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
12530 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
12531 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke
12532 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
12533 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
12534 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
12535 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che

```

12536 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
12537 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
12538 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
12539 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
12540 \DeclareTextCompositeCommand{\U}{PU}{\cyrgyz}{\84\302}% zhe breve
12541 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
12542 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% ka hook
12543 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
12544 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% en hook
12545 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
12546 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
12547 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
12548 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
12549 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% A diaeresis
12550 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% a diaeresis
12551 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
12552 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
12553 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
12554 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
12555 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
12556 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% schwa
12557 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
12558 \DeclareTextCompositeCommand{\"}{PU}{\cyrswa}{\84\333}% schwa diaeresis
12559 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
12560 \DeclareTextCompositeCommand{\"}{PU}{\cyrgyz}{\84\335}% zhe diaeresis
12561 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
12562 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% ze diaeresis
12563 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
12564 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
12565 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% I macron
12566 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% i macron
12567 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% I diaeresis
12568 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% i diaeresis
12569 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% O diaeresis
12570 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% o diaeresis
12571 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
12572 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
12573 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
12574 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
12575 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U macron
12576 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% u macron
12577 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U diaeresis
12578 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% u diaeresis
12579 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
12580 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
12581 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
12582 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% che diaeresis
12583 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
12584 \DeclareTextCompositeCommand{\"}{PU}{\cyrery}{\84\371}% yeru diaeresis

```

50.2.7 Symbols

```

12585 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
12586 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
12587 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030} % quoteleft
12588 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
12589 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase

```

```

12590 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
12591 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
12592 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
12593 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
12594 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
12595 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
12596 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
12597 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
12598 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
12599 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
12600 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
12601 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
12602 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160} % superscript zero
12603 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164} % superscript four
12604 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165} % superscript five
12605 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166} % superscript six
12606 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167} % superscript seven
12607 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170} % superscript eight
12608 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171} % superscript nine
12609 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200} % subscript zero
12610 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201} % subscript one
12611 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202} % subscript two
12612 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203} % subscript three
12613 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204} % subscript four
12614 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205} % subscript five
12615 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206} % subscript six
12616 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207} % subscript seven
12617 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210} % subscript eight
12618 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211} % subscript nine
12619 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
12620 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
12621 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
12622 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
12623 % \DeclareTextCommand{\cyrrangle}{PU}{\9043\051}
12624 % \DeclareTextCommand{\cyrangle}{PU}{\9043\052}

12625 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

12626 <*puvnenc>

12627 \DeclareTextCommand{\abreve}{PU}{\81\003}
12628 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
12629 \DeclareTextCommand{\dj}{PU}{\81\021}
12630 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
12631 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
12632 \DeclareTextCommand{\ohorn}{PU}{\81\241}
12633 \DeclareTextCommand{\uhorn}{PU}{\81\260}
12634 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
12635 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
12636 \DeclareTextCommand{\DJ}{PU}{\81\020}
12637 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
12638 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
12639 \DeclareTextCommand{\OHORN}{PU}{\81\240}
12640 \DeclareTextCommand{\UHORN}{PU}{\81\257}

12641 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}

```


12642 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
12643 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
12644 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
12645 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
12646 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
12647 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
12648 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
12649 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
12650 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
12651 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
12652 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
12653 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
12654 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
12655 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
12656 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
12657 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
12658 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
12659 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
12660 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
12661 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
12662 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
12663 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
12664 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
12665 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
12666 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
12667 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
12668 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
12669 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
12670 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
12671 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
12672 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
12673 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
12674 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
12675 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
12676 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
12677 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
12678 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
12679 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
12680 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
12681 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
12682 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
12683 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
12684 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
12685 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
12686 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
12687 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
12688 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
12689 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
12690 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
12691 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
12692 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
12693 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
12694 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
12695 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
12696 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
12697 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
12698 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}

12699 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
12700 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
12701 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
12702 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
12703 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
12704 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
12705 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
12706 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
12707 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
12708 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
12709 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
12710 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
12711 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
12712 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
12713 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
12714 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
12715 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
12716 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
12717 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
12718 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
12719 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
12720 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
12721 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
12722 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
12723 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
12724 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
12725 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
12726 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
12727 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
12728 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
12729 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
12730 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
12731 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
12732 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
12733 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
12734 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
12735 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
12736 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
12737 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
12738 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
12739 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
12740 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
12741 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
12742 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
12743 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
12744 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
12745 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
12746 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
12747 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
12748 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
12749 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
12750 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
12751 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
12752 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
12753 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
12754 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
12755 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}

```

12756 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
12757 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
12758 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
12759 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
12760 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
12761 </puvnc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

12762 <*puarenc>
12763 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
12764 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
12765 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
12766 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
12767 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA ABOVE
12768 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
12769 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
12770 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
12771 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
12772 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
12773 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
12774 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
12775 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
12776 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
12777 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
12778 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
12779 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
12780 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
12781 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
12782 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
12783 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
12784 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
12785 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
12786 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
12787 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
12788 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
12789 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
12790 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
12791 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
12792 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
12793 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
12794 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
12795 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
12796 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
12797 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
12798 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
12799 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
12800 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
12801 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
12802 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
12803 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
12804 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
12805 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
12806 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
12807 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

```

Farsi

```
12808 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
12809 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
12810 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
12811 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
12812 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
12813 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

12814 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
12815 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

12816 \</puarenc>
```

51 End of file hycheck.tex

```
12817 \< *check>
12818 \typeout{}
12819 \begin{document}
12820 \end{document}
12821 \< /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 | 12691, 12696, 12701, 12706, 12711, 12716, 12721, 12726, 12731, 12736, 12741, 12746, 12751, 12756 | \@Form . . . 4089, 8070, 9750, 10145, 10166, 10318, <u>10645</u> |
| \" | 202, 227, 2346, 11422, 11734, 11743, 11799, 11842, 11849, 11853, 11861, 11867, 11875, 11882, 11889, 11890, 11897, 11903, 11906, 11950, 11961, 12039, 12046, 12050, 12057, 12063, 12071, 12078, 12085, 12086, 12093, 12099, 12102, 12243, 12304, 12305, 12311, 12337, 12338, 12356, 12437, 12549, 12550, 12557, 12558, 12559, 12560, 12561, 12562, 12567, 12568, 12569, 12570, 12573, 12574, 12577, 12578, 12581, 12582, 12583, 12584 | \(. 190, 215, 586, 589, 591, 11486, 11762 \) . 191, 216, 558, 564, 567, 11487, 11763 \+ 200, 225 \- 201, 226 \. . 198, 223, 11737, 11746, 11770, 11930, 11937, 11953, 11964, 11994, 12128, 12129, 12140, 12141, 12150, 12151, 12170, 12247, 12248 \/ 194, 219, 502, 503, 504, 569, 1243 \: 189, 214 \; 199, 224, 6326 \< 196, 221 \= 167, 173, 180, 183, 11968, 12118, 12119, 12136, 12137, 12161, 12162, 12163, 12199, 12200, 12229, 12230, 12565, 12566, 12575, 12576 > 197, 222 \@ 2337 \@@@ 1677 \@BOOKMARK 11415, 11416, <u>11464</u> , 11513, 11518 \@ListBox . 10026, 10046, 10438, 10466, 10784, <u>10817</u> \@Menu 10234, 10242 \@PasswordField . 10183, 10189 \@Radio . . . 10011, 10032, 10232, 10256, 10423, 10444, 10769, <u>10790</u> \@TextField 10185, 10200 \@commahyperpage . . 6138, 6139 \@hyperref 3455, 3456 \@latextohtmlX 2182, 3631 \@windex 6100, 6101 \@writetorep 11335, 11341 \@Alph 4996, 4997, 5000, 5001 \@Alph@bul 5000 \@BIBLABEL 5603, 5609, 5615 \@BOOKMARK 11415, 11416 \@CITE 5680, 5688 \@CITEX 5682 \@CheckBox . . . 4286, 8078, 10123, 10153, 10287, 10549, <u>10920</u> \@ChoiceMenu . . 4283, 8081, <u>9963</u> , 10156, 10222, 10374, 10720 | \@Gauge . 4292, 8072, 9932, 10147, 10171, 10308, <u>10642</u> \@Localurlfalse 8027 \@Localurltrue 8024 \@M 795, 1716 \@MM 5393 \@PushButton . . 4289, 8084, 10053, 10159, 10268, 10474, <u>10831</u> \@Refstar 6438, 6445 \@Reset . 4298, 8087, 10099, 10162, 10284, 10525, <u>10890</u> \@Roman 464 \@SCTR 6185, 6237 \@SetMaxRnhefLabel 5677 \@Submit 4295, 8090, 10081, 10163, 10281, 10503, <u>10866</u> \@TextField . . 4280, 8075, 9935, 10150, 10174, 10346, <u>10683</u> \@addchap 11685 \@addtoreset . . 6017, 6018, 6032, 6182 \@afterheading 11703 \@alph 5003, 5004 \@alph@bul 5003 \@anchorcolor . 7312, 7394, 8134, 9403, 9661 \@arabic 765, 770, 774, 4997, 5001, 5004 \@auxout . 1671, 3490, 4488, 4490, 5057, 5085, 5623, 5638, 5654, 5664, 5694, 5717, 5743, 5749, 5773 \@backslashchar 1403, 3369, 6643, 6653 \@baseurl 2620, 2622, 3583, 7057, 7060, 7299, 7301, 7537, 7539, 7958, 7968, 7996, 7998, 8478, 8480, 8818, 8832, 9390, 9392, 9569, 9583, 9649, 9651 \@bibitem 5630, 5661 \@biblabel 5603, 5650 \@bookmarkopenstatus 3234, 3251, 11389 \@bookmarksopenlevel 2583, 2585, 3237 \@bsphack 1664, 3488, 5747 \@capstartfalse 5505 \@caption 5474, 5486, 5520, 5554, 5556 |
| \# | 403, 1501, 1502, 3348, 3358, 3360, 3374, 3406, 3421, 3491, 6628, 6630, 7339, 7348, 7375, 8020, 9430, 9439, 9466, 9687, 9696, 9722 | | |
| \\$ | 184, 209, 404, 3350, 3420 | | |
| \% | 405, 1476, 1477, 3347, 3355, 3357, 3407, 6630 | | |
| \& | 185, 210, 406, 3361, 9476 | | |
| \' | 203, 228, 2286, 2300, 2341, 2343, 2344, 2345, 2346, 2351, 2352, 2354, 2359, 2365, 2369, 2370, 2373, 2416, 2417, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2431, 2435, 2448, 11420, 11731, 11740, 11839, 11847, 11851, 11858, 11865, 11868, 11872, 11880, 11885, 11886, 11894, 11901, 11904, 11925, 11927, 11928, 11929, 11932, 11934, 11935, 11936, 11947, 11958, 12036, 12044, 12048, 12054, 12061, 12064, 12068, 12076, 12081, 12082, 12090, 12097, 12100, 12124, 12125, 12180, 12181, 12190, 12191, 12207, 12208, 12213, 12214, 12245, 12246, 12271, 12272, 12273, 12274, 12275, 12276, 12277, 12279, 12306, 12307, 12308, 12309, 12339, 12340, 12341, 12358, 12367, 12439, 12448, 12641, 12646, 12651, 12656, 12661, 12666, 12671, 12676, 12681, 12686, | | |

| | | |
|---|--|--|
| <code>\@capttype</code> 1673, 5469, 5473, 5477, 5484, 5491, 5524, 5547, 5551, 5554 | <code>\@ehd</code> 63, 5470, 5548 | 2932, 3987, 4457, 4465, 4473, 4477, 6490, 11608 |
| <code>\@car</code> 1027, 1043, 1061, 1081, 2562, 3707, 7009, 7020 | <code>\@endForm</code> 4090, 8071, 9931, 10146, 10170, 10345, 10669 | <code>\@harvarditem</code> 5762, 5764 |
| <code>\@cdr</code> 7010, 7021 | <code>\@eqncr</code> 5217 | <code>\@hyper@anchor</code> 3592, 3593 |
| <code>\@chapter</code> 11617, 11618 | <code>\@eqnstarfalse</code> 5193, 5220 | <code>\@hyper@itemfalse</code> .. 4913, 4929, 4943 |
| <code>\@cite</code> 5680, 5711, 5808, 5814 | <code>\@eqnstartrue</code> 5217 | <code>\@hyper@itemtrue</code> 4914 |
| <code>\@cite@opt</code> 5809, 5815, 5819, 5829 | <code>\@eqnswtrue</code> 5163, 5172 | <code>\@hyper@launch</code> 3553, 3562, 6950, 8261, 9140 |
| <code>\@citea</code> .. 5683, 5690, 5691, 5710, 5713, 5714 | <code>\@esphack</code> . 1685, 3493, 5757, 6123 | <code>\@hyper@linkfile</code> ... 3534, 3537, 3541, 3573 |
| <code>\@citeb</code> .. 5689, 5692, 5694, 5696, 5700, 5703, 5712, 5715, 5717, 5719, 5723, 5726 | <code>\@extra@b@citeb</code> 5588, 5591, 5608, 5613, 5633, 5681, 5703, 5719, 5726 | <code>\@hyper@readexternallink</code> 3528, 3532 |
| <code>\@citebordercolor</code> 2862 | <code>\@extra@binfo</code> .. 5587, 5590, 5594 | <code>\@hyperdef</code> 3463, 3464 |
| <code>\@citedata@opt</code> . 5810, 5816, 5818 | <code>\@fifthoffive</code> . 2940, 3308, 3482, 6392, 6507 | <code>\@hyperpage</code> 6130, 6131 |
| <code>\@citedatax</code> 5825, 5830 | <code>\@filebordercolor</code> .. 2860, 6926, 6928, 7830, 7832, 8204, 8206, 9128 | <code>\@hyperref</code> 3444, 3455 |
| <code>\@citedatax@opt</code> 5822, 5828 | <code>\@filecolor</code> .. 2612, 6946, 7489, 7501, 7842, 8210 | <code>\@ifclasslater</code> ... 11709, 11714 |
| <code>\@citeseppen</code> 5807, 5813 | <code>\@firstoffive</code> . 3304, 3313, 6431, 6512 | <code>\@ifclassloaded</code> 1656, 4808, 5029, 5066, 5672, 6166, 6170, 7222, 11708, 11713 |
| <code>\@citex</code> 5709 | <code>\@firstofone</code> 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 456, 875, 879, 883, 2782, 3236, 4056, 4062, 4883, 4994, 5007, 5044, 5482, 5552, 5692, 5715, 5841, 5898, 7217, 11000, 11017, 11034 | <code>\@ifnextchar</code> 12, 88, 103, 123, 506, 507, 1138, 3414, 3444, 3463, 3501, 4089, 4280, 4283, 4286, 4289, 4292, 4295, 4298, 4477, 4533, 4542, 5416, 5434, 5762, 5820, 8843, 9066, 9080, 11415, 11416 |
| <code>\@commahyperpage</code> ... 6133, 6138 | <code>\@firstoftwo</code> . 473, 639, 757, 1159, 4466 | <code>\@ifpackagelater</code> ... 1687, 3004, 6042 |
| <code>\@currDisplay</code> . 4143, 9975, 10037, 10251, 10265, 10386, 10449, 10732, 10796 | <code>\@footnotemark</code> 5277, 5323, 5412, 5414, 5426, 5427, 5457, 5459 | <code>\@ifpackageloaded</code> .. 359, 1659, 2048, 2919, 3003, 3092, 4951, 5021, 5032, 5094, 5113, 5117, 5125, 5159, 5273, 5340, 5385, 5521, 5732, 5805, 5887, 5891, 5985, 6041, 6077, 6078, 6175, 6437, 6579, 6583, 9641 |
| <code>\@currValue</code> .. 4145, 4147, 10041, 10251, 10262, 10456, 10807, 11215 | <code>\@footnotetext</code> 5276, 5283, 5308, 5413, 5415, 5429, 5430, 5450 | <code>\@ifpackagewith</code> 2920, 6009 |
| <code>\@currentHlabel</code> 5008, 5010, 5013, 5134, 5145, 5316, 5327, 5330, 5332, 5377, 5404 | <code>\@for</code> 2639, 3697, 5689, 5712, 9972, 10034, 10240, 10247, 10257, 10383, 10446, 10729, 10793 | <code>\@ifstar</code> ... 66, 3324, 3326, 6445, 6471, 6490 |
| <code>\@currentHref</code> 1679, 4388, 4967, 5012, 5017, 5097, 5100, 5135, 5146, 5148, 5187, 5198, 5202, 5209, 5233, 5317, 5328, 5331, 5333, 5378, 5405, 5489, 5511, 5513, 5525, 5527, 5752, 5899, 5922, 5931, 5937, 5988, 5989, 6013, 6014, 11324, 11325, 11610, 11612, 11621, 11623, 11653, 11655, 11662, 11667, 11695, 11697 | <code>\@fourthoffive</code> 3307, 3483, 6502, 6509 | <code>\@ifundefined</code> 34, 240, 457, 497, 570, 605, 624, 629, 642, 645, 663, 669, 675, 680, 685, 692, 698, 704, 709, 715, 720, 730, 736, 742, 748, 997, 1091, 1092, 1660, 1693, 1797, 1916, 1981, 2061, 2506, 2514, 2521, 2534, 2560, 2881, 2895, 2997, 2998, 2999, 3796, 4115, 4570, 4893, 4955, 4960, 4981, 4995, 5119, 5128, 5182, 5204, 5222, 5228, 5265, 5475, 5586, 5597, 5680, 5696, 5719, 5982, 6022, 6030, 6031, 6044, 6045, 6052, 6479, 6480, 6524, 6525, 6527, 6528, 6683, 6865, 6874, 7245, 8101, 8155, 8234, 8542, 8543, 8585, 8615, 8702, 8864, |
| <code>\@currentlabel</code> 5396, 5745, 5752, 5994, 6001, 6191, 6243 | <code>\@gobble</code> 49, 56, 117, 454, 476, 477, 478, 487, 646, 781, 785, 788, 965, 978, 982, 1044, 1107, 1108, 1115, 1120, 1134, 1139, 1143, 1706, 1942, 1954, 2770, 2928, 2930, 2982, 3338, 4041, 4433, 4437, 4453, 4455, 4470, 4471, 4472, 4474, 4475, 4477, 4862, 4877, 4881, 5471, 5549, 5897, 6566, 7219, 8358, 8361, 10319, 10646, 11381, 11382, 11383, 11512 | |
| <code>\@currentlabelname</code> . 1669, 5318, 5379, 5406, 5493 | <code>\@gobblefour</code> .. 510, 891, 892, 893, 6306 | |
| <code>\@currentlabstr</code> 1668, 1676 | <code>\@gobbleopt</code> 4477, 4479 | |
| <code>\@curropt</code> 9972, 9973, 10034, 10035, 10240, 10247, 10248, 10250, 10257, 10258, 10260, 10383, 10384, 10446, 10447, 10729, 10730, 10793, 10794 | <code>\@gobbletwo</code> 480, 505, 511, 512, 890, 1062, 1139, 1143, 1147, 1820, | |
| <code>\@dblarg</code> 1769, 5484, 5554 | | |
| <code>\@definecounter</code> 5973, 5974 | | |
| <code>\@ehc</code> 1996, 2980, 3547, 3801, 3925, 4120, 4235, 4271, 10063, 10111, 10485, 10537, 10842, 10902 | | |

| | | |
|---|--|---|
| 10319, 10646, 11009, 11616, 11627 | 4723, 4740, 4788, 4790, 5129, 5139, 5141, 5154, 6149, 6152, 6162, 6371, 6374, 6526, 6556, 6639, 6645, 6649, 6655, 7009, 7010, 7020, 7021, 8324, 8325, 11007, 11020, 11025 | 7700, 7714, 7716, 7721, 7722, 7749, 7771, 7773, 7778, 7795, 7815, 7824, 7843, 7848, 7865, 7869, 7886, 7899, 7959, 7986, 10648, 10649, 10650, 10667, 10710, 10716, 10802, 10812, 10823, 10829, 10855, 10862, 10881, 10887, 10910, 10916, 10937, 10943, 10947, 10979, 10987, 11539 |
| \@indexfile ... 6104, 6112, 6116 | \@nbreakfalse 4524 | \@pdfmoddate .. 2763, 2869, 7123, 7125, 7517, 7519, 7908, 7910, 8733, 8737, 9498, 9500 |
| \@inmathwarn 397, 398 | \@nocnterr 6031, 6045 | \@pdfnonfullscreenpagemode .. 7079, 7574, 7937, 8489, 8797, 9548 |
| \@inpenc@undefined@ 1531 | \@nocounterr 6030, 6044 | \@pdfnumcopies 7095, 7097, 7590, 7592, 7953, 7955, 8505, 8507, 8813, 8815, 9564, 9566 |
| \@latex@ 4564, 4565 | \@number 4994, 5044, 5841 | \@pdfpageduration .. 2628, 7167, 7170, 7175, 8414, 8416, 8419, 8665, 8667, 8675 |
| \@latex@error . 2129, 2147, 2157, 2164, 5470, 5548 | \@onx 6034, 6048, 6051, 6053 | \@pdfpagelayout 7105, 7602, 7977, 8510, 8512, 8827, 9578 |
| \@latex@warning 3477, 5699, 5722, 6367, 6387, 6404, 6518 | \@onelevel@sanitize 1813, 1817, 2030, 2561, 2957, 2987, 3008, 3010, 3797, 4034, 4116, 4750, 4752, 5927, 6417, 7654 | \@pdfpagemode . 3080, 3081, 3247, 3248, 3257, 3258, 7059, 7558, 7972, 8477, 8781, 9532 |
| \@lbibitem 5604, 5649 | \@outlinefile 11387, 11499, 11500, 11502, 11566, 11567, 11569 | \@pdfpagescrop 2803, 2872, 7044, 7048, 7541, 7542, 7563, 7565, 7984, 7986, 8466, 8468, 8786, 8788, 9537, 9539 |
| \@linkbordercolor .. 2857, 6882, 8125 | \@pagerefstar .. 3326, 6433, 6461 | \@pdfpagetransition 2626, 7143, 7147, 7152, 8305, 8307, 8309, 8648, 8650, 8658 |
| \@linkcolor 8865 | \@pagesetref 6383 | \@pdfpicktraybypdfsize .. 7087, 7089, 7582, 7584, 7945, 7947, 8497, 8499, 8805, 8807, 9556, 9558 |
| \@linkdim . 326, 7354, 7355, 7360, 7361, 7362, 7422, 7423, 7432, 7433, 7434, 7451, 7452, 7461, 7462, 7463, 7481, 7482, 7491, 7492, 7493, 9445, 9446, 9451, 9452, 9453, 9702, 9703, 9709, 9710, 9711 | \@parboxrestore 5395, 5498, 5561 | \@pdfprintarea 7083, 7578, 7941, 8493, 8801, 9552 |
| \@listctr 5639, 5665 | \@parcount 11468, 11476 | \@pdfprintclip 7084, 7579, 7942, 8494, 8802, 9553 |
| \@m 778, 5691, 5714, 8405 | \@part 11636, 11643 | \@pdfprintpagerange 2739, 2875, 7091, 7093, 7586, 7588, 7949, 7951, 8501, 8503, 8809, 8811, 9560, 9562 |
| \@mainaux . 4486, 4487, 4845, 4853 | \@pdfauthor .. 2751, 2865, 7115, 7521, 7912, 8517, 8754, 9502 | \@pdfprintscaling .. 7085, 7580, 7943, 8495, 8803, 9554 |
| \@makecaption .. 5506, 5508, 5566 | \@pdfborder .. 2186, 2665, 2668, 2670, 3278, 6832, 7670, 8123, 8629, 8716, 9058, 9070, 9085, 9106, 9125, 9150, 9178, 9253, 9341, 9481 | \@pdfproducer . 2752, 2866, 6985, 7127, 7129, 7505, 7506, 7522, 7524, 7889, 7890, 7894, 7913, 7915, 8434, 8435, 8439, 8442, 8443, 8521, 8523, 8740, 8744, 9175, 9176, 9246, 9248, 9250, 9338, 9339, 9486, 9487, 9503, 9505 |
| \@makefnmark 5335, 5462 | \@pdfborderstyle ... 2666, 2672, 2674, 3279, 6833, 7671, 8124, 8630, 8717, 9059, 9071, 9086, 9107, 9126, 9151, 9179, 9254, 9342, 9482 | \@pdfstartpage 2791, 2793, 2874, |
| \@makefntext 5397 | \@pdfcreationdate .. 2757, 2868, 7119, 7121, 7513, 7515, 7904, 7906, 8729, 8731, 9494, 9496 | |
| \@makeoother .. 166, 167, 179, 180, 182, 183, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 3361, 6615, 11490 | \@pdfcreator .. 2753, 2867, 7118, 7512, 7903, 8520, 8753, 9493 | |
| \@makeschapterhead 11700, 11702 | \@pdfdirection 7080, 7575, 7938, 8490, 8798, 9549 | |
| \@menubordercolor .. 2859, 7277, 7279, 7879, 7881, 8292, 8294 | \@pdfduplex .. 7086, 7581, 7944, 8496, 8804, 9555 | |
| \@menucolor ... 7290, 7885, 8298 | \@pdfhighlight 2658, 2863, 6846, 6848, 6893, 6922, 6924, 6958, 6960, 7273, 7275, 8628, 8715, 9057, 9105, 9124, 9149 | |
| \@mkboth 480, 6288, 11608, 11688, 11690 | \@pdfhightlight 6891 | |
| \@mpfn 5280, 5435, 5447 | \@pdfkeywords . 2767, 2871, 7131, 7510, 7917, 8525, 8755, 9491 | |
| \@mpfootnotetext ... 5283, 5296, 5297 | \@pdflang 2849, 2876, 7106, 7108, 7603, 7605, 7978, 7980, 8828, 8830, 9579, 9581 | |
| \@mycount 11466, 11476 | \@pdfm@dest ... 7617, 7673, 7677 | |
| \@namedef 2071, 2072, 2073, 2074, 2075, 2076, 3807, 3808, 3809, 3810, 4131, 4132, 5030, 5216, 5219, 5737, 5738, 5739, 5740 | \@pdfm@mark 4833, 7616, 7665, 7684, 7698, | |
| \@nameuse . 1673, 2068, 3813, 4123 | | |
| \@ne .. 764, 2015, 2108, 8457, 9247, 10678 | | |
| \@newctr 5978, 5979 | | |
| \@newl@bel 4527, 5590 | | |
| \@nil 345, 349, 354, 358, 373, 1027, 1045, 1063, 1079, 1081, 1084, 1087, 1090, 1540, 1542, 1558, 1560, 2562, 3391, 3395, 3400, 3707, 4552, 4555, 4562, 4564, 4565, 4650, 4697, 4698, 4700, | | |

| | | |
|---|---|---|
| 7065, 7069, 7545, 7550, 7961, 7965, 8470, 8474, 8768, 8773, 9519, 9524 | \@startlos 6300, 6307, 6356 | \@wrindex 6083, 6084, 6100 |
| \@pdfstartview 2798, 2800, 2873, 6939, 7067, 7069, 7547, 7551, 7837, 7963, 7965, 8472, 8770, 8774, 9134, 9521, 9525 | \@starttoc 4512 | \@writefile 5750 |
| \@pdfsubject . . 2766, 2870, 7117, 7526, 7902, 8519, 8752, 9507 | \@tempa . . . 5342, 5346, 5349, 5365 | \@x@sf 5325, 5337, 5461, 5463 |
| \@pdftempa 3539, 3540, 3543 | \@tempb 5245, 5249 | \@xfootnote 5434 |
| \@pdftempwordfile . . 3530, 3540 | \@tempboxa 7353, 7354, 7360, 7419, 7422, 7425, 7426, 7432, 7437, 7438, 7449, 7451, 7454, 7455, 7461, 7466, 7467, 7479, 7481, 7484, 7485, 7491, 7496, 7497, 9444, 9445, 9451, 9701, 9702, 9709 | \@xfootnotemark 5289, 5452 |
| \@pdftempwordrun . . 3531, 3543 | \@tempcnta . 11347, 11348, 11349, 11350, 11351, 11353, 11356, 11357, 11358, 11364, 11366, 11368, 11400, 11401, 11402, 11405, 11406, 11407, 11408, 11409, 11588, 11589, 11590 | \@xfootnotenext 5278, 5445 |
| \@pdftitle 2750, 2864, 7116, 7511, 7901, 8518, 8751, 9492 | \@tempdima . . . 1719, 4320, 4321, 4322, 4323, 4324, 4325, 4326, 4327, 6811, 9971, 9976, 9978, 10015, 10016, 10017, 10021, 10022, 10023, 10024, 10382, 10387, 10389, 10427, 10428, 10429, 10433, 10434, 10435, 10436, 10728, 10733, 10735, 10773, 10774, 10775, 10779, 10780, 10781, 10782 | \@exp . 6000, 6033, 6034, 6047, 6048, 6050, 6051 |
| \@pdfview 2772, 6818, 6825, 7622, 7626, 7630, 7634, 7638, 7642, 7643, 7646, 7647, 7650, 7654, 7655, 7669, 8122, 8131, 8142, 8579, 8597, 9180, 9255, 9343, 9591 | \@tempdimb . . . 9975, 9976, 10386, 10387, 10732, 10733 | \[. 192, 217 |
| \@pdfviewarea . 7081, 7576, 7939, 8491, 8799, 9550 | \@tempswafalse 5824 | \{ 400 |
| \@pdfviewclip . 7082, 7577, 7940, 8492, 8800, 9551 | \@tempswattrue . 5794, 5797, 5800, 5821 | \} 401 |
| \@pdfviewparams 2774, 2776, 8579, 8597, 9181, 9256, 9344, 9592 | \@temptokena . . 2453, 2458, 2461, 2463 | \] 193, 218 |
| \@percentchar . . 3356, 3357, 3407 | \@tfor 5246 | \^ 186, 211, 2364, 3345, 3346, 3353, 11732, 11741, 11840, 11848, 11852, 11859, 11866, 11873, 11881, 11887, 11888, 11895, 11902, 11948, 11959, 12037, 12045, 12049, 12055, 12062, 12069, 12077, 12083, 12084, 12091, 12098, 12126, 12127, 12146, 12147, 12154, 12155, 12174, 12175, 12176, 12215, 12216, 12239, 12240, 12241, 12242 |
| \@processme . . 4139, 4140, 7149, 7155, 7172, 7178, 7193, 7199, 8846, 8847, 8916, 8917, 8920, 8921 | \@thetH@page 5843, 5845 | _ . 187, 212, 408, 3349, 3363, 3364 |
| \@protected@testopt 508 | \@thefnmark . . 5281, 5292, 5354, 5355, 5396, 5436, 5448, 5455 | \` 166, 172, 179, 182, 2300, 2434, 2437, 2439, 2447, 11730, 11739, 11838, 11846, 11850, 11857, 11864, 11871, 11879, 11883, 11884, 11893, 11900, 11946, 11957, 12035, 12043, 12047, 12053, 12060, 12067, 12075, 12079, 12080, 12089, 12096, 12643, 12648, 12653, 12658, 12663, 12668, 12673, 12678, 12683, 12688, 12693, 12698, 12703, 12708, 12713, 12718, 12723, 12728, 12733, 12738, 12743, 12748, 12753, 12758 |
| \@refstar 3324, 6430 | \@thirdoffive 3306 | \\| 188, 213, 1366, 1458, 2246, 2909, 6080, 6614, 6624 |
| \@runbordercolor . . 2861, 6962, 6964, 8276, 8278, 9153 | \@topnewpage 11700 | \~ 407, 909, 1519, 2358, 2366, 2367, 2368, 3001, 3367, 11733, 11742, 11841, 11856, 11860, 11874, 11892, 11896, 11949, 11960, 12038, 12052, 12056, 12070, 12088, 12092, 12158, 12159, 12160, 12227, 12228, 12645, 12650, 12655, 12660, 12665, 12670, 12675, 12680, 12685, 12690, 12695, 12700, 12705, 12710, 12715, 12720, 12725, 12730, 12735, 12740, 12745, 12750, 12755, 12760 |
| \@runcolor 6981, 8282 | \@undefined 513, 4467, 4491, 4511, 4712, 4730, 4769, 5469, 5523, 5535, 5538, 5547, 6425, 6809, 6989, 6998, 8095, 8445, 8459 | |
| \@safe@activesfalse . 462, 3310 | \@undottedtocline 6352 | |
| \@safe@activetrue . . 461, 3309 | \@unprocessedoptions 3202 | |
| \@schapter 11604, 11605 | \@urlbordercolor . . 2858, 6895, 6897, 7854, 7856, 8223, 8225, 9108 | |
| \@secondoffive 2941, 3305, 3318, 6393, 6394, 6434 | \@urlcolor 6910, 7359, 7368, 7459, 7471, 7864, 8229, 9450, 9459, 9708, 9716 | |
| \@secondoftwo . 455, 479, 637, 760, 1157, 2940, 2941 | \@urltype 7330, 7334, 8001, 8023, 8150, 8161, 9421, 9425, 9678, 9682 | |
| \@sect 11658, 11659 | \@vpageref 6455 | |
| \@seqnchr 5217 | \@whilenum 907 | |
| \@serial@counter . 11418, 11465, 11466, 11467 | | |
| \@seteqlabel 6010, 6011 | | |
| \@setminipage 5500, 5563 | | |
| \@setref . 3313, 3318, 6362, 6363, 6400 | | |
| \@sharp 5129, 5136 | | |
| \@skiphyperrreffalse 4930, 5619, 5631 | | |
| \@skiphyperrreftrue . 5605, 5631 | | |
| \@spart 11649, 11650 | | |
| \@ssect 11599, 11600 | | |

| | | | |
|------------------------------|--|---|---|
| Numbers | | 12570, 12571, 12572, 12573, 12574, 12575, 12576, 12577, 12578, 12579, 12580, 12581, 12582, 12583, 12584, 12628, 12630, 12631, 12635, 12637, 12638, 12641, 12643, 12645, 12656, 12658, 12662, 12663, 12664, 12665, 12666, 12667, 12668, 12669, 12671, 12672, 12673, 12674, 12675, 12676, 12677, 12678, 12679, 12680, 12681, 12682, 12683, 12684, 12685, 12686, 12687, 12688, 12689, 12691, 12692, 12693, 12694, 12695, 12696, 12697, 12698, 12699, 12700, 12701, 12703, 12705, 12716, 12718, 12722, 12723, 12724, 12725, 12726, 12727, 12728, 12729, 12731, 12732, 12733, 12734, 12735, 12736, 12737, 12738, 12739, 12740, 12741, 12742, 12743, 12744, 12745, 12746, 12747, 12748, 12749, 12751, 12752, 12753, 12754, 12755, 12756, 12757, 12758, 12759, 12760, 12813, 12815 | 12743, 12744, 12745, 12747, 12749, 12751, 12752, 12753, 12754, 12755, 12757, 12758, 12759, 12760, 12814 |
| \3 | 387, 951, 952, 953, 954, 955, 956, 957, 958, 1633, 11485, 11838, 11839, 11840, 11841, 11842, 11843, 11844, 11845, 11846, 11847, 11848, 11849, 11850, 11851, 11852, 11853, 11854, 11855, 11856, 11857, 11858, 11859, 11860, 11861, 11862, 11863, 11864, 11865, 11866, 11867, 11868, 11869, 11870, 11871, 11872, 11873, 11874, 11875, 11876, 11877, 11878, 11879, 11880, 11881, 11882, 11883, 11884, 11885, 11886, 11887, 11888, 11889, 11890, 11891, 11892, 11893, 11894, 11895, 11896, 11897, 11898, 11899, 11900, 11901, 11902, 11903, 11904, 11905, 11906, 11907, 12035, 12036, 12037, 12038, 12039, 12040, 12041, 12042, 12043, 12044, 12045, 12046, 12047, 12048, 12049, 12050, 12051, 12052, 12053, 12054, 12055, 12056, 12057, 12058, 12059, 12060, 12061, 12062, 12063, 12064, 12065, 12066, 12067, 12068, 12069, 12070, 12071, 12072, 12073, 12074, 12075, 12076, 12077, 12078, 12079, 12080, 12081, 12082, 12083, 12084, 12085, 12086, 12087, 12088, 12089, 12090, 12091, 12092, 12093, 12094, 12095, 12096, 12097, 12098, 12099, 12100, 12101, 12102, 12103, 12252, 12253, 12254, 12255, 12256, 12257, 12258, 12259, 12260, 12261, 12262, 12263, 12264, 12265, 12266, 12267, 12268, 12310, 12327, 12328, 12329, 12330, 12331, 12332, 12333, 12334, 12335, 12336, 12337, 12338, 12339, 12340, 12341, 12342, 12343, 12344, 12345, 12346, 12347, 12348, 12349, 12350, 12351, 12352, 12353, 12354, 12538, 12539, 12540, 12541, 12542, 12543, 12544, 12545, 12546, 12547, 12548, 12549, 12550, 12551, 12552, 12553, 12554, 12555, 12556, 12557, 12558, 12559, 12560, 12561, 12562, 12563, 12564, 12565, 12566, 12567, 12568, 12569, | \9 390, 1561, 1576, 1585, 1613, 1633, 12585, 12586, 12587, 12588, 12589, 12590, 12591, 12592, 12593, 12594, 12595, 12596, 12597, 12598, 12599, 12600, 12601, 12602, 12603, 12604, 12605, 12606, 12607, 12608, 12609, 12610, 12611, 12612, 12613, 12614, 12615, 12616, 12617, 12618, 12619, 12620, 12621, 12622, 12623, 12624, 12642, 12644, 12646, 12647, 12648, 12649, 12650, 12651, 12652, 12653, 12654, 12655, 12657, 12659, 12660, 12661, 12662, 12663, 12664, 12665, 12667, 12669, 12672, 12674, 12676, 12677, 12678, 12679, 12680, 12681, 12682, 12683, 12684, 12685, 12687, 12689, 12691, 12692, 12693, 12694, 12695, 12697, 12698, 12699, 12700, 12702, 12704, 12706, 12707, 12708, 12709, 12710, 12711, 12712, 12713, 12714, 12715, 12717, 12719, 12720, 12721, 12722, 12723, 12724, 12725, 12727, 12729, 12732, 12734, 12736, 12737, 12738, 12739, 12740, 12741, 12742, | _ ... 494, 2381, 2384, 5691, 5714 |
| A | | | |
| \ABREVE | .... | 12634, 12706, 12707, 12708, 12709, 12710 | |
| \abreve | .... | 12627, 12646, 12647, 12648, 12649, 12650 | |
| \AccFancyVerbLineautorefname | . | 2408 | |
| \Accfootnoteautorefname | . | 2388 | |
| \Acctheoremautorefname | .. | 2412 | |
| \ACIRCUMFLEX | | 12635, 12711, 12712, 12713, 12714, 12715 | |
| \acircumflex | . | 2439, 12628, 12651, 12652, 12653, 12654, 12655 | |
| \Acrobatmenu | .. | 1708, 2937, 4464, 7268, 7867, 8285, 9052 | |
| \active | | 887, 894, 3346, 3347, 3348, 3349, 3350, 3353, 3355, 3358, 3364, 11489 | |
| \add@accent | ..... | 399 | |
| \addcontentsline | ... | 5494, 5558, 5895, 5901, 5967, 11705 | |
| \addtocontents | | 5936, 5968, 6183, 6235, 11692, 11693 | |
| \addtocounter | . | 5041, 5064, 5073, 5084, 5088, 5267 | |
| \addvspace | ..... | 11692, 11693 | |
| \advance | | 324, 325, 908, 3657, 3986, 4032, 4321, 4322, 4325, 4326, 4667, 7034, 7361, 7433, 7462, 7492, 8441, 9452, 9710, 9978, 10022, 10023, 10389, 10434, 10435, 10678, 10735, 10780, 10781, 11348, 11350, 11351, 11357, 11366, 11408, 11589 | |
| \AE | ..... | 11844, 12041 | |
| \ae | ..... | 11877, 12073 | |
| \afterassignment | ... | 1255, 1261, 1267 | |
| \AfterBeginDocument | | 240, 2086, 2140, 3071, 3171, 3329, 4390, 4483, 4851, 9231, 9382 | |
| \aftergroup | ..... | 5400 | |
| \alef | ..... | 12769 | |
| \alefhamza | ..... | 12765 | |
| \aleflowerhamza | ..... | 12767 | |
| \alefmadda | ..... | 12764 | |
| \alefmaqsura | ..... | 12798 | |
| \Alph | ..... | 4716, 4982, 4983 | |
| \alph | ..... | 4717, 5238, 5269 | |
| \AMSautorefname | ..... | 6588 | |

| | | |
|--|---|---|
| <code>\anchor@spot</code> . . . 3597, 3610, 3617, 3623, 6861, 7312, 7394, 8065, 8134, 8576, 9403, 9661 | <code>\bitsetReset</code> . . . 3812, 3846, 3865, 3879, 3892, 3908, 3940 | <code>\citeauthoryear</code> 5809, 5815 |
| <code>\appendix</code> 4979, 4980 | <code>\bitsetSetValue</code> 3678, 3688 | <code>\citeN</code> 5806 |
| <code>\appendixautorefname</code> 2256, 2274, 2292, 2310, 2328, 2346, 2364, 2396, 2397, 2422, 2440, 6598 | <code>\BOOKMARK</code> 11388, 11415 | <code>\CJK@char</code> 890 |
| <code>\arabic</code> . . . 4713, 4888, 4891, 4894, 4895, 4896, 4898, 4899, 4900, 4901, 4903, 4904, 4905, 4906, 4907, 4908, 4911, 4921, 4922, 4961, 5048, 5976, 5982, 6029, 6043, 6171, 6176, 6178 | <code>\box</code> . . . 4328, 4603, 6797, 7776, 8899 | <code>\CJK@charx</code> 891 |
| <code>\AtBeginDocument</code> 241, 1987, 2047, 2182, 2532, 2926, 3017, 3077, 3262, 5028, 5733, 6436, 6582, 6778, 7215, 7757, 8117 | <code>\bullet</code> . . . 6318, 6326, 6336, 6344 | <code>\CJK@ignorespaces</code> 889 |
| <code>\AtBeginShipout</code> 4596 | C | <code>\CJK@punctchar</code> 892 |
| <code>\AtBeginShipoutBox</code> . . 4600, 4603 | <code>\C</code> . . . 11956, 11967, 12473, 12474 | <code>\CJK@punctcharx</code> 893 |
| <code>\AtBeginShipoutFirst</code> 4607, 9334 | <code>\c</code> 2358, 2366, 2367, 2368, 4555, 4562, 11738, 11747, 11845, 11878, 11954, 11965, 12042, 12074, 12152, 12153, 12177, 12178, 12182, 12183, 12192, 12193, 12209, 12210, 12217, 12218, 12221, 12222 | <code>\clear@document</code> 4809 |
| <code>\AtEndDocument</code> 4503, 4811 | <code>\c@footnote</code> 5291, 5344, 5352, 5454 | <code>\clearpage</code> 4811 |
| <code>\AtEndOfPackage</code> 1657, 2505, 2513, 2520, 3059, 3085, 3091, 3230, 3253 | <code>\c@page</code> . . . 4649, 4667, 4668, 4672, 4684, 4686, 4691, 4698, 4700, 4702, 4731, 5838 | <code>\close@pdflink</code> 6860, 6872, 6880, 6911, 6947, 6982, 7291 |
| <code>\author</code> 4532, 4542 | <code>\c@secnumdepth</code> . . . 11626, 11644, 11660, 11665 | <code>\closeout</code> 4486 |
| <code>\autopageref</code> 3079, 6470 | <code>\c@slidesection</code> 6184, 6312, 6313 | <code>\codeof</code> 5773 |
| <code>\autoref</code> . . . 484, 3078, 6489, 9730 | <code>\c@slidesubsection</code> 6236 | <code>\color@endbox</code> . . . 6790, 7353, 7419, 7449, 7479, 7769, 9444, 9701 |
| <code>\ayn</code> 12787 | <code>\c@tocdepth</code> 2553, 2558 | <code>\color@hbox</code> . . . 6783, 7353, 7419, 7449, 7479, 7762, 9444, 9701 |
| B | <code>\calc@bm@number</code> . . . 11513, 11587 | <code>\columnwidth</code> 5394 |
| <code>\baa</code> 12770 | <code>\calculate@pdfview</code> . . 2768, 2771 | <code>\COMBINING</code> . . 12486, 12487, 12488, 12489 |
| <code>\back@none</code> 2194, 2204, 2217 | <code>\caption</code> . . . 5468, 5470, 5546, 5548 | <code>\comma@entry</code> . . . 4027, 4034, 4036 |
| <code>\back@page</code> 2196, 2209 | <code>\catcode</code> 172, 173, 184, 185, 186, 187, 206, 887, 894, 1366, 1367, 1458, 1459, 3345, 3346, 3347, 3348, 3349, 3350, 3353, 3355, 3358, 3364, 3374, 3420, 3421, 6614, 8641, 8642, 11420, 11422, 11489 | <code>\comma@parse</code> 4026 |
| <code>\back@section</code> . . 2195, 2201, 2207, 2213 | <code>\cf@encoding</code> 963 | <code>\contentsline</code> . . . 4492, 4493, 4504, 5937, 5941, 5968, 5970 |
| <code>\back@slide</code> 2197, 2206 | <code>\chapterautorefname</code> 2257, 2275, 2293, 2311, 2329, 2347, 2365, 2394, 2423, 2441, 6599 | <code>\copy</code> 5141, 5150, 6793, 7772 |
| <code>\backcite</code> 5751 | <code>\chapternumberline</code> 11379, 11383 | <code>\count@</code> . . . 906, 907, 908, 909, 1256, 2569, 2570, 2575, 2576, 3656, 3657, 3672, 3969, 3984, 3986, 4010, 4032, 4048, 7029, 7030, 7031, 7032, 7033, 7034, 7037, 8437, 8438, 8439, 8440, 8441, 8444 |
| <code>\backref</code> 5782, 9734 | <code>\char</code> 10335, 11424, 11461 | <code>\CurrentBorderColor</code> 6850, 6852, 6866, 6868, 6875, 6877, 6882, 8125, 8156, 8158, 8167, 8169, 8183, 8185, 8235, 8237, 8249, 8251 |
| <code>\baselineskip</code> . . 1711, 4334, 4335, 4336, 4337, 4338, 4339, 7411, 8593, 8614, 9214 | <code>\chardef</code> . . . 1906, 1907, 1908, 1909, 2108, 2110 | <code>\currentpdfbookmark</code> . . . 11396 |
| <code>\bbl@cite@choice</code> 5598 | <code>\check@bm@number</code> . . 11523, 11532, 11580, 11588 | <code>\cyr</code> . . . 463, 2376, 2378, 2381, 2384, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2398, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413 |
| <code>\BeforeTeXIVht</code> 2082 | <code>\CheckBox</code> 4285 | <code>\CYRA</code> 12370, 12547, 12549 |
| <code>\begin</code> 9739, 12819 | <code>\CheckCommand</code> 5341 | <code>\cyra</code> 2378, 2385, 2387, 2392, 2395, 2400, 2401, 2407, 2411, 12403, 12548, 12550 |
| <code>\belowpdfbookmark</code> 11404 | <code>\checkcommand</code> . . . 42, 5083, 5445, 5452, 5459, 5546, 5556, 5649, 5661, 5967, 5970, 6029, 6400 | <code>\CYRABHCH</code> 12534 |
| <code>\bfseries</code> . . . 436, 5697, 5720, 6366, 6386, 6403, 6517 | <code>\checklatex</code> . . . 4, 5444, 5545, 5648, 5966, 6399 | <code>\cyrabhch</code> 12535 |
| <code>\bgroup</code> 503, 3414, 5387, 5399, 8065, 8606, 10178, 10270, 10291 | <code>\checkpackage</code> 9, 5082, 6028 | <code>\CYRABHCHDSC</code> 12536 |
| <code>\bibcite</code> . . . 5589, 5595, 5599, 5624, 5639, 5655, 5665 | <code>\ChoiceBox</code> 4036 | <code>\cyrabhchdsc</code> 12537 |
| <code>\bitsetGetDec</code> . . . 3709, 3842, 3860, 3874, 3887, 3903, 3935, 3960 | <code>\ChoiceMenu</code> 4282 | <code>\CYRABHDZE</code> 12563 |
| <code>\bitsetGetHex</code> 3710 | <code>\citation</code> 5694, 5717, 5743 | <code>\cyrabhdze</code> 12564 |
| <code>\bitsetGetSetBitList</code> 3698 | | <code>\CYRABHHA</code> 12514 |
| <code>\bitsetIsEmpty</code> 3839, 3857, 3871, 3884, 3900, 3932, 3957 | | <code>\cyrabhha</code> 12515 |
| | | <code>\CYRAE</code> 12551 |

| | | | | | |
|------------|--|-------------|--|----------------|---|
| \cyrae | 12552 | \CYRII | 12361 | \cyromega | 12452 |
| \CYRB | 12371 | \cyrii | 12442 | \CYROMEGARND | 12477 |
| \cyrb | 2392, 12404 | \CYRIOTBYUS | 12463 | \cyromegarnd | 12478 |
| \CYRBYUS | 12461 | \cyriotbyus | 12464 | \CYROMEGATITLO | 12479 |
| \cyrbyus | 12462 | \CYRIOTE | 12455 | \cyromegatitlo | 12480 |
| \CYRC | 12393 | \cyriote | 12456 | \CYROT | 12481 |
| \cyr | 12426 | \CYRIOTLYUS | 12459 | \cyrot | 12482 |
| \CYRCH | 12394, 12581 | \cyriotlyus | 12460 | \CYROTLD | 12571, 12573 |
| \cyrch | 2384, 2385, 2393, 12427, 12582 | \CYRISHRT | 12379 | \cyrotld | 12572, 12574 |
| \CYRCHLDSC | 12545 | \cyrishrt | 12412 | \CYRP | 12386 |
| \cyrchldsc | 12546 | \CYRIZH | 12471, 12473 | \cyrp | 2381, 2384, 2385, 2389, 2390, 2396, 2398, 2402, 2403, 2404, 2405, 12419 |
| \CYRCHRDSC | 12528 | \cyrizh | 12472, 12474 | \CYRpalochka | 12538 |
| \cyrchrds | 12529 | \CYRJE | 12363 | \CYRPHK | 12512 |
| \CYRCHVCRS | 12530 | \cyrje | 12444 | \cyrphk | 12513 |
| \cyrchvcrs | 12531 | \CYRK | 12367, 12381 | \CYRPSI | 12467 |
| \CYRD | 12374 | \cyrk | 2387, 2388, 2390, 2404, 2405, 2407, 2408, 2409, 12414, 12448 | \cyrpsi | 12468 |
| \cyrd | 2381, 2384, 2395, 2400, 2401, 12407 | \CYRKBEAK | 12506 | \CYRR | 12387 |
| \CYRDJE | 12357 | \cyrkbeak | 12507 | \cyrr | 2376, 2378, 2381, 2384, 2385, 2391, 2395, 2396, 2398, 2400, 2401, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 12420 |
| \cyrdje | 12438 | \CYRKDSC | 12500 | \cyrrangle | 12624 |
| \CYRDZE | 12360 | \cyrkdsc | 12501 | \CYRS | 12388 |
| \cyrdze | 12441 | \CYRKHCRS | 12504 | \cyrs | 2381, 2384, 2387, 2388, 2391, 2406, 2407, 2408, 2409, 2413, 12421 |
| \CYRDZHE | 12369 | \cyrkhcrs | 12505 | \CYRSCHWA | 12555, 12557 |
| \cyrdzhe | 12450 | \CYRKHK | 12541 | \cyrschwa | 12556, 12558 |
| \CYRE | 12356, 12375, 12553 | \cyrkhk | 12542 | \CYRSDSC | 12516 |
| \cyre | 2378, 2384, 2385, 2398, 2410, 2411, 2412, 12408, 12437, 12554 | \CYRKOPPA | 12483 | \cyrsdsc | 12517 |
| \CYREREV | 12400 | \cyrkoppa | 12484 | \CYRSFTSN | 12399 |
| \cyrerev | 12433 | \CYRKSI | 12465 | \cyrstsn | 12432 |
| \CYRERY | 12398, 12583 | \cyrksi | 12466 | \CYRSH | 12395 |
| \cyrery | 2376, 2378, 12431, 12584 | \CYRKVCRS | 12502 | \cyrsh | 12428 |
| \CYRF | 12391 | \cyrkvcrs | 12503 | \CYRSHCH | 12396 |
| \cyrf | 12424 | \CYRL | 12382 | \cyrshch | 12429 |
| \CYRFITA | 12469 | \cyrl | 2392, 2394, 2396, 2398, 12415 | \CYRSHHA | 12532 |
| \cyrfita | 12470 | \cyrangle | 12623 | \cyrshha | 12533 |
| \CYRG | 12358, 12373 | \CYRLJE | 12364 | \CYRT | 12389 |
| \cyrg | 2394, 12406, 12439 | \cyrlje | 12445 | \cyrt | 2381, 2384, 2390, 2392, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 12422 |
| \CYRGHCRS | 12492 | \CYRLYUS | 12457 | \CYRTDSC | 12518 |
| \cyrghcrs | 12493 | \cyrlyus | 12458 | \cyrtldsc | 12519 |
| \CYRGHK | 12494 | \CYRM | 12383 | \CYRTETSE | 12526 |
| \cyrghk | 12495 | \cyr | 2381, 2385, 2411, 2412, 12416 | \cyrtetse | 12527 |
| \CYRGUP | 12490 | \CYRN | 12384 | \cyrthousands | 12485 |
| \cyrgup | 12491 | \cyrn | 2378, 2384, 2385, 2387, 2388, 2390, 2398, 2404, 2405, 12417 | \CYRTSHE | 12366 |
| \CYRH | 12392 | \CYRNDSC | 12508 | \cyrtshe | 12447 |
| \cyrh | 12425 | \cyrndsc | 12509 | \CYRU | 12390, 12575, 12577, 12579 |
| \CYRHDSC | 12524 | \CYRNG | 12510 | \cyru | 2388, 2390, 2404, 2405, 2408, 2412, 12423, 12576, 12578, 12580 |
| \cyrhdsc | 12525 | \cyrng | 12511 | \CYRUK | 12475 |
| \CYRHRDSN | 12397 | \CYRNHK | 12543 | \cyruk | 12476 |
| \cyrhrdsn | 12430 | \cyrnhk | 12544 | | |
| \CYRI | 12378, 12380, 12565, 12567 | \CYRNJE | 12365 | | |
| \cyri | 2378, 2381, 2385, 2391, 2396, 2398, 12411, 12413, 12566, 12568 | \cyrnje | 12446 | | |
| \CYRIE | 12359 | \CYRO | 12385, 12569 | | |
| \cyr | 12440 | \cyro | 2381, 2384, 2387, 2388, 2398, 2407, 2408, 2410, 2411, 2412, 12418, 12570 | | |
| | | \CYROMEGA | 12451 | | |

| | | | |
|--------------------------|--|--|--|
| \CYRUSHRT | 12368 | 4291, 4294, 4297, 6444, 6470, 6489 | 2529, 2544, 2547, 2550, 2554, 2582, 2587, 2591, 2594, 2601, 2613, 2621, 2624, 2627, 2629, 2632, 2641, 2651, 2658, 2665, 2666, 2738, 2747, 2750, 2751, 2752, 2753, 2754, 2760, 2766, 2767, 2768, 2769, 2789, 2796, 2803, 2804, 2807, 2810, 2813, 2816, 2819, 2822, 2825, 2848, 2851, 2854, 3650, 3738, 3794, 4096, 4101, 4113, 4150, 4153, 4156, 4159, 4162, 4165, 4168, 4172, 4175, 4178, 4181, 4184, 4187, 4190, 4193, 4196, 4199, 4202, 4205, 4208, 4211, 4214, 4232, 4238, 4252, 4268, 4274, 8927, 8929, 8932, 8934, 8936, 8945, 8953, 8960, 8962, 8964, 8966, 8968, 8970, 8979, 8989, 8991, 8993, 8994, 9000, 9009, 9011, 9013, 9015, 9017, 9019, 9021, 9023, 9025, 9027, 9029, 9031, 9033, 9035, 9037, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049 |
| \cyrushrt | 12449 | | |
| \CYRV | 12372 | \DeclareTextAccent 11730, 11731, 11732, 11733, 11734, 11735, 11736, 11737, 11738, 11946, 11947, 11948, 11949, 11950, 11951, 11952, 11953, 11954, 11955, 11956 | |
| \cyrv | 2376, 2378, 12405 | | |
| \CYRY | 12520 | | |
| \cyr | 12521 | | |
| \CYRYA | 12402 | | |
| \cyr | 12435 | | |
| \CYRYAT | 12453 | \DefaultHeightofCheckBox 4334, 10128, 10554, 10925 | |
| \cyr | 12454 | | |
| \CYRYHCRS | 12522 | \DefaultHeightofChoiceMenu . . . 4336, 9968, 10379, 10725 | |
| \cyrhcrs | 12523 | | |
| \CYRYI | 12362 | \DefaultHeightofReset . . . 4332, 10102, 10528, 10893 | |
| \cyr | 12443 | | |
| \CYRYO | 12355 | \DefaultHeightofSubmit . . 4330, 10084, 10506, 10869 | |
| \cyr | 12436 | | |
| \CYRYU | 12401 | \DefaultHeightofText 4338, 9944, 10355, 10692 | |
| \cyr | 12434 | | |
| \CYRZ | 12377, 12561 | \DefaultHeightofTextMultiline . 4339, 9942, 10353, 10690 | |
| \cyrz | 2395, 2400, 2401, 12410, 12562 | \DefaultOptionsofCheckBox 4344, 10131, 10557, 10928 | |
| \CYRZDSC | 12498 | \DefaultOptionsofComboBox 4347 | |
| \cyrzdsc | 12499 | \DefaultOptionsofListBox 4346 | |
| \CYRZH | 12376, 12539, 12559 | \DefaultOptionsofPopdownBox 4348 | |
| \cyrzh | 2378, 2398, 12409, 12540, 12560 | \DefaultOptionsofPushButton . . . 4343, 10058, 10479, 10836 | |
| \CYRZHDSC | 12496 | \DefaultOptionsofRadio . . 4349 | |
| \cyrzhdsc | 12497 | \DefaultOptionsofReset . . 4342, 10105, 10531, 10896 | |
| | | \DefaultOptionsofSubmit . 4341, 10087, 10509, 10872 | |
| | | \DefaultOptionsofText . . . 4345, 9950, 10361, 10698 | |
| | | \DefaultWidthofCheckBox . 4335, 10127, 10553, 10924 | |
| | | \DefaultWidthofChoiceMenu 4337, 9967, 10378, 10724 | |
| | | \DefaultWidthofReset . . . 4333, 10101, 10527, 10892 | |
| | | \DefaultWidthofSubmit . . 4331, 10083, 10505, 10868 | |
| | | \DefaultWidthofText 4340, 9939, 10350, 10687 | |
| | | \define@key . . 1798, 1800, 1843, 1858, 1861, 1864, 1868, 1872, 1876, 1880, 1884, 1888, 1892, 1895, 1898, 1915, 1927, 1929, 1932, 1935, 1952, 1956, 1959, 1962, 1965, 1968, 1971, 2003, 2060, 2078, 2079, 2093, 2096, 2099, 2102, 2105, 2113, 2116, 2119, 2122, 2126, 2154, 2170, 2175, 2178, 2181, 2184, 2188, 2191, 2198, 2227, 2243, 2246, 2472, 2503, 2511, 2519, 2526, 2529, 2544, 2547, 2550, 2554, 2582, 2587, 2591, 2594, 2601, 2613, 2621, 2624, 2627, 2629, 2632, 2641, 2651, 2658, 2665, 2666, 2738, 2747, 2750, 2751, 2752, 2753, 2754, 2760, 2766, 2767, 2768, 2769, 2789, 2796, 2803, 2804, 2807, 2810, 2813, 2816, 2819, 2822, 2825, 2848, 2851, 2854, 3650, 3738, 3794, 4096, 4101, 4113, 4150, 4153, 4156, 4159, 4162, 4165, 4168, 4172, 4175, 4178, 4181, 4184, 4187, 4190, 4193, 4196, 4199, 4202, 4205, 4208, 4211, 4214, 4232, 4238, 4252, 4268, 4274, 8927, 8929, 8932, 8934, 8936, 8945, 8953, 8960, 8962, 8964, 8966, 8968, 8970, 8979, 8989, 8991, 8993, 8994, 9000, 9009, 9011, 9013, 9015, 9017, 9019, 9021, 9023, 9025, 9027, 9029, 9031, 9033, 9035, 9037, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049 | |
| | | \df@tag 5992, 5998 | |
| | | \DH 11854, 12051 | |
| | | \dh 11891, 12087 | |
| | | \dhal 12778 | |
| | | \dimen@ . 365, 366, 370, 1262, 1330, 1331, 1334, 1336, 2896, 2897, 2899, 2906, 2907, 8404, 8405, 8407, 8890, 8902, 8905 | |
| | | \dimexpr . . 377, 1537, 1539, 1547, 1552, 1555, 1557, 1571, 1573, 1576, 1577, 1584, 1587, 1590, 1591, 1592, 1593, 1603, 1608, 1616, 1620, 1625, 1635, 1638, 1643, 1646, 1651, 1652 | |
| | | \DingObject 10456 | |
| | | \discretionary 505 | |
| | | \divide 7030, 8438 | |
| | | \DJ . . . 2448, 11855, 12134, 12636 | |
| | | \dj 2445, 2446, 12135, 12629 | |
| | | \do . . . 907, 1815, 1820, 1825, 2639, 2660, 2661, 2662, 2663, 2678, 2679, 2680, 2681, 2682, 2683, 2686, 2687, 2688, 2689, 2690, 2691, 2694, 2695, 2698, 2699, 2700, 2701, 2702, 2705, 2706, 2707, 2708, 2709, 2712, 2713, 2714, 2715, 2716, 2719, 2720, 2721, 2722, 2723, 2726, 2727, 2730, 2731, 2732, 2735, 2736, 2742, 2743, 2744, 2745, 2841, 2842, 2843, 2844, 2845, 2846, 3698, 5249, 5689, 5712, 9972, | |
| D | | | |
| \d | 2436, 2440, 2442, 2443, 2444, 2445, 2446, 2448, 12642, 12647, 12652, 12657, 12662, 12667, 12672, 12677, 12682, 12687, 12692, 12697, 12702, 12707, 12712, 12717, 12722, 12727, 12732, 12737, 12742, 12747, 12752, 12757 | | |
| \dad | 12784 | | |
| \dal | 12777 | | |
| \damma | 12804 | | |
| \declare@shorthand | 665, 666, 671, 672, 677, 687, 688, 689, 694, 695, 700, 701, 706, 711, 712, 717, 722, 723, 724, 725, 726, 727, 732, 733, 738, 739, 744, 745 | | |
| \DeclareFontEncoding | 11724, 11940 | | |
| \DeclareFontFamily | 625, 630, 1982 | | |
| \DeclareFontShape | 626, 631, 1983 | | |
| \DeclareFontSubstitution | 627, 632, 1984 | | |
| \DeclareRobustCommand | 3324, 3325, 3413, 3430, 3432, 3434, 3443, 4279, 4282, 4285, 4288, | | |

10034, 10240, 10247, 10257,
10383, 10446, 10729, 10793,
11488
\documentclass 2
\dospecials 11493
\dots 411
\dp . 4324, 4327, 5392, 7354, 7422,
7451, 7481, 8891, 8894, 9445,
9702, 10673
\dvipdfm@setdim .. 10670, 10712,
10804, 10825, 10857, 10883,
10912, 10939

E

\ECIRCUFLEX 12637, 12721, 12722,
12723, 12724, 12725
\ecircumflex 12630, 12661, 12662,
12663, 12664, 12665
\EdefEscapeString 610
\EdefUnescapeString 607
\egroup .. 504, 8065, 8637, 10187,
10279, 10304
\em 442
\emph 421
\empty 889, 2557
\enc@html 4100, 4103
\enc@update 396
\END ... 988, 989, 1014, 1015, 1030,
1031, 1048, 1049, 1066, 1067,
1415, 1421, 1426, 1510, 1512,
7146, 7159, 7163, 7169, 7182,
7186, 7191, 7203, 7207
\end 12820
\endeqnarray ... 5195, 5213, 5220
\endequation 5158, 5190
\endForm 4090
\endinput .. 64, 2090, 2130, 2131,
2144, 2148, 2149, 2158, 2159,
2165, 2166, 3075, 3175, 6360,
8585, 9737, 11595
\endlinechar 3344
\endNoHyper 4448
\EndPreamble 9740
\endsubeqnarray 5224, 5235
\eqnarray 5194, 5196, 5217
\equal 5770
\equation . 5157, 5166, 5170, 5179
\equationautorefname 2250, 2268,
2286, 2304, 2322, 2340, 2358,
2376, 2377, 2416, 2434, 6588,
6592
\errmessage 2469
\es@roman 464
\escapechar .. 383, 5242, 11511,
11512, 11562
\eTeX 417, 9745
\etex@unexpanded ... 1194, 1201

\eTeXversion ... 6989, 6991, 6993
\evensidemargin 5860
\ExecuteOptions 2911, 2912, 2916
\ext@figure 6168
\ext@table 6167
\extra@b@citeb 5696
\extrasvietnam 2512
\extrasvietnamese 2504

F

\fa 12790
\FancyVerbLineautorefname 2263,
2281, 2299, 2317, 2335, 2353,
2371, 2406, 2409, 2429, 2447,
6605
\farsikaf 12811
\farsiya 12813
\fatha 12803
\fbox 10339, 10342
\Field@addtoks 4138, 4160, 4163,
4253, 4276
\Field@boolkey 3651, 3739, 4133,
4154, 4157
\Field@toks
4136, 4137, 4139, 9948, 9979,
10056, 10082, 10100, 10129,
10179, 10196, 10207, 10218,
10228, 10245, 10263, 10271,
10276, 10292, 10301, 10359,
10390, 10477, 10504, 10526,
10555, 10696, 10736, 10834,
10867, 10891, 10926
\Field@Width 4076, 4170
\figureautorefname . 2253, 2271,
2289, 2307, 2325, 2343, 2361,
2391, 2419, 2437, 6595
\filename@area 3579
\filename@base 3579
\filename@ext . 3576, 3577, 3579,
3580
\filename@parse 3575
\find@pdfink .. 6835, 6870, 6879
\Fld@additionalactions 11106,
11149, 11153
\Fld@additionalactions . 11106,
11188, 11220, 11254
\Fld@align ... 4080, 4197, 11056,
11163, 11228
\Fld@annotflags 3858, 3860,
11052, 11082, 11159, 11192,
11224, 11259, 11293
\Fld@bcolor .. 4082, 4209, 11067,
11069, 11179, 11181, 11207,
11209, 11232, 11244, 11246
\fld@bcolor 11167
\Fld@bordercolor ... 4083, 4212,
11063, 11065, 11089, 11097,

11099, 11166, 11175, 11177,
11203, 11205, 11231, 11240,
11242, 11266, 11274, 11276,
11300, 11308, 11310
\Fld@bordersep 4084, 4191
\Fld@borderstyle ... 4086, 4188,
11057, 11087, 11164, 11197,
11229, 11264, 11316
\Fld@borderwidth ... 4085, 4185,
4318, 4321, 4322, 4325, 4326,
10022, 10023, 10434, 10435,
10780, 10781, 11057, 11087,
11164, 11197, 11229, 11264,
11316
\Fld@calculate@code 4219, 11119,
11121
\Fld@cbsymbol . 4087, 4203, 11071
\Fld@charsize . 4077, 4078, 4182,
10021, 10433, 10779, 11073,
11185, 11213, 11250, 11298
\Fld@checkedfalse 4073
\Fld@checkequals ... 4142, 9973,
10035, 10248, 10258, 10384,
10447, 10730, 10794
\Fld@choices .. 3966, 3974, 3976,
3980, 3989, 3997, 4002, 4050,
4052, 4060, 4061, 11187
\Fld@color ... 4081, 4215, 11074,
11186, 11214, 11251
\Fld@default 3991, 3994,
3996, 4194, 9937, 9954, 9965,
10006, 10125, 10177, 10195,
10209, 10217, 10224, 10250,
10260, 10290, 10300, 10348,
10366, 10376, 10418, 10551,
10685, 10703, 10722, 10764,
10922, 11215, 11216, 11252
\Fld@disabledfalse 4074
\Fld@export 3803, 3806, 3813, 4105
\Fld@findlength .. 10227, 10238
\Fld@flags
3872, 3874, 3885, 3887, 3901,
3903, 3933, 3935, 3958, 3960,
11055, 11085, 11162, 11195,
11227, 11262, 11296
\Fld@format@code .. 4217, 11111,
11113
\Fld@getmethodfalse 4124
\Fld@getmethodtrue 4126
\Fld@height 4179, 9940, 9957, 9968,
10024, 10039, 10049, 10084,
10102, 10128, 10137, 10351,
10370, 10379, 10436, 10461,
10471, 10506, 10528, 10554,
10565, 10688, 10705, 10725,
10782, 10792, 10819, 10869,
10893, 10925, 10933

| | | | |
|------------------------------------|-------------------------|----------------------------------|--------------------------------------|
| \Fld@hiddenfalse | 3761 | \Fld@validate@code 4218, 11115, | \G@refundefinedtrue 3476, 5698, |
| \Fld@hiddentrue | 3762 | 11117 | 5721, 6365, 6385, 6402, 6516 |
| \Fld@invisiblefalse | 3757 | \Fld@value | \gaf |
| \Fld@invisibletrue | 3758 | 3992, 3999, | \Gauge |
| \Fld@keystroke@code 4220, 11107, | | 4001, 4200, 9938, 9954, 9966, | \GenericError |
| 11109 | | 10005, 10006, 10349, 10366, | \GenericInfo |
| \Fld@listcount | 10033, 10036, | 10377, 10417, 10418, 10686, | \GenericWarning |
| 10045, 10445, 10448, 10465, | | 10703, 10723, 10763, 10764, | \getpagerefnumber |
| 10791, 10795, 10799, 10803, | | 11253 | \getrefbykeydefault 5092, 5093 |
| 10811, 10816 | | \Fld@width | \gexmode |
| \Fld@loc | 4151 | 4169, 9939, 9953, 9957, 9967, | \ghayn |
| \Fld@maxlen | 4079, 4173, 11255 | 10004, 10015, 10017, 10039, | \Gin@setfile |
| \Fld@menulength | | 10049, 10070, 10083, 10091, | \glossary |
| | 4075, 4176, 9970, 9974, | 10101, 10115, 10127, 10134, | \glq |
| 10021, 10239, 10240, 10243, | | 10137, 10350, 10365, 10370, | \glqq |
| 10381, 10385, 10433, 10727, | | 10378, 10416, 10427, 10429, | \greek@Alph |
| 10731, 10779 | | 10461, 10471, 10492, 10505, | \Greeknumeral |
| \Fld@name 4166, 9936, 9964, 10054, | | 10513, 10527, 10541, 10553, | \greeknumeral |
| 10124, 10176, 10181, 10192, | | 10561, 10565, 10687, 10702, | \grq |
| 10193, 10204, 10205, 10214, | | 10705, 10724, 10762, 10773, | \grqq |
| 10215, 10223, 10244, 10261, | | 10775, 10792, 10819, 10850, | \guill@spacing |
| 10269, 10274, 10289, 10298, | | 10868, 10876, 10892, 10906, | \guillemotleft 722, 11818, 11914, |
| 10347, 10375, 10475, 10550, | | 10924, 10932, 10933 | 12015, 12109 |
| 10684, 10721, 10832, 10921, | | \float@caption | \guillemotright |
| 11046, 11048, 11053, 11083, | | 5478, 5529 | 723, 11833, |
| 11160, 11193, 11225, 11260, | | \float@makebox | 11915, 12030, 12110 |
| 11294 | | 5531, 5532 | \guilsinglleft |
| \Fld@norotatefalse | 3774 | \floatingpenalty | 11783, 11916, |
| \Fld@norotatetrue | 3773 | 5393 | 12111, 12599 |
| \Fld@noviewfalse | 3777 | \flq | \guilsinglright |
| \Fld@noviewtrue | 3778 | 471 | 11784, 11917, |
| \Fld@nozoomfalse | 3770 | \flqq | 12112, 12600 |
| \Fld@nozoomtrue | 3769 | 469 | |
| \Fld@onblur@code | 4222, 11127, | \fmtname | |
| 11129 | | 7 | |
| \Fld@onclick | 4275, 11103 | \fmtversion | |
| \Fld@onenter@code | 4225, 11139, | 7 | |
| 11141 | | \fontencoding | |
| \Fld@onexit@code | 4226, 11143, | 391, 394, 10331 | |
| 11145 | | \fontfamily | |
| \Fld@onfocus@code | 4221, 11123, | 10330 | |
| 11125 | | \fontseries | |
| \Fld@onmousedown@code | 4223, | 10332 | |
| 11131, 11133 | | \fontshape | |
| \Fld@onmouseup@code 4224, 11135, | | 3292, 10333 | |
| 11137 | | \footins | |
| \Fld@printfalse | 3766 | 5387 | |
| \Fld@printrtrue | 3765 | \footnote | |
| \Fld@rotation | 4088, 4206, 11059, | 3627 | |
| 11061, 11088, 11093, 11095, | | \footnoteautorefname 2251, 2269, | |
| 11165, 11171, 11173, 11199, | | 2287, 2305, 2323, 2341, 2359, | |
| 11201, 11230, 11236, 11238, | | 2380, 2383, 2417, 2435, 6589, | |
| 11265, 11270, 11272, 11299, | | 6593 | |
| 11304, 11306 | | \footnotesep | |
| \Fld@submitflags | 3840, 3842, | 5391, 5398 | |
| 11286 | | \footnotesize | |
| | | 447, 5389 | |
| | | \footnotetext | |
| | | 5344 | |
| | | \Form | |
| | | 4089 | |
| | | \Form@action | |
| | | 4099, 10168, 11284 | |
| | | \Form@boolkey | |
| | | 4093 | |
| | | \Form@htmlfalse | |
| | | 4092, 4110 | |
| | | \Form@htmltrue | |
| | | 4104 | |
| | | \Form@method | |
| | | 4122, 4130, 10168 | |
| | | \frq | |
| | | 472 | |
| | | \frqq | |
| | | 470 | |
| | | \futurelet | |
| | | 522, 982 | |
| | | \FV@SetLineNo | |
| | | 5023 | |
| | | \FV@StepLineNo | |
| | | 5022, 5024, 5025 | |
| | | | |
| | | G | |
| | | \g@addto@macro 4610, 4761, 4809, | |
| | | 5598, 5870, 7210, 8428, 8692, | |
| | | 9183, 9257, 9319, 9597, 9751 | |
| | | | |
| | | | H |
| | | | \H |
| | | | 11969, 12203, 12204, 12235, |
| | | | 12236, 12579, 12580 |
| | | | \h 2438, 12644, 12649, 12654, 12659, |
| | | | 12664, 12669, 12674, 12679, |
| | | | 12684, 12689, 12694, 12699, |
| | | | 12704, 12709, 12714, 12719, |
| | | | 12724, 12729, 12734, 12739, |
| | | | 12744, 12749, 12754, 12759 |
| | | | \H@@footnotemark |
| | | | 5277, 5294, |
| | | | 5414, 5426, 5437 |
| | | | \H@@footnotetext |
| | | | 5276, 5286, |
| | | | 5309, 5370, 5415, 5429, 5437 |
| | | | \H@@mpfootnotetext |
| | | | 5284, 5296, |
| | | | 5298 |
| | | | \H@definecounter |
| | | | 5973, 5975 |
| | | | \H@endeqnarray |
| | | | 5195, 5214 |
| | | | \H@endequation |
| | | | 5158, 5190 |
| | | | \H@endsubeqnarray |
| | | | 5224, 5236 |
| | | | \H@eqnarray |
| | | | 5194, 5199 |
| | | | \H@equation |
| | | | 5157, 5181 |
| | | | \H@item |
| | | | 4909, 4915, 5606, 5631 |
| | | | \H@newctr |
| | | | 5978, 5980 |
| | | | \H@old@part |
| | | | 11636, 11647 |
| | | | \H@old@chapter |
| | | | 11604, 11606 |
| | | | \H@old@sect |
| | | | 11658, 11664 |
| | | | \H@old@spart |
| | | | 11649, 11651 |

| | | | |
|--|---|---|--|
| \H@old@ssect | 11599, 11601 | \hv@pdf@char <u>11419</u> , 11482, 11483, 11484, 11485 | 8064, 8133, 8144, 8590, 9402, 9414, 9660, 9671 |
| \H@refstepcounter . . | 4924, 4934, 5024, 5132, 5180, 5473, 6181, 6234 | \hvtex@buffer . | 8324, 8327, 8335, 8338, 8347, 8351, 8367 |
| \H@seteqlabel | 6010, 6012 | \hvtex@gettoken | 8324, 8336, 8340, 8349, 8353 |
| \H@subeqnarray | 5223, 5227 | \hvtex@gettoken@ . . . | 8324, 8325 |
| \ha | 12796 | \hvtex@par@dimension | 8320, 8359 |
| \Haa | 12775 | \hvtex@par@direction | 8321, 8362 |
| \halign | 487 | \hvtex@par@duration | 8322, 8354 |
| \hamza | 12763 | \hvtex@par@motion . . | 8323, 8356 |
| \HAR@checkcitations | <u>5786</u> | \hvtex@param@dimension . . | 8331, 8360, 8378, 8381 |
| \HAR@citetoaux | 5742 | \hvtex@param@direction . . | 8332, 8363, 8389, 8397 |
| \HAR@tempa 5787, 5788, 5789, 5790, 5791, 5792 | | \hvtex@param@duration . . . | 8333, 8355, 8402, 8404 |
| \harvardcite | 5736, 5773 | \hvtex@param@motion | 8334, 8357, 8378, 8385 |
| \harvarditem | 5761 | \hvtex@parse@trans . | 8309, 8329 |
| \hbox | 1254, 1260, 1266, 1723, 2568, 2574, 4170, 4312, 4313, 4314, 4315, 5726, 5855, 7355, 7362, 7423, 7434, 7452, 7463, 7482, 7493, 8606, 8894, 8905, 9446, 9453, 9703, 9711, 10316, 10704, 10792, 10819, 10848, 10877, 10907, 10933 | \hvtex@produce@trans | 8368, 8374 |
| \hc@currentHref | 5489 | \hvtex@token . . | 8326, 8337, 8343, 8350, 8355, 8358, 8361, 8363 |
| \HCode 10168, 10170, 10181, 10190, 10202, 10210, 10212, 10243, 10249, 10254, 10259, 10273, 10278, 10282, 10285, 10294 | | \hvtex@trans@code . . | 8313, 8314, 8315, 8316, 8317, 8318, 8319, 8330, 8376, 8377, 8379, 8381, 8383, 8385, 8387, 8389, 8391, 8392, 8393, 8394, 8395, 8397 |
| \headerps@out . | 4819, 9173, 9184, 9244, 9258, 9311, 9320, 9333, 9346, 9384, 9484, 9598, 9752 | \hvtex@trans@effect@Blinds . . | 8313 |
| \hfill . . . | 4312, 4313, 4314, 4315, 5617, 5650 | \hvtex@trans@effect@Box . | 8314 |
| \Hfootnoteautorefname . . . | 6589 | \hvtex@trans@effect@Dissolve . | 8315 |
| \hhyperref | 3632 | \hvtex@trans@effect@Glitter . | 8316 |
| \hoffset | 5856 | \hvtex@trans@effect@R . . . | 8319 |
| \href . | 479, 3413, 3626, 3627, 4472 | \hvtex@trans@effect@Split | 8317 |
| \href@ | 3414, 3417, 3422 | \hvtex@trans@effect@Wipe | 8318 |
| \href@split | 3422, 3423 | \hvtex@trans@par . . | 8350, 8354, 8356, 8359, 8362 |
| \hsize | 5394 | \hvtex@trans@params | 8344, 8346, 8370 |
| \hskip . . . | 1265, 1343, 1759, 1760, 4318, 10316 | \Hy@@boolkey | 1769, 1770 |
| \hspace | 475, 5776, 5777 | \Hy@@@DefNameKey | <u>1840</u> , <u>1842</u> |
| \hss | 5864 | \Hy@@@escapeform . . | 11007, 11020, 11025 |
| \ht . | 4320, 4323, 7360, 7426, 7432, 7438, 7455, 7461, 7467, 7485, 7491, 7497, 8890, 9451, 9709, 10671 | \Hy@@@temp . | 2598, 2600, 4228, 4230 |
| \htmladdimg | 3625 | \Hy@abspage <u>4630</u> , 4695, 4805, 4844 | |
| \htmladdnormallink | 3626 | \Hy@Acrobatmenu | 2953, 2994, 7269, 7868, 8286, 9053 |
| \htmladdnormallinkfoot . . | 3627 | \Hy@activeanchorfalse . . . | 3342, 6863, 7314, 7327, 7395, 7404, 7680, 8052, 8067, 8135, 8147, 8600, 9405, 9418, 9663, 9675 |
| \htmlref | 3628 | \Hy@activeanchortrue | 6862, 7311, 7323, 7393, 7401, 7676, 8048, |
| \Huge | 444 | | |
| \huge | 448 | | |
| \Hurl | 3429, 3431, 3433 | | |

| | | | | | |
|-----------------------------|--|--|---|---|--|
| \Hy@currentbookmarklevel | 11339, 11349, 11350, 11356, 11363, 11397, 11400, 11405, 11409 | 7767, 7814, 7842, 7864, 7885, 8134, 8193, 8210, 8229, 8255, 8282, 8298, 8634, 8874, 9403, 9436, 9454, 9461, 9661, 9693, 9708, 9716 | \Hy@hyperindextrue | 299 | |
| \Hy@defaultdriver | 3160, 3184, 3190 | | \Hy@hypertexnamesfalse | 1661 | |
| \Hy@DefFormAction | 4097, 4099 | \Hy@escapeform | 9956, 10038, 10048, 10073, 10092, 10116, 10136, 10368, 10451, 10469, 10495, 10515, 10542, 10563, 10709, 10798, 10821, 10854, 10879, 10908, 10936, 11001, 11030, 11037 | \Hy@hypertexnamestrue | 300 |
| \Hy@DefNameKey | 1839, 2659, 2677, 2685, 2693, 2697, 2704, 2711, 2718, 2725, 2729, 2734, 2741, 2840 | | \Hy@implicittrue | 301 | |
| \Hy@DEST | 8882, 8907 | | \Hy@Info | 239, 1785, 3034, 3036, 3039, 3041, 3044, 3046, 3049, 3051, 3054, 3056, 3246, 3252, 3289, 3294, 3298, 3705, 4351, 4353, 4356, 4358, 4361, 4363, 4366, 4368, 4371, 4373, 4376, 4378, 4381, 4383, 5673, 5734, 5914 | |
| \Hy@DestName | 6825, 6829 | | \Hy@LastPage | 2967 | |
| \Hy@DisableOption | 1796, 2946, 2947, 2948, 2950, 3064, 3090, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3231, 3261, 3275, 3301, 3302, 3340, 3341, 4394, 4395, 4396, 4397, 4398, 4399, 4400, 4401, 4402, 4403, 4404, 4405, 4406, 4407, 4408, 4409, 4410, 4411, 4412, 4413, 4414, 4415, 4416, 4417, 4568, 4763, 5441, 6072, 6128, 6129, 6705, 6806, 7133, 7134, 7135, 7136, 7137, 7138, 7139, 7140, 7266, 7527, 7528, 7529, 7530, 7531, 7532, 7533, 7534, 7785, 7920, 7921, 7922, 7923, 7924, 7925, 7926, 7927, 8119, 8526, 8527, 8528, 8529, 8530, 8531, 8532, 8533, 8757, 8758, 8759, 8760, 8761, 8762, 8763, 8764, 9236, 9508, 9509, 9510, 9511, 9512, 9513, 9514, 9515 | \Hy@escapeformfalse | 295 | \Hy@level | 11345, 11347, 11358, 11363, 11364, 11365, 11389 |
| \Hy@displaydoctitlefalse | 322 | \Hy@escapestring | 10998, 11071, 11103, 11109, 11113, 11117, 11121, 11125, 11129, 11133, 11137, 11141, 11145, 11252, 11253, 11284 | \Hy@levelcheck | 11346, 11361 |
| \Hy@DistillerDestFix | 5834, 8537, 8539 | \Hy@EveryPageAnchor | 5833, 5871 | \Hy@linkcounter | 329, 331, 5016, 5017, 5096, 5097, 5987, 5988, 6013, 6223, 6224, 6228, 6274, 6275, 6279, 11323, 11324, 11609, 11610, 11620, 11621, 11652, 11653, 11661, 11662, 11694, 11695 |
| \Hy@draftfalse | 254 | \Hy@EveryPageBoxHook | 4594, 4598, 4602, 5870, 8428, 8692 | \Hy@linkfileprefix | 2623, 3564, 3585, 7348, 8020, 9439, 9696 |
| \Hy@drafttrue | 255 | \Hy@EveryPageHook | 4593, 4597, 4761, 7210 | \Hy@linktoc | 1901, 1903, 1911, 1913, 1923, 5945 |
| \Hy@driver | 327, 1946, 2083, 2094, 2097, 2100, 2103, 2114, 2117, 2120, 2123, 2134, 2137, 2162, 2171, 2176, 2179, 2185, 3093, 3096, 3100, 3103, 3107, 3110, 3112, 3116, 3120, 3124, 3127, 3131, 3135, 3139, 3142, 3146, 3149, 3151, 3155, 3159, 3162, 3165, 3168, 3179, 3182, 3184, 3190, 3192, 3197, 3199, 3201 | \Hy@ExchangeLeftParenthesis | 6639, 6645 | \Hy@linktoc@all | 1909 |
| \Hy@dviopdfmxOutlineOpentru | 3210 | \Hy@ExchangeRightParenthesis | 6649, 6655 | \Hy@linktoc@none | 1906 |
| \Hy@endcolorlink | 3288, 3293, 3297, 6788, 6860, 7312, 7345, 7363, 7370, 7394, 7416, 7430, 7442, 7459, 7471, 7489, 7501, | \Hy@false | 1705, 1777, 2203, 2236 | \Hy@linktoc@page | 1901, 1908, 1911 |
| | | \Hy@figuresfalse | 296 | \Hy@linktoc@section | 1903, 1907, 1913 |
| | | \Hy@finalfalse | 255 | \Hy@linktocpagefalse | 302 |
| | | \Hy@finaltrue | 254 | \Hy@LT@currentHlabel | 5134, 5145 |
| | | \Hy@FirstPage | 2964 | \Hy@LT@currentHref | 5135, 5146 |
| | | \Hy@FirstPageHook | 4595, 4608, 4610, 4817, 4818, 9183, 9257, 9319, 9597, 9751 | \Hy@LT@footnotetext | 5359, 5369 |
| | | \Hy@fitwindowfalse | 297 | \Hy@make@anchor | 5986, 5993, 5999 |
| | | \Hy@float@caption | 5479, 5520, 5522 | \Hy@make@df@tag@@ | 5991, 6006 |
| | | \Hy@float@currentHref | 5523, 5525, 5527, 5535, 5537, 5538 | \Hy@make@df@tag@@@ | 5997, 6007 |
| | | \Hy@footnote@currentHlabel | 5316, 5330, 5362, 5404 | \Hy@maketitle@end | 5418, 5423, 5425 |
| | | \Hy@footnote@currentHref | 4389, 5300, 5303, 5311, 5314, 5317, 5331, 5334, 5361, 5402, 5405 | \Hy@maketitle@optarg | 5416, 5421 |
| | | \Hy@Gin@setfile | 6067, 6069 | \Hy@MaybeStopNow | 2125, 2130, 2148, 2158, 2165, 2917 |
| | | \Hy@GlobalStepCount | 325, 4695, 5016, 5096, 5848, 5987, 6223, 6274, 11323, 11609, 11620, 11652, 11661, 11694 | \Hy@menubartrue | 303 |
| | | \Hy@gtemp | 621, 622, 3996, 3997, 4001, 4002, 4013, 4027, 6663, 6665, 11046, 11048 | \Hy@naturalnamesfalse | 304 |
| | | \Hy@href | 3414, 3416 | \Hy@nestingfalse | 305 |
| | | \Hy@hyperfootnotesfalse | 5273 | \Hy@newline@author | 4587 |
| | | \Hy@hyperfootnotestru | 298 | \Hy@newline@title | 4586 |
| | | | | \Hy@newwindowfalse | 307 |
| | | | | \Hy@newwindowsetfalse | 306, 2828 |
| | | | | \Hy@newwindowsettrue | 2830 |
| | | | | \Hy@next | 4711, 4721, 4726, 11619, 11629, 11632 |
| | | | | \Hy@nextfalse | 2996, 6076 |
| | | | | \Hy@NextPage | 2958 |

| | | |
|---|---|--|
| \Hy@nexttrue .. 2997, 2998, 2999, 6077, 6078 | 8269, 8271, 9117, 9133, 9142, 9158, 9161 | \Hy@saved@footnotetext .. 5413, 5430 |
| \Hy@number 2781, 2785, 2793 | \Hy@pstringName .. 11521, 11522, 11529, 11533, 11538, 11552 | \Hy@saved@hook 4572, 4582 |
| \Hy@numberline ... 11340, 11377, 11378, 11379 | \Hy@pstringP .. 6953, 6976, 8263, 8271, 9143, 9161 | \Hy@SaveLastskip ... 1727, 6823, 7305, 7318, 7388, 7399, 7618, 8042, 8056, 8127, 8139, 8574, 8587, 9397, 9409, 9655, 9667 |
| \Hy@ocgcolor .. 6782, 6796, 7761, 7775 | \Hy@pstringURI 6885, 6906, 7846, 7860, 8153, 8163, 8215, 8219, 9099, 9109 | \Hy@scanauthor 4542, 4547 |
| \Hy@ocgcolorlinksfalse .. 3270 | \Hy@PutCatalog . 4757, 4765, 4833 | \Hy@scanoptauthor .. 4542, 4543 |
| \Hy@org@chapter .. 11617, 11633 | \Hy@raisedlink 1712, 4966, 5099, 5105, 5106, 5107, 5110, 5147, 5187, 5190, 5302, 5313, 5374, 5401, 5513, 5583, 5607, 5612, 5632, 5989, 6014, 9171, 9242, 9480, 9640, 11325, 11611, 11622, 11654, 11666, 11696 | \Hy@scanopttitle ... 4533, 4534 |
| \Hy@OutlineName .. 11522, 11576 | \Hy@raiselinksfalse . 313, 5735 | \Hy@scantitle 4533, 4538 |
| \Hy@pageanchortrue 308 | \Hy@RemoveDurPageAttr ... 7169, 7182 | \Hy@secnum@part .. 11639, 11641, 11644 |
| \Hy@pagecounter . 330, 332, 5054, 5848, 5849 | \Hy@RemoveHidPageAttr ... 7191, 7203 | \Hy@seminarslidesfalse .. 6173 |
| \Hy@pageheight 1870, 1874, 1878, 1882, 1886, 1890, 2907, 9259, 9347 | \Hy@RemovePercentCr 3391, 3395, 3400 | \Hy@seminarslidestrue ... 6171 |
| \Hy@pagelabelsfalse 4617 | \Hy@RemoveTransPageAttr . 7145, 7159 | \Hy@setbreaklinks .. 1938, 1942, 1954, 6671, 7614 |
| \Hy@pagelabelstrue 309 | \Hy@reserved@a 3500, 5197, 5226, 10175, 10225, 10288 | \Hy@SetCatcodes . 181, 231, 2915 |
| \Hy@param 4989, 4990, 4991, 5013, 5017 | \Hy@RestoreCatcodes 205, 2913, 3203 | \Hy@SetNewWindow ... 2834, 6937, 6973, 7838, 8270, 9132, 9157 |
| \Hy@PatchLanguageShorthands . 3005, 3024 | \Hy@RestoreLastskip 1727, 6826, 7315, 7328, 7396, 7405, 7667, 8053, 8068, 8136, 8148, 8583, 8601, 9406, 9419, 9664, 9676 | \Hy@setouterhbox ... 8880, 8886 |
| \Hy@pdfafalse 323 | \Hy@ReturnAfterElseFi 333, 3379 | \Hy@setpagesizetrue 314 |
| \Hy@pdfencoding@pdfdoc .. 2042 | \Hy@ReturnAfterElseFiFiEnd 337, 1228 | \Hy@setpdfborder ... 2667, 6845, 6890, 6921, 6957, 7272, 7800, 7829, 7853, 7878, 8166, 8182, 8203, 8222, 8248, 8275, 8291 |
| \Hy@pdfmarkererrorfalse ... 8845 | \Hy@ReturnAfterFi 333, 353, 1394, 3383, 3399, 6161, 6644, 6654, 11024 | \Hy@setpdfversiontrue ... 2067 |
| \Hy@pdfmarkererrortrue 8973, 8982 | \Hy@ReturnAfterFiFiEnd ... 336, 1220, 1234, 1312, 1319 | \Hy@setref@link 6371, 6374 |
| \Hy@pdfminorversion 6672, 6678, 6681, 6689, 6694, 6696, 6699, 6703 | \Hy@ReturnEnd 335, 336, 337, 1240, 1324 | \Hy@slidetitle 6200, 6202, 6209, 6217, 6227, 6251, 6253, 6260, 6268, 6278 |
| \Hy@pdfpagehiddenfalse ... 310 | \Hy@safe@activesfalse 338, 3314, 3319, 3514, 6505 | \Hy@StartlinkName .. 6843, 6857 |
| \Hy@pdfstringdef 620, 3971, 3979 | \Hy@safe@activestrue 338, 3312, 3317, 3371, 3408, 3448, 3506, 6415, 6494 | \Hy@StepCount .. 324, 4672, 9974, 10036, 10240, 10385, 10448, 10731, 10795, 11401, 11406, 11467 |
| \Hy@pdfstringfalse .. 311, 4419 | \Hy@saved@currentHlabel . 5327, 5332 | \Hy@temp 517, 524, 2597, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2639, 2640, 2641, 2644, 2646, 2649, 2826, 2827, 2985, 2989, 2990, 2991, 2992, 3098, 3100, 3105, 3107, 3110, 3122, 3124, 3129, 3131, 3137, 3139, 3144, 3146, 3149, 3191, 3192, 3695, 3699, 3700, 3711, 3795, 3796, 3797, 3799, 3803, 4114, 4115, 4116, 4118, 4122, 4123, 4227, 4243, 4244, 4245, 4246, 4247, 4248, 4249, 4250, 4251, 4256, 4257, 4258, 4259, 4260, 4261, 4262, 4263, 4264, 4265, 4266, 4652, 4655, 4664, 4666, 4670, 4674, 4718, 4720, 5048, 5051, 5054, 5060, 5160, 5166, 7072, 7101, 7103, 7544, 7549, 7555, 7559, 7562, 7567, 7598, 7600, 7930, 7973, 7975, 8728, 8731, |
| \Hy@pdfstringtrue ... 491, 4391 | \Hy@saved@currentHref ... 5328, 5333 | |
| \Hy@pdfversion 2068, 2077, 3973, 6694, 6696, 6700, 6703, 11041 | \Hy@saved@footnotemark .. 5412, 5427 | |
| \Hy@plainpagesfalse 312 | | |
| \Hy@PrevPage 2961 | | |
| \Hy@ps@CR 9301, 9308, 9313, 9314, 9331, 9351, 9352, 9353, 9359, 9366, 9373, 9380 | | |
| \Hy@pstringB .. 7057, 7062, 7958, 7970, 8818, 8834, 9569, 9585 | | |
| \Hy@pstringD .. 6917, 6941, 7822, 7837, 9118, 9134 | | |
| \Hy@pstringdef 6609, 6824, 6841, 6885, 6916, 6917, 6952, 6953, 7057, 7620, 7793, 7821, 7822, 7846, 7958, 8153, 8215, 8262, 8263, 8818, 8971, 8980, 9099, 9117, 9118, 9142, 9143, 9569, 11023, 11521, 11529, 11538 | | |
| \Hy@pstringDest 6824, 6825, 7620, 7665, 8971, 8972, 8976, 8980, 8981, 8985 | | |
| \Hy@pstringF .. 6916, 6935, 6952, 6971, 6976, 7821, 7836, 8262, | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---------------------------------|---|--|---|--|---|------------------------------|------------------------------------|--------------------------------|-------------------------------------|-------------------------------|--|--------------------------------|--|--|--------------------------------|-----------------------------------|----------------------------------|--|--|--|---------------------------------|--|--------------------------------|----------------------------------|--|--|---|--|--|--|---|--------------------------------|--|---------------------------------|---------------------------------|------------------------------------|-----------------------------------|---|---------------------------------|---------------------------------|------------------------------------|---|--|-------------------------------|------------------------|----------------------------------|--------------------------------|-------------------------|-------------------------------|---------------------------------|------------------------------------|---|------------------------------------|------------------------------|------------------------------------|--|--------------------------------|---------------------------|-----------------------------------|----------------------------------|----------------------------------|-------------------------------------|----------------------------------|-----------------------------------|--------------------------------|--------------------------------------|--------------------------------------|------------------------------|-------------------------------------|---------------------------------|----------------------------------|--|---------------------------------|---|---|---------------------------------|---------------------------------|---|--|---|---|---|---|--|---|
| 8735, 8736, 8742, 8743, 8749, 8767, 8772, 8778, 8782, 8785, 8790, 8823, 8825, 8937, 8938, 8946, 8947, 9518, 9523, 9529, 9533, 9536, 9541, 9574, 9576, 11006, 11007, 11519, 11525, 11534, 11549 | \Hy@temp@A . 548, 549, 1212, 1214, 1225, 1227, 1232, 1233, 1236, 6089, 6090, 6091, 6108, 6109, 6110 | \Hy@temp@B 1213, 1214 | \Hy@tempa 1771, 1772, 1773, 1775, 1777, 1779, 1782, 1785, 1786, 2199, 2200, 2201, 2203, 2204, 2206, 2207, 2209, 2213, 2217, 2228, 2229, 2230, 2232, 2236, 3377, 3378, 3389, 3393, 3449, 3453, 3505, 3508, 3517, 3519, 4102, 4103, 4701, 4703, 4741, 4743, 4844, 4846, 5244, 5246, 5247, 5250, 5251, 5252, 5474, 5479, 5484, 5908, 5909, 5926, 5927, 5930, 6187, 6188, 6239, 6240, 7333, 7334, 8023, 8160, 8161, 9424, 9425, 9681, 9682, 11343, 11344, 11367, 11369, 11385, 11390, 11684, 11710, 11715, 11718, 11721 | \Hy@tempb 4702, 4703, 4742, 4743, 11368, 11369, 11390 | \Hy@tempcolor . 8616, 8618, 8631, 8703, 8705, 8713 | \Hy@TempPageAnchor . 5838, 5845, 5849, 5863 | \Hy@testname . . 6837, 6838, 6839, 6841, 6854, 7789, 7790, 7791, 7793, 7807, 8174, 8175, 8176, 8179, 8240, 8241, 8242, 8245, 8708, 8709, 8710, 8721 | \Hy@texhtfalse 315 | \Hy@texhttrue 2080, 3094 | \Hy@title 4535, 4539 | \Hy@toclevel . . . 5919, 5923, 5932 | \Hy@toolbartrue 316 | \Hy@true . 1704, 1773, 1775, 2230, 2232 | \Hy@typexmlfalse 317 | \Hy@undefinedname . . 6834, 6839, 7787, 7791, 8151, 8176, 8242, 8700, 8710 | \Hy@unicodefalse 318, 612, 1998, 1999, 2007, 2756, 2762, 5050, 5842, 11043 | \Hy@unicodetrue 1999 | \Hy@useHidKeyfalse 2631 | \Hy@useHidKeytrue 2635 | \Hy@UseMaketitleInfos . . . 4588, 7113, 7509, 7898, 8516, 8727, 9490 | \Hy@UseMaketitleString . . 4569, 4589, 4590 | \Hy@UseNameKey 1852, 7079, 7080, 7081, 7082, 7083, 7084, 7085, 7086, 7105, 7574, 7575, 7576, 7577, 7578, 7579, 7580, 7581, 7602, 7937, 7938, 7939, 7940, 7941, 7942, 7943, 7944, 7977, 8489, 8490, 8491, 8492, 8493, 8494, 8495, 8496, 8797, 8798, 8799, 8800, 8801, 8802, 8803, 8804, 8827, 9548, 9549, 9550, 9551, 9552, 9553, 9554, 9555, 9578 | \Hy@usetitlefalse 319 | \Hy@varioref@undefined . . 5116, 5120, 6500 | \Hy@verbosefalse 320 | \Hy@vt@PutCatalog . . 4788, 4790 | \Hy@VTeXversion 4768, 4780, 8199, 8302, 8436, 11421 | \Hy@Warning 237, 360, 1152, 1790, 1805, 1830, 1917, 2026, 2031, 2536, 2566, 3266, 3520, 3752, 5900, 6481, 6530, 7651, 7655, 8974, 8983, 11352, 11370 | \Hy@WarningNoLine . . 238, 1944, 2052, 2617, 2655, 2900, 2944, 3102, 3111, 3126, 3141, 3150, 3595, 4516, 4618, 4782, 4858, 5035, 5910, 6059, 8853 | \Hy@WarningPageBorderColor 2652, 2654, 2656 | \Hy@WarningPageColor 2614, 2616, 2618 | \Hy@WarnOptionDisabled . . 1802, 1804 | \Hy@WarnOptionValue 1783, 1789, 2220, 2239 | \Hy@windowuitrue 321 | \Hy@writebookmark . . 1709, 5920, 6207, 6215, 6225, 6258, 6266, 6276, 11329, 11412 | \HyC@cmd 87, 109, 122 | \HyC@check 68, 71, 74 | \HyC@checkcommand . . . 50, 57, 59 | \HyC@checkFailed 146, 157 | \HyC@checkItem 132, 133, 134, 135, 138 | \HyC@checklong 45, 53 | \HyC@checkOk 144, 154 | \HyC@checkPackage . . . 12, 16, 18 | \HyC@cmd . . . 62, 75, 87, 95, 118, 131 | \HyC@date 11, 15, 23, 29, 31 | \HyC@DeclareRobustCommand 114 | \HyC@def 125 | \HyC@defcmd 47, 54, 93 | \HyC@doCheck 99, 130 | \HyC@edef 125 | \HyC@getDate 12, 14 | \HyC@meaning 152, 160 | \HyC@nc@default 103, 105 | \HyC@nc@noopt . . . 88, 91, 103, 112, 123, 127 | \HyC@nc@opt 88, 101, 123 | \HyC@newcommand 86 | \HyC@next 48, 55, 60, 83 | \HyC@noValue . . . 80, 81, 82, 85, 139 | \HyC@optcmd 107, 111 | \HyC@org@cmd 76 | \HyC@org@optcmd 80, 111 | \HyC@org@robustcmd . . . 81, 120 | \HyC@org@robustoptcmd 82 | \HyC@package 10, 22, 28, 34, 37, 38 | \HyC@param 78, 96, 102 | \HyC@robustcmd 115, 120, 121, 122 | \HyC@star 67, 70, 94 | \HyC@string . . . 131, 152, 155, 158 | \HyC@Toks . . . 79, 90, 96, 106, 126 | \HyCal@do 354, 358 | \HyCal@scan 345, 349, 373 | \HyColor@FieldBColor 4209, 4212 | \HyColor@FieldColor 4215 | \HyColor@HyperrefBorderColor 2642 | \HyColor@HyperrefColor . . 2602 | \HyColor@UseColor . . 3286, 6785, 6796, 7764, 7775 | \HyField@PDFChoices 3991, 3992, 4007 | \HyField@SetFlag . . 3685, 3687 | \HyField@UseFlag . . 3675, 3677 | \HyField@AdvanceAnnotCount . . 10677, 10707, 10800, 10822, 10851, 10880, 10909, 10934 | \HyField@AnnotCount . . . 10675, 10678, 10681 | \HyField@FlagsAnnot 3845, 3864, 3878, 3891, 3907, 3939 | \HyField@FlagsCheckBox . . 3877, 10133, 10560, 10931 | \HyField@FlagsChoice . . . 3938, 10014, 10426, 10772 | \HyField@FlagsPushButton 3863, 10069, 10089, 10114, 10491, 10511, 10540, 10849, 10874, 10905 | \HyField@FlagsRadioButton 3890, 10010, 10422, 10768 | \HyField@FlagsSubmit 3811, 10090, 10512, 10875 |
|--|--|---------------------------------|---|--|---|--|---|------------------------------|------------------------------------|--------------------------------|-------------------------------------|-------------------------------|--|--------------------------------|--|--|--------------------------------|-----------------------------------|----------------------------------|--|--|--|---------------------------------|--|--------------------------------|----------------------------------|--|--|---|--|--|--|---|--------------------------------|--|---------------------------------|---------------------------------|------------------------------------|-----------------------------------|---|---------------------------------|---------------------------------|------------------------------------|---|--|-------------------------------|------------------------|----------------------------------|--------------------------------|-------------------------|-------------------------------|---------------------------------|------------------------------------|---|------------------------------------|------------------------------|------------------------------------|--|--------------------------------|---------------------------|-----------------------------------|----------------------------------|----------------------------------|-------------------------------------|----------------------------------|-----------------------------------|--------------------------------|--------------------------------------|--------------------------------------|------------------------------|-------------------------------------|---------------------------------|----------------------------------|--|---------------------------------|---|---|---------------------------------|---------------------------------|---|--|---|---|---|---|--|---|

| | | |
|--|--|---|
| \HyField@FlagsText . 3906, 9952, 10364, 10701 | \HyInd@pagelink 6135, 6141, 6143, 6146 | \hyper@anchorend . . . 2931, 4418, 4427, 4441, 4456, 4967, 5100, 5148, 5190, 5209, 5233, 5585, 5610, 5613, 5633, 5766, 5989, 6014, 6863, 7325, 7403, 7679, 8050, 8146, 8592, 9416, 9673, 11325, 11413, 11612, 11623, 11655, 11667, 11697 |
| \HyField@NewBitsetFlag . . 3643, 3646, 3654 | \HyInd@ParenLeft . . . 6074, 6090, 6109 | \hyper@anchorstart . 2930, 4418, 4426, 4440, 4455, 4967, 5100, 5148, 5187, 5209, 5233, 5583, 5608, 5613, 5633, 5766, 5989, 6014, 6862, 7317, 7398, 7675, 8041, 8138, 8586, 9408, 9666, 11325, 11413, 11612, 11623, 11655, 11667, 11697 |
| \HyField@NewFlag . . . 3641, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3782, 3784, 3785, 3787, 3788, 3790, 3791, 3792, 3793 | \HyInd@ParenRight . . 6075, 6091, 6110 | \hyper@chars . . 3405, 6886, 7308, 7320, 7338, 7356, 7366, 7379, 7447, 7477, 8010, 8029, 8044, 8059, 8130, 8141, 8216, 9100, 9411, 9429, 9447, 9457, 9470, 9669, 9686, 9705, 9714, 9726 |
| \HyField@NewFlagOnly 3645, 3783, 3786, 3789 | \HyInd@removespaces 6149, 6152, 6162 | \hyper@currentanchor 8589, 8598, 8610, 8627 |
| \HyField@NewOption . 3642, 3648 | \HyLang@addto . 2451, 2473, 2504, 2512 | \hyper@currentlinktype . . 8611, 8615, 8619 |
| \HyField@PDFAFFlagWarning 3751, 3759, 3763, 3767, 3771, 3775, 3779 | \HyLang@afrikaans 2249 | \hyper@hash . . 3359, 3360, 3406, 3556, 3568, 3585, 3588, 4385, 8004 |
| \HyField@PDFChoices 3964, 10047, 10467, 10818 | \HyLang@DeclareLang 2465, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502 | \hyper@image . . 3434, 3435, 7377, 8258, 8697, 9468, 9724 |
| \HyField@PrintFlags 3692, 3838, 3856, 3870, 3883, 3899, 3931, 3956 | \HyLang@english 2267 | \hyper@last 4507, 4511 |
| \HyField@SetFlag . . . 3684, 3824, 3830, 3835, 3869, 3897 | \HyLang@french 2285 | \hyper@link . . 2929, 3509, 4424, 4425, 4439, 4449, 4454, 6873, 7374, 7418, 7817, 8002, 8233, 8701, 9465, 9721 |
| \HyField@SetKeys 4068, 9949, 9981, 9984, 10003, 10057, 10086, 10104, 10130, 10360, 10392, 10395, 10414, 10478, 10508, 10530, 10556, 10697, 10738, 10741, 10760, 10835, 10871, 10895, 10927 | \HyLang@german 2303 | \hyper@link@ . . 2936, 3501, 3503, 4422, 4432, 4436, 4446, 4461 |
| \HyField@TheAnnotCount . 10680, 10711, 10716, 10803, 10812, 10824, 10829, 10856, 10862, 10882, 10887, 10911, 10916, 10938, 10943 | \HyLang@italian 2321 | \hyper@linkend 2933, 4429, 4443, 4458, 5336, 5577, 5580, 5949, 5953, 5957, 5959, 6872, 7343, 7415, 7813, 7818, 8034, 8191, 8613, 9434, 9691 |
| \HyField@UseFlag . . . 3674, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3825, 3826, 3827, 3828, 3831, 3832, 3833, 3836, 3847, 3848, 3849, 3850, 3851, 3852, 3853, 3854, 3855, 3866, 3867, 3868, 3880, 3881, 3882, 3893, 3894, 3895, 3896, 3898, 3909, 3910, 3911, 3912, 3913, 3914, 3915, 3916, 3927, 3930, 3941, 3942, 3943, 3944, 3946, 3948, 3949, 3952, 3955 | \HyLang@magyar 2339 | \hyper@linkfile 2935, 3581, 4431, 4445, 4460, 6914, 7347, 7475, 7820, 8019, 8195, 9115, 9438, 9695 |
| \HyInd@wrindex 6084, 6085 | \HyLang@portuges 2357 | \hyper@linkstart . . . 2932, 4428, 4442, 4457, 5334, 5573, 5580, 5949, 5953, 5957, 5959, 6864, 7331, 7407, 7788, 7818, 8022, 8152, 8603, 9422, 9679 |
| \HyInd@EncapChar . . . 2247, 2909, 6080 | \HyLang@russian 2375 | \hyper@linkurl 2934, 3433, 3556, 3563, 3584, 3588, 4430, 4444, 4459, 6883, 7348, 7350, 7375, 7445, 7845, 8008, 8020, 8213, 8259, 8698, 9097, 9439, 9441, |
| \HyInd@org@wrindex . 6083, 6087, 6093, 6095 | \HyLang@spanish 2415 | |
| | \HyLang@vietnamese . 2433, 2504, 2512 | |
| | \HyOrg@addtoreset . . 6017, 6019, 6046 | |
| | \HyOrg@appendix 4979, 4985 | |
| | \HyOrg@author . . 4532, 4545, 4549 | |
| | \HyOrg@float@makebox 5531, 5533 | |
| | \HyOrg@languageshorthands 3014, 3021, 3027 | |
| | \HyOrg@make@df@tag@@ 6004 | |
| | \HyOrg@make@df@tag@@@ . . . 6005 | |
| | \HyOrg@maketitle . . . 5410, 5417, 5422 | |
| | \HyOrg@subequations 5261, 5268 | |
| | \HyOrg@title . . . 4531, 4536, 4540 | |
| | \HyOrg@url 3428 | |
| | \hyper@@@anchor 2928, 3438, 3440, 3466, 3468, 3495, 3497, 3592, 4423, 4438, 4453, 5300, 5303, 5311, 5314, 5372, 5375, 5402, 5511, 5513, 5537, 5838, 5845, 5849, 6206, 6214, 6224, 6257, 6265, 6275 | |
| | \hyper@link . . 3411, 3424, 3461, 3480, 3482, 3500, 5591, 5737, 5738, 5739, 5787, 5789, 5791, 6376, 6391, 6490 | |
| | \hyper@@normalise . . 3380, 3384, 3388 | |
| | \hyper@anchor . 3619, 4491, 6861, 7304, 7387, 7672, 8055, 8126, 8573, 9396, 9654 | |

[9466, 9696, 9698, 9722](#)
[\hyper@livelink 4424, 4449](#)
[\hyper@makecurrent . 4963, 4987, 5133, 5186, 5208, 5232, 5329, 5491, 5524](#)
[\hyper@normalise . . . 3372, 3376](#)
[\hyper@nat@current 5574](#)
[\hyper@nat@anchorend 5585](#)
[\hyper@nat@anchorstart . . . 5582](#)
[\hyper@nat@linkbreak 5579](#)
[\hyper@nat@linkend 5576](#)
[\hyper@nat@linkstart 5571](#)
[\hyper@normalise . . . 2911, 2916, 3351, 3414, 3417, 3430, 3432, 3434, 3455, 4097](#)
[\hyper@pageduration 7166, 7212, 8413, 8430, 8664, 8694](#)
[\hyper@pagehidden . . 7189, 7213, 8423, 8431, 8681, 8695](#)
[\hyper@pagetransition . . 7142, 7211, 8304, 8429, 8647, 8693](#)
[\hyper@quote . . 4387, 7309, 7321, 7335, 7339, 7357, 7367, 7380, 8004, 8013, 8025, 8046, 8062, 9400, 9412, 9426, 9430, 9448, 9458, 9471, 9658, 9669, 9683, 9687, 9705, 9715, 9727](#)
[\hyper@readexternallink . 3511, 3527](#)
[\hyper@refstepcounter . . 4942, 4945, 4952](#)
[\hyper@tilde . . 3366, 3367, 3368, 4386](#)
[\hyperbaseurl . . 2620, 2621, 4471](#)
[\hypercalcbp 340, 340](#)
[\hypercalcbpdef . . 342, 379, 2800](#)
[\hyperdef 3463, 4473](#)
[\hypergetpageref 5093](#)
[\hypergetref 5092](#)
[\hyperimage . . . 3434, 3625, 6069](#)
[\hyperlink 3410, 4474, 6158, 6296, 6304, 6319, 6327, 6337, 6345, 6352](#)
[\hyperlinkfileprefix 2623, 2624, 2625, 9646](#)
[\hyperpage 4480, 6130](#)
[\HyperRaiseLinkDefault . . 1711, 1720](#)
[\HyperRaiseLinkHook 1710, 1721](#)
[\HyperRaiseLinkLength . . 1719, 1720, 1723](#)
[\hyperref 3443, 3632, 3633, 4476, 6448, 6452, 6462, 6476](#)
[\hypersetup . . 2019, 2489, 2910, 2912, 4470](#)
[\hypertarget 3436, 4475](#)
[\HyPL@@@CheckThePage 4722, 4740](#)
[\HyPL@@@CheckThePage 4698, 4700](#)
[\HyPL@Alph 4638](#)
[\HyPL@alph 4639](#)
[\HyPL@arabic 4635](#)
[\HyPL@CheckThePage . 4650, 4697](#)
[\HyPL@Entry 4846, 4854, 4862, 4864](#)
[\HyPL@EveryPage . . . 4640, 4761](#)
[\HyPL@Format . . 4713, 4714, 4715, 4716, 4717, 4729](#)
[\HyPL@found . . 4712, 4719, 4723, 4730, 4740, 4742](#)
[\HyPL@Labels . . 4629, 4752, 4753, 4755, 4757, 4802, 4803, 4857, 4865, 4866](#)
[\HyPL@LastNumber . . . 4633, 4668, 4691](#)
[\HyPL@LastPrefix . . . 4634, 4662, 4693](#)
[\HyPL@LastType . 4632, 4653, 4692](#)
[\HyPL@page 4643, 4645, 4650, 4658](#)
[\HyPL@Prefix . . 4658, 4660, 4662, 4676, 4679, 4681, 4693, 4707, 4745](#)
[\HyPL@Roman 4636](#)
[\HyPL@roman 4637](#)
[\HyPL@SetPageLabels 4751, 4809, 4811, 4860](#)
[\HyPL@StorePageLabel 4676, 4678, 4748, 4800, 4841](#)
[\HyPL@thisLabel 4626, 4628, 4642, 4645, 4646](#)
[\HyPL@Type 4648, 4653, 4657, 4675, 4683, 4692, 4706, 4744](#)
[\HyPL@Useless 4749, 4755](#)
[\HyPsd@@@autoref . . . 1069, 1071, 1074](#)
[\HyPsd@@@nameref . . . 1051, 1053, 1056](#)
[\HyPsd@@@pageref . . . 1033, 1035, 1038](#)
[\HyPsd@@@ref . . . 1017, 1019, 1022](#)
[\HyPsd@@@UTFviii@four . . 1586, 1589](#)
[\HyPsd@@AppendItalcorr . . 1242](#)
[\HyPsd@@autoref 1066, 1067](#)
[\HyPsd@@autorefname 1087, 1090](#)
[\HyPsd@@ConvertToUnicode 1512](#)
[\HyPsd@@GetNextTwoTokens 1510](#)
[\HyPsd@@GreekNum . 768, 777, 876, 880, 884](#)
[\HyPsd@@hspace 988, 989](#)
[\HyPsd@@LetCommand . 1111, 1132](#)
[\HyPsd@@nameref 1048, 1049](#)
[\HyPsd@@pageref 1030, 1031](#)
[\HyPsd@@ProtectSpacesFi . 1164, 1168, 1186, 1192, 1197](#)
[\HyPsd@@ref 1014, 1015](#)
[\HyPsd@@RemoveBraces 1210](#)
[\HyPsd@@RemoveBracesFi . . 1207, 1210](#)
[\HyPsd@@RemoveCmdPrefix . 1369, 1372](#)
[\HyPsd@@ReplaceFi . . 1415, 1421, 1426](#)
[\HyPsd@@UTFviii@four 1570, 1575](#)
[\HyPsd@add@accent 399, 977](#)
[\HyPsd@AfterCountRemove . 1255, 1326](#)
[\HyPsd@AfterDimenRemove . 1261, 1329](#)
[\HyPsd@AfterSkipRemove . . 1267, 1341](#)
[\HyPsd@AMSclassfix . . 474, 998, 1000](#)
[\HyPsd@AppendItalcorr . . 1226, 1233, 1242](#)
[\HyPsd@autoref 484, 1066](#)
[\HyPsd@autorefname . 1078, 1084](#)
[\HyPsd@babel@danish 664](#)
[\HyPsd@babel@dutch 670](#)
[\HyPsd@babel@finnish 676](#)
[\HyPsd@babel@frenchb 681](#)
[\HyPsd@babel@german 686](#)
[\HyPsd@babel@macedonian . . 693](#)
[\HyPsd@babel@ngerman 699](#)
[\HyPsd@babel@portuges 705](#)
[\HyPsd@babel@russian 710](#)
[\HyPsd@babel@slovene 716](#)
[\HyPsd@babel@spanish 721](#)
[\HyPsd@babel@swedish 731](#)
[\HyPsd@babel@ukrainian . . . 737](#)
[\HyPsd@babel@usorbian 743](#)
[\HyPsd@CatcodeWarning . . 1271, 1288, 1291, 1294, 1297, 1353](#)
[\HyPsd@CheckCatcodes . 535, 1248](#)
[\HyPsd@CJKActiveChars . 904, 917](#)
[\HyPsd@CJKhook 489, 886](#)
[\HyPsd@ConvertToUnicode . . 603, 1460](#)
[\HyPsd@DecimalToOctal . 896, 925](#)
[\HyPsd@DefCommand 518, 519, 520, 521, 1100](#)
[\HyPsd@DisableCommands 651, 653](#)
[\HyPsd@DoConvert . . . 1462, 1472](#)
[\HyPsd@DoEscape 1486](#)
[\HyPsd@doboxspace 575, 1433](#)
[\HyPsd@empty . . 560, 562, 566, 567, 569, 577, 584](#)
[\HyPsd@end . 535, 539, 1165, 1168, 1171, 1174, 1177, 1190, 1200, 1207, 1210, 1248, 1256, 1262, 1268, 1313, 1320, 1326, 1329, 1341](#)
[\HyPsd@endWithElse . . . 967, 976](#)

\HyPsd@fi . 1182, 1188, 1192, 1198
\HyPsd@GetNextTwoTokens . 1510
\HyPsd@GetOneByte 1505
\HyPsd@GetTwoBytes 1501
\HyPsd@GLYPHERR 540, 964, 978, 985
\HyPsd@GlyphProcess 542, 1388, 1405
\HyPsd@GlyphProcessWarning 1395, 1399
\HyPsd@GobbleFiFi 969, 975
\HyPsd@GreekNum . . 757, 760, 762
\HyPsd@Greeknumeral . . 753, 759
\HyPsd@greeknumeral . . 752, 756
\HyPsd@GreekNumI . 780, 806, 849, 875
\HyPsd@GreekNumII 784, 828, 872, 879
\HyPsd@GreekNumIII 787, 851, 883
\HyPsd@GreekNumIV 796, 874
\HyPsd@GreekNumV 799, 878
\HyPsd@GreekNumVI 801, 882
\HyPsd@GreekPatch 460, 749, 751
\HyPsd@hspace 475, 988
\HyPsd@hspacetest 991, 993, 996
\HyPsd@ifnextchar . . . 506, 1137
\HyPsd@InitUnicode 628
\HyPsd@inmathwarn 398, 961
\HyPsd@ITALCORR . . 498, 502, 985
\HyPsd@LetCommand 522, 523, 1100
\HyPsd@LetUnexpandableSpace 493, 494, 495, 496, 981, 984
\HyPsd@LoadStringEnc 2023, 2043, 2045, 2049, 2051
\HyPsd@LoadUnicode . 1978, 1980, 1985, 1988, 1990, 1997
\HyPsd@nameref 483, 1048
\HyPsd@new@ifnextchar 507, 1141
\HyPsd@pageref 482, 1030
\HyPsd@pdfencoding . 604, 1974, 1976, 2006, 2018, 2021, 2022, 2027, 2042
\HyPsd@pdfencoding@auto . . 604, 2012, 2022, 2039
\HyPsd@pdfencoding@pdfdoc 2005, 2027, 2040
\HyPsd@pdfencoding@unicode 2009, 2041
\HyPsd@protected@testopt . 508, 1145
\HyPsd@ProtectSpaces 528, 1162, 1183, 1232
\HyPsd@ref 481, 1014
\HyPsd@RemoveBraces 530, 1204, 1221, 1229, 1235
\HyPsd@RemoveCmdPrefix . . 1362, 1368
\HyPsd@RemoveMask . . 538, 1171, 1177, 1190, 1200
\HyPsd@RemoveSpaceWarning 1336, 1348, 1374
\HyPsd@ReplaceSpaceWarning 1331, 1343, 1381
\HyPsd@Rest . . 1249, 1309, 1317, 1320, 1327, 1332, 1338, 1344, 1350
\HyPsd@SPACEOPTI . 532, 547, 548, 550, 552, 554, 555, 594, 596, 1284, 1444
\HyPsd@spaceopti 596, 1407
\HyPsd@String 529, 531, 534, 536, 541, 543, 1215, 1216, 1226, 1278, 1279, 1283, 1284, 1299, 1300, 1330, 1342, 1389, 1390
\HyPsd@StringSubst 544, 546, 552, 558, 561, 564, 567, 586, 589, 591, 1430
\HyPsd@Subst . . 540, 549, 553, 559, 565, 569, 573, 578, 579, 580, 581, 582, 583, 587, 590, 1414, 1431
\HyPsd@temp . . 607, 608, 610, 611, 2004, 2005, 2006, 2009, 2012, 2018, 2030, 2034
\HyPsd@tocsection . . 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1009
\HyPsd@UnexpandableSpace . 984, 1173, 1197, 1332, 1344
\HyPsd@unichar 1528, 1595, 1601, 1606
\HyPsd@unichar@first@byte 1614, 1634
\HyPsd@unichar@octtwo . . 1636, 1644, 1650
\HyPsd@unichar@second@byte 1622, 1642
\HyPsd@UnicodeReplacementCharacter 1598, 1633
\HyPsd@UTFviii . . 392, 1516, 1521
\HyPsd@UTFviii@@three . . 1551, 1560
\HyPsd@UTFviii@@two 1536, 1542
\HyPsd@UTFviii@ccxliv@def 1526, 1532
\HyPsd@UTFviii@ccxliv@undef 1525, 1531
\HyPsd@UTFviii@four 1524, 1569
\HyPsd@UTFviii@three 1523, 1550
\HyPsd@UTFviii@two . 1522, 1535
\HyPsd@Warning 1149, 1354, 1375, 1382, 1400
\HyPsd@XSPACE 500, 574, 985
\HyPsd@xspace 572, 574, 575
\HyRef@@StarSetRef . 6419, 6424
\HyRef@autopageref . 6473, 6475
\HyRef@autopagerefname . . 6472, 6476, 6478
\HyRef@autoref 6490, 6492
\HyRef@autosetref . . 6495, 6498
\HyRef@CaseStar 6558, 6564
\HyRef@currentHtag . 6511, 6529, 6532, 6538, 6544, 6550, 6565
\HyRef@MakeUppercaseFirstOfFive 6439, 6441
\HyRef@name . . 6527, 6528, 6533, 6539, 6557, 6558, 6559, 6561
\HyRef@Ref 6445, 6447
\HyRef@ShowKeysInit 6567, 6580, 6584
\HyRef@ShowKeysRef . 6499, 6566
\HyRef@StarSetRef . . 6413, 6431, 6434, 6439
\HyRef@StripStar . . 6526, 6556
\HyRef@testreftype . 6504, 6523
\HyRef@thisref 6501, 6504
\HyTmp@found . . . 4018, 4028, 4031
\HyTmp@key 4012, 4013
\HyTmp@optitem 3968, 3984, 4011, 4016, 4022, 4043, 4054
\HyTmp@optlist 3967, 3982, 3983, 4014, 4015, 4020, 4021, 4029, 4030, 4050, 4052, 4059, 4062

I

\i . . . 11802, 11884, 11886, 11888, 11890, 12080, 12082, 12084, 12086, 12160, 12163, 12166, 12169, 12171, 12256
\if . 1010, 1698, 4666, 4674, 5250, 5251, 8376, 8379, 8383, 8387, 8391, 8393, 8395, 11149
\if@eqnstar 5192, 5200
\if@filesw 1666, 3489, 4484, 4520, 4842, 4852, 5042, 5620, 5635, 5651, 5663, 5693, 5716, 5743, 5748, 5767, 6102, 11386, 11498, 11565
\if@hyper@item 4927, 4940
\if@Localurl 7993, 8035
\if@mid@expandable 473
\if@minipage 5499, 5562
\if@nmbrlist 4914
\if@skiphyperrref . . . 4928, 4938
\if@twocolumn 11699
\if@twoside 11687
\ifcase 813, 835, 858, 926, 1564, 2009, 2563, 3813, 3918, 4048, 4123, 5945, 6090, 6109, 6311, 6500, 8449,

| | | |
|---|---|---|
| 11088, 11165, 11230, 11265, 11299, 11425 | \ifHy@draft 253, 2927 | \ifHy@texht 280, 3303, 3330, 4418, 6359 |
| \ifcat . . . 1250, 1277, 1282, 1287, 1290, 1293, 1296, 3603, 3605 | \ifHy@DvipdfmxOutlineOpen 3205, 11540 | \ifHy@toolbar . . 281, 7073, 7568, 7931, 8483, 8791, 9542 |
| \ifdim 996, 1330, 1334, 1342, 1346, 1730, 1749, 2882, 2883, 2888, 2889, 2897, 7226, 7230, 7235, 7239, 7246, 7250, 7255, 7259, 8102, 8105, 8109, 8112, 8891, 8902, 9976, 10015, 10016, 10387, 10427, 10428, 10733, 10773, 10774 | \ifHy@escapeform . . . 256, 11002, 11031 | \ifHy@typexml . . 243, 3058, 3280, 3322, 4485, 11501, 11568 |
| \ifetex@unexpanded 1156 | \ifHy@figures . . 257, 3033, 4350, 6066 | \ifHy@unicode . 282, 388, 545, 557, 585, 593, 602, 763, 899, 1356, 1402, 1596, 1973, 2020, 11042 |
| \IfFileExists 4515, 9737 | \ifHy@fitwindow 258, 7076, 7571, 7934, 8486, 8794, 9545 | \ifHy@useHidKey 2630, 7190, 8424, 8682 |
| \ifFld@checked 4071, 10295, 11076 | \ifHy@frenchlinks . . . 259, 3291 | \ifHy@usetitle 283, 4530 |
| \ifFld@comb 3917 | \ifHy@hyperfootnotes . 260, 5274 | \ifHy@verbose . . 284, 3693, 5925, 6820 |
| \ifFld@combo . . 3945, 3950, 9990, 10019, 10401, 10431, 10747, 10777 | \ifHy@hyperindex 261, 3043, 4360, 6073 | \ifHy@windowui . 285, 7075, 7570, 7933, 8485, 8793, 9544 |
| \ifFld@disabled . . . 4072, 10296 | \ifHy@hypertextnames 262, 4993, 5046, 5836, 6204, 6255 | \ifmeasuring@ 4951, 4964 |
| \ifFld@edit 3951 | \ifHy@implicit . 263, 3065, 11593 | \ifnum 764, 767, 778, 779, 783, 791, 795, 798, 808, 830, 853, 1554, 1597, 1600, 1612, 2133, 2136, 2161, 2564, 2565, 3209, 3236, 3973, 4044, 4055, 4649, 4668, 4684, 4780, 6313, 6351, 6689, 6694, 6993, 7000, 7006, 7014, 8199, 8302, 8436, 8444, 8446, 8447, 8457, 8460, 8542, 8544, 8644, 9247, 10321, 10799, 10803, 10811, 11041, 11059, 11088, 11093, 11165, 11171, 11199, 11230, 11236, 11255, 11265, 11270, 11299, 11304, 11333, 11349, 11421, 11489, 11542, 11626, 11644, 11660, 11665 |
| \ifFld@fileselect 3920 | \ifHy@linktocpage . . 264, 1900, 1910 | \ifodd 1578, 1583, 5857 |
| \ifFld@hidden 9953, 10004, 10070, 10091, 10115, 10134, 10194, 10206, 10216, 10299, 10365, 10416, 10492, 10513, 10541, 10561, 10702, 10762, 10850, 10876, 10906, 10932 | \ifHy@menubar . . 265, 7074, 7569, 7932, 8484, 8792, 9543 | \ifpdf 3099, 3161 |
| \ifFld@multiline . . 3918, 9941, 10201, 10352, 10689 | \ifHy@naturalnames . 266, 5006, 6205, 6256 | \ifportrait 7225 |
| \ifFld@multiselect 3990 | \ifHy@nesting . . 267, 3038, 3437, 3465, 3494, 3601, 4355, 5299, 5310, 5371, 5510 | \ifthenelse 5770 |
| \ifFld@password . . . 3919, 10182 | \ifHy@newwindow . 269, 2837, 8199 | \iftrue . . 1163, 1185, 1425, 11628 |
| \ifFld@popdown 3737, 9991, 10402, 10748 | \ifHy@newwindowset . . 268, 2835 | \ifvmode 1713, 1729, 1738 |
| \ifFld@radio . 9987, 10009, 10231, 10398, 10421, 10744, 10767 | \ifHy@next 662, 3000, 6082 | \ifvoid 5141, 5150 |
| \ifFld@readonly . . 10203, 10213, 10297 | \ifHy@ocgcolorlinks 270, 2535, 3263, 3273, 4375, 6688, 6706, 6781, 6789, 7682, 7760, 7768 | \ifvtexhtml 3138, 3167 |
| \ifForm@html 4091 | \ifHy@pageanchor 271, 5033, 5045, 5060, 5835 | \ifvtexpdf 3178 |
| \ifhmode . 1748, 1757, 5325, 5337, 5461, 5463 | \ifHy@pagelabels 272, 4614, 4800, 4840 | \ifvtexps 3181 |
| \ifHy@activeanchor . . 244, 3616 | \ifHy@pdfa 287, 2951, 3265, 3544, 3750, 4231, 4267, 4380, 6844, 6902, 6933, 6969, 7284, 7799, 7828, 7852, 7873, 8165, 8181, 8202, 8221, 8247, 8274, 8290, 8995, 9912, 10060, 10108, 10482, 10534, 10633, 10661, 10839, 10899, 11078, 11151, 11289 | \ifxetex 3123, 3164 |
| \ifHy@backref . . 245, 3053, 3335, 4365, 5744, 5780 | \ifHy@pdfmarkerror . 8842, 8850 | \ignorespaces . 5114, 5270, 5407, 5495, 5506, 5509, 5559, 5566, 5628, 5643, 5659, 5668, 5778, 6184, 6236 |
| \ifHy@bookmarks 246, 3245 | \ifHy@pdfpagehidden 273, 2634, 7192, 8425, 8687 | \IJ 11800, 12244 |
| \ifHy@bookmarksnumbered . . 247, 6199, 6250, 11376 | \ifHy@pdfstring . 274, 636, 4932 | \ij 11907, 12103 |
| \ifHy@bookmarksopen . 248, 3235 | \ifHy@plainpages 275, 3048, 5047, 5837 | \immediate . . . 4486, 4487, 4488, 4490, 4522, 4793, 4845, 4853, 5057, 5085, 5623, 5638, 5654, 5664, 5694, 5717, 5743, 5773, 6707, 6722, 6737, 8547, 9244, |
| \ifHy@breaklinks 249, 1943, 8604, 8635, 8885, 8896 | \ifHy@psize 276 | |
| \ifHy@centerwindow . 250, 7077, 7572, 7935, 8487, 8795, 9546 | \ifHy@raiselinks 277, 7352, 7421, 7450, 7480, 9443, 9700 | |
| \ifHy@CJKbookmarks . . . 251, 488 | \ifHy@seminarslides 278 | |
| \ifHy@colorlinks 252, 3277, 4370, 9383 | \ifHy@setpagesize . . 279, 7216, 8099, 9233 | |
| \ifHy@displaydoctitle 286, 7078, 7573, 7936, 8488, 8796, 9547 | \ifHy@setpdfversion 2059, 6693 | |

10312, 11475, 11500, 11502,
11567, 11569
`\incrd@eqnum` 5161, 5174
`\index` 477
`\indexentry` . . . 6105, 6113, 6117
`\input` . 624, 629, 1981, 2507, 2515,
2522, 3201, 9174, 9245, 9336,
9485
`\InputIfFileExists` 2914, 11494,
11514, 11560, 11562
`\inputlineno` . . . 3608, 5928, 6821
`\insert` 5387
`\interfootnotelinepenalty` 5390
`\interlinepenalty` 5390
`\item` 4909, 4912, 5650, 5662, 5765
`\Itemautorefname` 6590
`\itemautorefname` . . . 2252, 2270,
2288, 2306, 2324, 2342, 2360,
2389, 2390, 2418, 2436, 6590,
6591, 6594
`\itshape` 438

J

`\j` 11995, 12176
`\jarr` 12802
`\jeem` 12774
`\jeh` 12810
`\jobname` . 4487, 4515, 4522, 9737,
11494, 11500, 11514, 11560,
11562, 11567

K

`\k` . . . 11748, 11924, 11926, 11931,
11933, 11970, 12122, 12123,
12142, 12143, 12167, 12168,
12169, 12237, 12238, 12267,
12268
`\kaf` 12792
`\kasra` 12805
`\keepPDF@SetupDoc` . . 9387, 9394
`\kern` 1259, 1331, 1336, 1348, 5852,
5853, 5854, 5856, 5857, 5862
`\kha` 12776
`\KV@Hyp@draft` 1867
`\KV@Hyp@nolinks` 1867
`\kv@key` . . 3971, 3974, 3976, 3980,
3984
`\kv@parse` 3970
`\kv@value` 3972, 3979, 3980

L

`\L` 11796, 12188
`\l` 11803, 12189
`\l@slide` . 6184, 6294, 6299, 6303,
6310
`\l@subslide` 6236, 6299, 6306, 6350
`\label` 476, 5897
`\label@hyperref` . . . 3472, 3474

`\label@hyperdef` 3463, 3486
`\label@hyperref` 3444, 3471, 3629
`\labelsep` 5777
`\labelwidth` 5776
`\lam` 12793
`\language@group` 458
`\languageshorthands` 3022, 3023,
3026
`\LARGE` 445
`\Large` 446
`\large` 449, 6316, 6324, 6334, 6342
`\lastpage@putlabel` 5028
`\lastskip` 1730, 1734, 1741, 1749,
1753, 1760
`\LaTeX` 415, 416, 9743, 9744
`\LaTeXe` 416, 9744
`\LayoutCheckField` . 4306, 10135,
10562, 10935
`\LayoutChoiceField` 4303, 10008,
10420, 10766
`\LayoutPushButtonField` . . 4309,
10064, 10071, 10486, 10493,
10843, 10852
`\LayoutTextField` . . 4300, 9955,
10367, 10708
`\lccode` 909, 1519, 6080
`\ldots` 410
`\leavevmode` 485,
1708, 2937, 2954, 2994, 3549,
4464, 5324, 5460, 5684, 6451,
6459, 6836, 6887, 6918, 6954,
7351, 7420, 7448, 7478, 7823,
7847, 8003, 8011, 8060, 8196,
8217, 8239, 8264, 8606, 8884,
9101, 9119, 9144, 9442, 9699,
10065, 10072, 10107, 10450,
10468, 10487, 10494, 10514,
10533, 10797, 10820, 10844,
10853, 10878, 10898
`\limits` 3397
`\listofslides` 6285
`\listslidenam` 6284, 6287, 6289,
6291
`\literalps@out` 1706, 8536, 8541,
8588, 8593, 8609, 8614, 8860,
8871, 8892, 8894, 8903, 8905,
9172, 9243, 9306, 9483
`\lower` . . . 7355, 7423, 7452, 7482,
8894, 9446, 9703
`\lowercase` 910, 1520, 1771, 2199,
2228, 3642, 3643, 3646, 3651,
3675, 3685, 3739, 3795, 4114,
4154, 4157, 6081, 8643
`\lslide@flag` . . 6311, 6314, 6332,
6351, 6355
`\LT@array` 5127
`\LT@firsthead` 5141, 5150

`\LT@p@ftn` . 5343, 5346, 5350, 5364
`\LT@p@ftntext` 5341, 5348
`\LT@start` 5143, 5154
`\luatexrevision` 7037
`\luatexversion` 7029, 7034

M

`\m@ne` . . . 3657, 5073, 5242, 11562,
11626, 11641
`\make@df@tag@` 6004, 6006
`\make@df@tag@@` 6005, 6007
`\make@stripped@name` 4956, 5183,
5205, 5229, 5240
`\makeatletter` 3, 650, 4514
`\MakeButtonField` . . 4316, 10066,
10074, 10093, 10112, 10117,
10488, 10497, 10521, 10538,
10544, 10845, 10848, 10877,
10903, 10907
`\MakeCheckField` . . 4313, 10137,
10565, 10933
`\MakeChoiceField` . . 4315, 10049,
10471, 10819
`\MakeFieldObject` . 10311, 10328,
10338, 10341
`\MakeRadioField` . . 4312, 10039,
10461, 10792
`\makeslideheading` 6194
`\makeslidesubheading` 6246
`\maketag@@` 5993
`\MakeTextField` 4314, 9957, 10370,
10705
`\maketitle` 5410, 5411
`\MakeUppercase` . 6289, 6291, 6442
`\MathBSuppress` 8012, 8015
`\mathdisplay` 5164, 5173
`\mathdisplay@push` . . 5162, 5171
`\mathversion` 454
`\maxdimen` 2585, 10316
`\MaybeStopEarly` 328, 2084, 2138,
3069, 3169, 4873
`\mbox` . 486, 5697, 5720, 6791, 7770
`\mdseries` 437
`\meaning` 62, 153,
159, 1669, 4554, 5013, 5247,
11525, 11534, 11549
`\measuring@false` 4951
`\mediaheight` . . 8095, 8097, 8103,
8110
`\mediawidth` 8106, 8113
`\meem` 12794
`\message` 6312
`\MessageBreak` . . 361, 1362, 1377,
1384, 1402, 1791, 1792, 1806,
1828, 1831, 1833, 1918, 1919,
1945, 1946, 1992, 1993, 1994,
2032, 2033, 2053, 2063, 2221,

| | | |
|---|---|--|
| 2537, 2902, 3103, 3104, 3112, 3113, 3127, 3128, 3142, 3143, 3151, 3152, 3267, 3696, 3701, 3710, 3753, 3799, 3923, 4037, 4118, 4619, 5036, 5902, 6061, 11354, 11372 | \noboundary 12815 | 1554, 1562, 1563, 1564, 1565, 1566, 1567, 1571, 1573, 1577, 1579, 1581, 1583, 1587, 1590, 1591, 1593, 1602, 1607, 1624, 1638, 1646, 1652, 2786 |
| \MF 419, 9746 | \nobreak . 1731, 1739, 1750, 1758, 5325, 5461 | \nun 12795 |
| \MP 420, 9747 | \nobreakspace .. 496, 6454, 6483, 6486 | O |
| \multiply 7033, 8405, 8440 | \noexpand 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 660, 921, 1106, 1123, 1250, 1533, 1737, 1738, 1739, 1742, 1756, 1757, 1758, 1761, 2468, 2470, 2472, 2473, 2489, 2641, 2642, 2644, 3021, 3022, 3023, 3024, 3026, 3027, 3391, 3451, 3520, 3603, 3605, 3705, 4722, 4723, 4732, 4734, 4737, 4819, 5070, 5071, 5073, 5246, 5344, 5352, 5353, 5354, 5355, 5356, 5358, 5470, 5548, 5622, 5637, 5653, 6021, 6023, 6419, 6420, 6533, 6534, 6539, 6540, 6545, 6546, 6551, 6552, 7036, 7556, 8779, 8846, 9303, 9530, 9983, 9984, 9985, 9986, 10394, 10395, 10396, 10397, 10740, 10741, 10742, 10743, 11004 | \OBJ@ZaDb .. 10323, 10612, 10628 |
| N | \nofrenchguillemets .. 513, 515 | \OCIRCUFLEX 12638, 12736, 12737, 12738, 12739, 12740 |
| \name@of@eq 4925, 4954 | \NoHyper 4421 | \ocircumflex 12631, 12676, 12677, 12678, 12679, 12680 |
| \name@of@slide 4926, 4936 | \nolinkurl 3430 | \oddsidemargin 5858 |
| \nameref 483 | \nolinkurl@ 3430, 3431 | \OE 11797, 12003, 12205 |
| \nasb 12800 | \NomFancyVerbLineautorefname 2407 | \oe 11804, 12004, 12206 |
| \netscape 7386 | \Nomfootnoteautorefname . 2387 | \offinterlineskip 4601 |
| \new@ifnextchar 1142 | \Nomtheoremautorefname .. 2411 | \OHORN 12639, 12741, 12742, 12743, 12744, 12745 |
| \new@pdf@link ... 6819, 6861, 6862 | \nonumber 5217, 5220 | \ohorn .. 2434, 2441, 12632, 12681, 12682, 12683, 12684, 12685 |
| \new@refstepcounter 5156, 5188 | \normalfont 432 | \oldcontentsline ... 4492, 4495, 4504 |
| \newblock 5781 | \normalsize 450, 5502, 5565 | \oldnewlabel ... 4497, 4502, 4505 |
| \newcommand 4, 9, 42, 635, 1707, 4468, 4888, 4891, 4894, 4895, 4896, 4898, 4899, 4900, 4901, 4903, 4904, 4905, 4906, 4907, 4908, 4917, 4918, 4919, 4920, 4921, 4922, 5238, 6029, 6171, 6176, 6177, 11396, 11399, 11404 | \null 5762, 5770, 6408, 6513 | \OMEGA 9742 |
| \newcount .. 329, 330, 4075, 4630, 10045, 10465, 10675, 10816, 11418 | \number 781, 785, 788, 796, 799, 801, 1537, 1538, 1539, 1540, 1544, 1545, 1546, 1547, 1548, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1562, 1563, 1564, 1565, 1566, 1567, 1570, 1572, 1576, 1577, 1579, 1581, 1583, 1586, 1590, 1591, 1592, 1593, 1602, 1603, 1607, 1608, 1615, 1616, 1620, 1623, 1624, 1625, 1635, 1637, 1638, 1643, 1645, 1646, 1651, 1652, 2782, 3237, 3663, 6700, 6703, 7411, 7425, 7426, 7437, 7438, 7454, 7455, 7466, 7467, 7484, 7485, 7496, 7497 | \openout 4487, 4522, 11500, 11567 |
| \newcounter 4910, 5275 | \numberline .. 5495, 5559, 11377, 11381 | \OpMode .. 2133, 2136, 2147, 2161, 2164, 8457, 8544, 9247 |
| \newdimen 326, 4076, 4077 | \numberwithin 6026 | \or 815, 816, 817, 818, 819, 820, 821, 822, 823, 837, 838, 839, 840, 841, 842, 843, 844, 845, 860, 861, 862, 863, 864, 865, 866, 867, 868, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 3823, 3829, 3834, 4049, 5947, 5951, 6331, 6340, 8450, 11426, 11427, 11428, 11429, 11430, 11431, 11432, 11433, 11434, 11435, 11436, 11437, |
| \newif 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 662, 2059, 2630, 3205, 3649, 3737, 4071, 4072, 4091, 4927, 4928, 4951, 5192, 7993, 8842 | \numexpr . 1544, 1545, 1546, 1548, | |
| \newlabel 1672, 3491, 4497, 4498, 4505, 4527, 5058, 5086 | | |
| \newlabelxx 4499, 4500 | | |
| \newline 413, 4575 | | |
| \newname . 4957, 5184, 5206, 5230, 5243, 5252 | | |
| \newsavebox 7615, 8879 | | |
| \newtoks 90, 4136, 8725, 8912, 8913 | | |
| \newwrite ... 4521, 11499, 11566 | | |
| \next 5771, 5772, 5773, 8368, 8370, 8372 | | |
| \nfss@text 6366, 6386, 6403, 6517 | | |
| \NG 12197 | | |
| \ng 12198 | | |

| | | |
|--|--|--|
| 11438, 11439, 11440, 11441, 11442, 11443, 11444, 11445, 11446, 11447, 11448, 11449, 11450, 11451, 11452, 11453, 11454, 11455, 11456, 11457 | | |
| P | | |
| \P | 409 | |
| \p@ | 1603, 1608, 4078, 4084, 7361, 7433, 7462, 7492, 8404, 9452, 9710, 9978, 10389, 10735, 11692, 11693 | |
| \p@equation | 6000 | |
| \PackageError | 61, 1991, 2978, 3545, 3798, 3922, 4117, 4233, 4269, 10061, 10109, 10483, 10535, 10840, 10900 | |
| \PackageInfo | 239, 6684, 6698 | |
| \PackageWarning | 237, 2062, 4035 | |
| \PackageWarningNoLine | 238 | |
| \pageautorefname | 2265, 2283, 2301, 2319, 2337, 2355, 2373, 2413, 2431, 2449, 6486, 6607 | |
| \pagename | 6483 | |
| \pageref | 482, 3079, 3325, 5036, 6472, 6476 | |
| \paperheight | 2883, 2884, 2895, 7230, 7232, 7235, 7237, 7250, 7252, 8102, 8103, 8105 | |
| \paperwidth | 2882, 2884, 7226, 7228, 7239, 7241, 7246, 7248, 8106 | |
| \par | 5494, 5517, 5557, 5566, 5764, 5784 | |
| \paragraphautorefname | 2261, 2279, 2297, 2315, 2333, 2351, 2369, 2402, 2404, 2427, 2445, 6603 | |
| \partautorefname | 2255, 2273, 2291, 2309, 2327, 2345, 2363, 2393, 2421, 2439, 6597 | |
| \partnumberline | 11378, 11382 | |
| \PassOptionsToPackage | 2173, 2210, 2214, 2233, 2921, 3194 | |
| \pdf@addtoks | 8915, 8934, 8940, 8949, 8956, 8960, 8962, 8964, 8966, 8968, 8976, 8985, 8989, 8991, 8993, 8996, 9005, 9009, 9011, 9013, 9015, 9017, 9019, 9021, 9023, 9025, 9027, 9029, 9031, 9033, 9035, 9037, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049 | |
| \pdf@addtoksxx | 8909, 8919, 8932 | |
| \pdf@box | 8879, 8886, 8888, 8890, 8891, 8894, 8901 | |
| \pdf@defaulttoks | 8846, 8913, 8914, 8924 | |
| \pdf@docset | 8725 | |
| \pdf@endanchor | 6828, 6861, 6863 | |
| \pdf@escapestring | 6663 | |
| \PDF@FinishDoc | 2087, 2088, 2141, 2142, 2878, 2939, 3072, 3073, 3172, 3173, 4463, 4611, 4612, 7112, 7297, 7508, 7897, 7994, 8515, 8726, 9489, 9647 | |
| \pdf@linktype | 8864, 8868, 8929, 8930 | |
| \pdf@rect | 8856, 8870, 8883 | |
| \PDF@SetupDoc | 2877, 2938, 4392, 4393, 4462, 7043, 7298, 7536, 7929, 7995, 8465, 8766, 9389, 9517, 9648 | |
| \PDF@SetupDox | 7043 | |
| \pdf@toks | 8846, 8861, 8872, 8912, 8916, 8920 | |
| \pdf@type | 8848, 8852, 8861, 8872, 8907, 8927 | |
| \pdfannotlink | 6810 | |
| \pdfbookmark | 1707, 4467, 4468, 11397, 11402, 11407, 11411 | |
| \pdfcatalog | 4765, 6743, 7058, 7100, 10327 | |
| \PDFdefaults | 8923 | |
| \pdfdest | 6830 | |
| \pdfendlink | 6860, 10370, 10461, 10472, 10498, 10522, 10545, 10566 | |
| \pdfescapestring | 11032 | |
| \pdfform | 6812 | |
| \PDFForm@Check | 10136, 10138, 10563, 10564, 10936, 10940, 11050 | |
| \PDFForm@List | 10048, 10050, 10469, 10470, 10821, 10826, 11157 | |
| \PDFForm@Name | 10363, 10415, 10481, 10559, 10700, 10761, 10838, 10930, 11039 | |
| \PDFForm@Push | 10073, 10075, 10495, 10496, 10854, 10858, 11078 | |
| \PDFForm@Radio | 10038, 10041, 10451, 10453, 10798, 10806, 11190 | |
| \PDFForm@Reset | 10116, 10118, 10542, 10543, 10908, 10913, 11289 | |
| \PDFForm@Submit | 10092, 10095, 10515, 10517, 10879, 10884, 11257 | |
| \PDFForm@Text | 9956, 9958, 10368, 10369, 10709, 10712, 11222 | |
| \pdfhorigin | 7223 | |
| \pdfinfo | 7114 | |
| \pdflastform | 6813 | |
| \pdflastobj | 6721, 6736, 6742, 10603, 10612, 10622, 10639 | |
| \pdflastxform | 6813, 10314, 10316 | |
| \pdflinkmargin | 6808, 6811, 6816 | |
| \pdfliteral | 6792, 6794, 6799 | |
| \pdfm@box | 7615, 10671, 10672, 10673, 10704, 10715, 10792, 10810, 10819, 10828, 10848, 10861, 10877, 10886, 10907, 10915, 10933, 10942 | |
| \pdfmark | 4836, 7556, 7565, 7595, 8576, 8594, 8622, 8654, 8671, 8683, 8712, 8748, 8779, 8788, 8819, 8843, 9054, 9068, 9083, 9095, 9102, 9120, 9145, 9530, 9539, 9570, 9957, 10039, 10049, 10074, 10093, 10117, 10137, 11530 | |
| \pdfmark@ | 8843, 8844 | |
| \pdfminorversion | 6681 | |
| \PDFNextPage | 9066 | |
| \PDFNextPage@ | 9066, 9067 | |
| \pdfobj | 6707, 6722, 6737, 10570, 10604, 10613, 10623 | |
| \PDFOpen | 9094 | |
| \pdfoptionpdfminorversion | 6678 | |
| \pdfoutline | 11577 | |
| \pdfpageattr | 7146, 7150, 7151, 7161, 7169, 7173, 7174, 7184, 7191, 7194, 7195, 7205 | |
| \pdfpageheight | 7232, 7241, 7252, 7261 | |
| \pdfpageresources | 6770 | |
| \pdfpagesattr | 7047, 7049, 7051 | |
| \pdfpagewidth | 7228, 7237, 7248, 7257 | |
| \PDFPreviousPage | 9079 | |
| \PDFPreviousPage@ | 9080, 9082 | |
| \pdfreform | 6814 | |
| \pdfrefobj | 10322, 10323, 10324, 10325 | |
| \pdfrefxform | 6814, 10316 | |
| \pdfstartlink | 6809, 6810, 6858, 6888, 6919, 6955, 7270, 10369, 10452, 10470, 10496, 10516, 10543, 10564 | |
| \pdfstringdef | 381, 621, 2750, 2751, 2752, 2753, 2757, 2763, 2766, 2767, 3996, 4001, 4027, 4578, 4658, 4660, 5051, 5843, 11046, 11385 | |
| \pdfstringdefDisableCommands | 648, 4465, 4573 | |
| \pdfstringdefPostHook | 617, 642 | |

`\pdfstringdefPreHook` . 492, 642, 654, 656, 3019, 3020, 4572, 4582
`\pdfstringdefWarn` 412, 413, 487, 659, 1114, 1119, 1138, 1142, 1146
`\pdftexrevision` 7003, 7011, 7022
`\pdftexversion` 6998, 7000, 7003, 7006, 7009, 7010, 7014, 7020, 7021, 10321
`\pdfvorigin` 7224
`\pdfxform` 6812, 10312
`\peh` 12808
`\penalty` . . 1253, 1716, 5691, 5714
`\phantomsection` 2879, 4469, 5904, 11322, 11374, 11602, 11645
`\Preamble` 9738
`\process@me` . . 4552, 4564, 4565, 7046, 7055
`\ProcessKeyvalOptions` . . . 2925
`\protect` . 1251, 3476, 5495, 5559, 5622, 5637, 5653, 5769, 5776, 5777, 5937, 5968, 6184, 6236, 6365, 6385, 6391, 6402, 6516, 7307, 7390, 8058, 8129, 9399, 9657, 11388, 11692, 11693
`\protected@edef` 3505, 4718, 5244, 5264, 6837, 7789, 8174, 8240, 8708
`\protected@write` . . . 1671, 3490, 5749, 6104, 6112, 6116, 11387
`\protected@xdef` 5353, 5355, 5436
`\providecommand` 1688, 1689, 2186, 3160, 3309, 3310, 3405, 3435, 4748, 4767, 4854, 5587, 5588, 5603, 5681, 5888, 5889, 5892, 5893, 6167, 6168, 6284, 6588, 6589, 6590, 6591, 6592, 6593, 6594, 6595, 6596, 6597, 6598, 6599, 6600, 6601, 6602, 6603, 6604, 6605, 6606, 6607, 6670, 6818, 6832, 6833, 7296, 7385, 7386, 7613, 7669, 7670, 7671, 7991, 8100, 8122, 8123, 8124, 8537, 8880, 8881, 9170, 9178, 9179, 9180, 9181, 9241, 9253, 9254, 9255, 9256, 9300, 9341, 9342, 9343, 9344, 9479, 9481, 9482, 9591, 9592, 9639
`\PushButton` 4288
`\put@me@back` . . . 3598, 3611, 3621

Q

`\qaf` 12791
`\quotedblbase` . . . 11787, 11910, 12105, 12592
`\quotesinglbase` . . 11792, 11912, 12107, 12589

R

`\r` . . . 11735, 11744, 11843, 11876, 11951, 11962, 12040, 12072, 12233, 12234
`\ra` 12779
`\raff` 12801
`\raise` . . . 1723, 7362, 7434, 7463, 7493, 8905, 9453, 9711
`\ReadBookmarks` 2924, 2942, 3086, 3254, 3332, 11480, 11509
`\real@setref` 6362, 6428
`\realfootnote` 5433
`\Ref` 6444, 6448, 6453
`\ref` . . 481, 3078, 3324, 3637, 6463, 9730
`\ref@one` 3457, 3458
`\rEfLiNK` 9731, 9732
`\refstepcounter` 4924, 4931, 5109, 5129, 5156, 5180, 5188, 5551
`\rem@ptetc` 8644, 8646
`\renewcommand` . 1663, 5532, 6043, 11411
`\RequirePackage` 22, 232, 233, 234, 235, 236, 1155, 1657, 2044, 2918, 3060, 3061, 3282, 3322, 3336, 3427, 3640, 3963, 4592, 6610, 7992, 9644
`\Reset` 4297
`\reset@font` . . 5697, 5720, 6366, 6386, 6403, 6517
`\revtex@checking` 5674
`\Rrightarrow` 6318
`\rlap` 6793, 7772
`\rm` 443
`\rmfamily` 433
`\Roman` 4714
`\roman` 4715
`\rule` 5398

S

`\sad` 12783
`\sbox` 4317, 8880, 8888, 10311
`\scr@LT@array` 5128
`\scriptsize` 451
`\scriptstyle` 5687
`\scrollmode` . . 1170, 1195, 1205, 1218, 1310, 1418
`\scshape` 439
`\section` 6286
`\sectionautorefname` 2258, 2276, 2294, 2312, 2330, 2348, 2366, 2395, 2424, 2442, 6600
`\seen` 12781
`\selectfont` 3292, 10334
`\setbox` 1254, 1260, 1266, 2568, 2574, 4170, 4600, 6783, 7353, 7419,

7449, 7479, 7762, 9444, 9701, 10704, 10792, 10819, 10848, 10877, 10907, 10933

`\setkeys` 2081, 2172, 2910, 2952, 3193, 3264, 4069, 6690, 8849, 9929, 10167, 10180, 10229, 10272, 10293, 10320, 10647
`\setlength` . 365, 366, 1720, 7223, 7224, 7228, 7232, 7237, 7241, 7248, 7252, 7257, 7261, 8103, 8106, 8110, 8113, 8404
`\setpdfinkmargin` . . 2769, 2770, 6808
`\settowidth` . 9975, 10386, 10732
`\sffamily` 434
`\shadda` 12806
`\sheen` 12782
`\shortciteN` 5812
`\SK@` 6574
`\SK@@ref` 6574
`\SK@ref` 6571
`\skip@` . . . 1268, 1342, 1343, 1346, 1348, 1734, 1740, 1753, 1759
`\slide@cline` . . 6304, 6317, 6325, 6335, 6343
`\Slide@contents` 6309
`\slide@contents` 6302
`\slide@heading` 6180
`\slide@subheading` 6233
`\slide@undottedcline` 6295
`\slidenumberline` . . . 6296, 6304, 6318, 6326, 6336, 6344
`\SliTeX` 418
`\slshape` 440
`\small` 452
`\smash` 1717
`\spacefactor` . . 5325, 5337, 5461, 5463
`\special@paper` 1869, 1873, 1877, 1881, 1885, 1889, 2880, 2884, 2890, 9232, 9234
`\SpecialDvipdfmxOutlineOpen` 2108, 2110, 3209
`\splitmaxdepth` 5392
`\splittopskip` 5391
`\SS` 11908, 12104
`\ss` . . . 2305, 11870, 11923, 12066
`\st@rredfalse` 5163, 5172
`\stepcounter` . . 4941, 5071, 5263, 5326, 5435
`\stockheight` . . 2889, 2890, 2895, 7259, 7261, 8109, 8110
`\stockwidth` . . 2888, 2890, 7255, 7257, 8112, 8113
`\stop@hyper` 4435
`\StringEncodingConvertTest` 608

| | | | | | |
|---|--|---|---|---|---|
| <code>\strip@period</code> | 1676 | <code>\textbar</code> | 11772, 11997 | <code>\textFF</code> | 11729, 11945 |
| <code>\strip@prefix</code> 62, 1669, 4554, 5013, 5247, 11525, 11534, 11549 | | <code>\textBeta</code> | 816, 12281 | <code>\textfi</code> | 580, 11794, 12001 |
| <code>\strip@pt</code> | 370, 377, 2907, 7228, 7232, 7237, 7241, 8407, 11073, 11185, 11213, 11250, 11298 | <code>\textbeta</code> | 816, 11923, 12313 | <code>\TextField</code> | 4279 |
| <code>\strip@pt@and@otherjunk</code> . | 8593, 8614, 8646 | <code>\textbf</code> | 426 | <code>\textfiveinferior</code> | 12614 |
| <code>\strutbox</code> | 5392 | <code>\textbraceleft</code> 400, 11771, 11996 | | <code>\textfivesuperior</code> | 12604 |
| <code>\sub@label</code> | 1663 | <code>\textbraceright</code> 401, 11773, 11998 | | <code>\textfl</code> | 581, 11795, 12002 |
| <code>\subeqnarray</code> | 5223, 5225 | <code>\textbreve</code> . | 11749, 11955, 11966, 11972 | <code>\textflorin</code> | 11781, 12251 |
| <code>\subequations</code> | 5261, 5262 | <code>\textbrokenbar</code> . . . | 11813, 12010 | <code>\textflq</code> | 471, 11916, 12111 |
| <code>\subfig@oldlabel</code> | 1665 | <code>\textBS</code> | 11728, 11944 | <code>\textflqq</code> | 469, 11914, 12109 |
| <code>\Submit</code> | 4294 | <code>\textbullet</code> | 11775, 12595 | <code>\textfourinferior</code> | 12613 |
| <code>\SubmitObject</code> | 10518 | <code>\textcaron</code> . | 11736, 11745, 11750, 11952, 11963, 11973 | <code>\textfoursuperior</code> | 12603 |
| <code>\SubmitPObject</code> | 10518 | <code>\textcdot</code> | 11922, 12117 | <code>\textfractionmark</code> | 11782, 12601 |
| <code>\subparagraphautorefname</code> 2262, 2280, 2298, 2316, 2334, 2352, 2370, 2403, 2405, 2428, 2446, 6604 | | <code>\textcedilla</code> 11738, 11747, 11830, 11954, 11965, 12027 | | <code>\textfrq</code> | 472, 11917, 12112 |
| <code>\subpdfbookmark</code> | 11399 | <code>\textcelsius</code> | 11909, 12620 | <code>\textfrqq</code> | 470, 11915, 12110 |
| <code>\subsection</code> | 9475 | <code>\textcent</code> | 11809, 12006 | <code>\textGamma</code> | 817, 12282 |
| <code>\subsectionautorefname</code> . | 2259, 2277, 2295, 2313, 2331, 2349, 2367, 2400, 2425, 2443, 6601 | <code>\textChi</code> | 865, 12301 | <code>\textgamma</code> | 817, 12314 |
| <code>\subsubsectionautorefname</code> 2260, 2278, 2296, 2314, 2332, 2350, 2368, 2401, 2426, 2444, 6602 | | <code>\textchi</code> | 865, 12334 | <code>\textglq</code> | 467, 11912, 12107 |
| <code>\sukun</code> | 12807 | <code>\textcircumflex</code> . | 11732, 11741, 11751, 11948, 11959, 11974 | <code>\textglqq</code> | 465, 11910, 12105 |
| <code>\surd</code> | 6326 | <code>\textcolor</code> . . | 455, 10319, 10339, 10342, 10646 | <code>\textgrave</code> . | 11730, 11739, 11769, 11946, 11957, 11993 |
| T | | <code>\textcopyright</code> . . . | 11816, 12013 | <code>\textgreater</code> | 11765, 11989 |
| <code>\T</code> | 12771 | <code>\textCR</code> | 11726, 11942 | <code>\textgrq</code> | 468, 11913, 12108 |
| <code>\T@pageref</code> | 3316, 3326, 6461 | <code>\textcurrency</code> . . . | 11811, 12008 | <code>\textgrqq</code> | 466, 11911, 12106 |
| <code>\T@ref</code> | 3311, 3324 | <code>\textdagger</code> | 11776, 12593 | <code>\textGslash</code> | 12261 |
| <code>\T@temp</code> | 5675, 5678 | <code>\textdaggerdbl</code> . . . | 11777, 12594 | <code>\textgslash</code> | 12262 |
| <code>\Ta</code> | 12785 | <code>\textdegree</code> 11822, 11909, 12019 | | <code>\textHslash</code> | 12156 |
| <code>\taa</code> | 12772 | <code>\textDelta</code> | 818, 12283 | <code>\texthslash</code> | 12157 |
| <code>\tableautorefname</code> . . | 2254, 2272, 2290, 2308, 2326, 2344, 2362, 2392, 2420, 2438, 6596 | <code>\textdelta</code> | 818, 12315 | <code>\textHT</code> | 11727, 11943 |
| <code>\tagform@</code> | 5999 | <code>\textdieresis</code> . . . | 11734, 11743, 11815, 11950, 11961, 12012 | <code>\texthungarumlaut</code> 11753, 11976 | |
| <code>\tatweel</code> | 12789 | <code>\textdigammagreek</code> | 12347 | <code>\textIota</code> 837, 12274, 12288, 12304 | |
| <code>\tcheh</code> | 12809 | <code>\textdigammagreek</code> | 12348 | <code>\textiota</code> 837, 12309, 12320, 12337 | |
| <code>\TeX</code> 414, 415, 417, 418, 9741, 9743, 9745 | | <code>\textdiv</code> | 11920, 12115 | <code>\textIotadieresis</code> 12278, 12279 | |
| <code>\texorpdfstring</code> | 635, 4466 | <code>\textdivide</code> 11898, 11920, 12094, 12115 | | <code>\textit</code> | 428 |
| <code>\textacute</code> . | 11731, 11740, 11826, 11947, 11958, 12023 | <code>\textdollar</code> . . | 404, 11759, 11983 | <code>\textKappa</code> | 838, 12289 |
| <code>\textAlpha</code> . . . | 815, 12271, 12280 | <code>\textdotaccent</code> . . | 11737, 11746, 11752, 11953, 11964, 11975 | <code>\textkappa</code> | 838, 12321 |
| <code>\textalpha</code> . . . | 815, 12306, 12312 | <code>\textdoublegrave</code> . | 11956, 11967, 11980 | <code>\textKoppagreek</code> | 845, 12349 |
| <code>\textampersand</code> 406, 11761, 11985 | | <code>\texteightinferior</code> | 12617 | <code>\textkoppagreek</code> | 845, 12350 |
| <code>\textasciicircum</code> . | 11767, 11991 | <code>\texteightsuperior</code> | 12607 | <code>\textLambda</code> | 839, 12290 |
| <code>\textasciitilde</code> 407, 3368, 11774, 11999 | | <code>\textellipsis</code> . . | 410, 411, 11778, 12596 | <code>\textlambda</code> | 839, 12322 |
| <code>\textbackslash</code> . | 402, 544, 11766, 11990 | <code>\textemdash</code> . . | 578, 11779, 12586 | <code>\textlatin</code> | 456, 5007, 5898 |
| | | <code>\textendash</code> . . | 579, 11780, 12585 | <code>\textless</code> | 11764, 11988 |
| | | <code>\textEpsilon</code> . . | 819, 12272, 12284 | <code>\textLF</code> | 11725, 11941 |
| | | <code>\textepsilon</code> . . | 819, 12307, 12316 | <code>\textlogicalnot</code> . . | 11819, 11918, 12016, 12113 |
| | | <code>\textEta</code> | 822, 12273, 12286 | <code>\textmacron</code> | 11821, 12018 |
| | | <code>\texteta</code> | 822, 12308, 12318 | <code>\textmd</code> | 427 |
| | | <code>\texteuro</code> | 11807, 12619 | <code>\textminus</code> | 11785, 12000 |
| | | <code>\textexclamdown</code> 582, 726, 11808, 12005 | | <code>\textMu</code> | 840, 12291 |
| | | | | <code>\textmu</code> . | 840, 11827, 12024, 12323 |
| | | | | <code>\textmultiply</code> | 11862, 11919, 12058, 12114 |
| | | | | <code>\textneg</code> | 11918, 12113 |
| | | | | <code>\textnineinferior</code> | 12618 |
| | | | | <code>\textninesuperior</code> | 12608 |
| | | | | <code>\textnormal</code> | 422 |
| | | | | <code>\textNu</code> | 841, 12292 |
| | | | | <code>\textnu</code> | 841, 12324 |

| | | | | | |
|---|--|-------------------------------------|--|-----------------------------------|--|
| <code>\textnumeralsign</code> | 403, 11758, 11982 | <code>\textSigma</code> | 861, 12297 | <code>\theHenumiii</code> | 4919 |
| <code>\textnumeralsigngreek</code> | 792, 12269 | <code>\textsigma</code> | 861, 12330 | <code>\theHenumiv</code> | 4920 |
| <code>\textnumeralsignlowergreek</code> | 809, 831, 854, 12270 | <code>\textsixinferior</code> | 12615 | <code>\theHequation</code> | 4888, 4957, 5184, 5206, 5230, 5238, 5265, 5269 |
| <code>\textnumero</code> | 12621 | <code>\textsixsuperior</code> | 12605 | <code>\theHfigure</code> | 4895, 4899 |
| <code>\textogonek</code> | 11754, 11977 | <code>\textsl</code> | 430 | <code>\theHHfootnote</code> | 4921, 4923 |
| <code>\textOmega</code> | 867, 12277, 12303 | <code>\textsterling</code> | 11810, 12007 | <code>\theHHmpfootnote</code> | 4923 |
| <code>\textomega</code> | 867, 12336, 12341 | <code>\textStigmagreek</code> | 820, 12345 | <code>\theHItem</code> | 4911, 4917, 4918, 4919, 4920 |
| <code>\textOmicron</code> | 843, 12275, 12294 | <code>\textstigmagreek</code> | 820, 12346 | <code>\theHlisting</code> | 5892 |
| <code>\textomicron</code> | 843, 12326, 12339 | <code>\TextSymbolUnavailable</code> | 11748, 11968, 11969, 11970, 11971 | <code>\theHlstlisting</code> | 5888 |
| <code>\textonehalf</code> | 11835, 12032 | <code>\textTau</code> | 862, 12298 | <code>\theHmpfootnote</code> | 4922 |
| <code>\textoneinferior</code> | 12610 | <code>\texttau</code> | 862, 12331 | <code>\theHparagraph</code> | 4905, 4906 |
| <code>\textonequarter</code> | 11834, 12031 | <code>\textTheta</code> | 823, 12287 | <code>\theHparentequation</code> | 5264, 5269 |
| <code>\textonesuperior</code> | 11831, 12028 | <code>\texttheta</code> | 823, 12319 | <code>\theHpart</code> | 4891 |
| <code>\textordfeminine</code> | 11817, 12014 | <code>\textthreeinferior</code> | 12612 | <code>\theHsection</code> | 4888, 4894, 4901, 4903, 4907, 4908, 4982 |
| <code>\textordmasculine</code> | 11832, 12029 | <code>\textthreequarters</code> | 11836, 12033 | <code>\theHslide</code> | 6171 |
| <code>\textparagraph</code> | 409, 11828, 12025 | <code>\textthreesuperior</code> | 11825, 12022 | <code>\theHslidesection</code> | 6176, 6178, 6214, 6218 |
| <code>\textparenleft</code> | 586, 587, 11762, 11986 | <code>\texttilde</code> | 3001, 11733, 11742, 11756, 11949, 11960, 11979 | <code>\theHslidesubsection</code> | 6177, 6265, 6269 |
| <code>\textparenright</code> | 11763, 11987 | <code>\texttimes</code> | 11919, 12114 | <code>\theHsubequation</code> | 5238 |
| <code>\textpercent</code> | 405, 11760, 11984 | <code>\texttrademark</code> | 11793, 12622 | <code>\theHsubparagraph</code> | 4906 |
| <code>\textperiodcentered</code> | 11829, 11922, 12026, 12117 | <code>\textTslash</code> | 12225 | <code>\theHsubsection</code> | 4903, 4904 |
| <code>\textpertenthousand</code> | 12598 | <code>\texttslash</code> | 12226 | <code>\theHsubsubsection</code> | 4904, 4905 |
| <code>\textperthousand</code> | 11786, 12597 | <code>\texttt</code> | 425 | <code>\theHtable</code> | 4896, 4900 |
| <code>\textPhi</code> | 864, 12300 | <code>\texttwoinferior</code> | 12611 | <code>\theHtheorem</code> | 4907 |
| <code>\textphi</code> | 864, 12333 | <code>\texttwosuperior</code> | 11824, 12021 | <code>\theHthm</code> | 4908 |
| <code>\textPi</code> | 844, 12295 | <code>\textunderscore</code> | 408, 3362, 3363, 3365, 11768, 11992 | <code>\thelisting</code> | 5892 |
| <code>\textpi</code> | 844, 12327 | <code>\textup</code> | 431 | <code>\thelstlisting</code> | 5888 |
| <code>\textplusminus</code> | 11823, 11921, 12020, 12116 | <code>\textUpsilon</code> | 863, 12276, 12299, 12305 | <code>\thempfn</code> | 5281, 5354, 5356, 5436, 5448 |
| <code>\textpm</code> | 11921, 12116 | <code>\textupsilon</code> | 863, 12332, 12338, 12340 | <code>\theoremautorefname</code> | 2264, 2282, 2300, 2318, 2336, 2354, 2372, 2410, 2430, 2448, 6606 |
| <code>\textPsi</code> | 866, 12302 | <code>\textupsilonacute</code> | 12310, 12311 | <code>\thepage</code> | 1674, 3478, 4620, 4643, 5051, 5059, 5086, 5700, 5723, 5752, 5843, 5937, 5968, 6105, 6113, 6117, 6368, 6388, 6405, 6519 |
| <code>\textpsi</code> | 866, 12335 | <code>\textvarkappa</code> | 12353 | <code>\theslideheading</code> | 6197 |
| <code>\textquestiondown</code> | 583, 727, 11837, 12034 | <code>\textvarphi</code> | 12343 | <code>\theslidesection</code> | 6185, 6192, 6200, 6206, 6208, 6210, 6216, 6226 |
| <code>\textquotedbl</code> | 11757, 11981 | <code>\textvarpi</code> | 12344 | <code>\theslidesubheading</code> | 6198, 6249 |
| <code>\textquotedblleft</code> | 11788, 11911, 12106, 12590 | <code>\textvarrho</code> | 12354 | <code>\theslidesubsection</code> | 6237, 6244, 6251, 6257, 6259, 6261, 6267, 6277 |
| <code>\textquotedblright</code> | 11789, 12591 | <code>\textvarsigma</code> | 12329 | <code>\This@name</code> | 4935, 4936, 4953, 4954 |
| <code>\textquoteleft</code> | 11790, 11913, 12108, 12587 | <code>\textvartheta</code> | 12342 | <code>\thispdfpagelabel</code> | 4625 |
| <code>\textquoteright</code> | 11791, 12588 | <code>\textXi</code> | 842, 12293 | <code>\ThisShouldNotHappen</code> | 11011 |
| <code>\textregistered</code> | 11820, 12017 | <code>\textxi</code> | 842, 12325 | <code>\tiny</code> | 453 |
| <code>\textRho</code> | 860, 12296 | <code>\texttyen</code> | 11812, 12009 | <code>\title</code> | 4531, 4533 |
| <code>\textrho</code> | 860, 12328 | <code>\textzeroinferior</code> | 12609 | <code>\tocappendix</code> | 1003 |
| <code>\textring</code> | 11735, 11744, 11755, 11951, 11962, 11978 | <code>\textzerosuperior</code> | 12602 | <code>\tocchapter</code> | 1002 |
| <code>\textrm</code> | 423 | <code>\textZeta</code> | 821, 12285 | <code>\toclevel@chapter</code> | 5879 |
| <code>\textSampigreek</code> | 868, 12351 | <code>\textzeta</code> | 821, 12317 | | |
| <code>\textsampigreek</code> | 868, 12352 | <code>\TH</code> | 11869, 12065 | | |
| <code>\textsc</code> | 429 | <code>\th</code> | 11905, 12101 | | |
| <code>\textsection</code> | 11814, 12011 | <code>\thaa</code> | 12773 | | |
| <code>\textseveninferior</code> | 12616 | <code>\theequation</code> | 4956, 5183, 5205, 5229, 5265 | | |
| <code>\textsevensuperior</code> | 12606 | <code>\thefootnote</code> | 5292, 5455 | | |
| <code>\textsf</code> | 424, 10339, 10342 | <code>\theHchapter</code> | 4898, 4899, 4900, 4901, 4983 | | |
| | | <code>\theHenumi</code> | 4917 | | |
| | | <code>\theHenumii</code> | 4918 | | |

