

Hypertext marks in \LaTeX

Sebastian Rahtz

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

Heiko Oberdiek

Email: `oberdiek@uni-freiburg.de`

processed April 5, 2008

1 Documentation overview for `hyperref`

The documentation for package `hyperref` consists of several files:

Manual The user documentation is also available as HTML.

README 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.

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	21
6.3	Encodings	25
6.3.1	PD1 encoding	25
6.3.2	PU encoding	25
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	34
6.5.7	<code>\hspace fix</code>	34
6.5.8	Fix for AMS classes	35
6.5.9	Reference commands	35
6.5.10	Redefining the defining commands	37
6.5.11	<code>\ifnextchar</code>	38
6.5.12	<code>\@protected@testoptifnextchar</code>	38
6.6	Help macros for postprocessing	39
6.6.1	Generic warning.	39
6.6.2	Protecting spaces	39
6.6.3	Remove grouping braces	40
6.6.4	Catcode check	41
6.6.5	Check for wrong glyphs	44
6.6.6	Replacing tokens	45
6.6.7	Support for package <code>xspace</code>	45
6.6.8	Converting to Unicode	46
6.6.9	Support for UTF-8 input encoding	47

7	Support of other packages	50
7.1	Class memoir	50
7.2	Package subfigure	51
7.3	Package xr and xr-hyper	51
8	Help macros for links	52
9	Options	53
9.1	Help macros	53
9.2	Defining the options	55
10	Options for different drivers	59
11	Options to add extra features	61
12	Language options	62
13	Options to change appearance of links	67
14	Bookmarking	67
15	PDF-specific options	69
15.1	Patch for babel's <code>\texttilde</code>	75
15.1.1	Driver loading	77
15.1.2	Bookmarks	78
16	User hypertext macros	80
17	Underlying basic hypertext macros	84
18	Compatibility with the <i>BT_EX2html</i> package	86
19	Forms creation	87
19.1	Field flags	87
19.1.1	Declarations of field flags	89
19.1.2	Set submit flags	90
19.1.3	Set annot flags in fields	91
19.1.4	Pushbutton field	91
19.1.5	Check box field	92
19.1.6	Radio button field	92
19.1.7	Text fields	92
19.1.8	Choice fields	93
19.2	Choice field	94
19.3	Forms	96
20	Setup	101
21	Low-level utility macros	101
22	Localized nullifying of package	102
23	Package nohyperref	103
24	The Mangling Of Aux and Toc Files	104
25	Title strings	105

26 Page numbers	106
27 Every page	106
27.1 PDF /PageLabels	107
27.1.1 pdfTeX and VTeX	110
27.1.2 pdfmarkbase, dviPDF	111
28 Automated L^AT_EX hypertext cross-references	112
29 Package lastpage support	116
30 Package ifthen support	117
31 Package titlesec and titletoc support	117
32 Package varioref support	118
33 Package longtable support	118
34 Equations	119
35 Footnotes	121
36 Float captions	125
37 Bibliographic references	127
37.1 Package harvard	130
37.2 Package chicago	132
38 Page numbers	132
39 Table of contents	133
40 New counters	135
41 AMSL^AT_EX compatibility	135
41.1 \@addtoreset and \numberwithin patches	136
42 Included figures	137
43 hyperindex entries	137
44 Compatibility with foiltex	139
45 Compatibility with seminar slide package	139
46 Configuration files	147
46.1 PS/PDF strings	147
46.2 pdftex	149
46.3 hypertext	159
46.4 dviwindo	161
46.5 dviPDF dvi to PDF converter	165
46.6 VTeX typesetting system	171
46.7 Fix for Adobe bug number 466320	182
46.8 Direct pdfmark support (dviPDF and pdfmark)	183
46.9 Rokicki's dvips	196

46.10	TeX's vtexpdfmark driver	198
46.11	Textures	199
46.12	dvipsone	203
46.13	TeX4ht	206
47	Driver-specific form support	208
47.1	pdfmarks	208
47.2	dvipdf	215
47.3	HyperTeX	215
47.4	TeX4ht	215
47.5	pdfTeX	218
47.6	dvipdfm	224
47.7	Common forms part	230
48	Bookmarks in the PDF file	237
48.1	Bookmarks	237
49	Compatibility with koma-script classes	244
50	Encoding definition files for encodings of PDF strings	245
50.1	PD1 encoding	245
50.2	PU encoding	249
50.2.1	Basic Latin	249
50.2.2	Latin-1 Supplement	251
50.2.3	Latin Extended-A	253
50.2.4	Latin Extended-B	255
50.2.5	Greek	256
50.2.6	Cyrillic	257
50.2.7	Symbols	261
50.3	PU encoding, additions for VnTeX	262
50.4	PU encoding, additions for Arabi	264
51	End of file hycheck.tex	265
52	Index	267

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{hycolor}
234 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
235 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
236 \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`.

```

237 \@ifundefined{AfterBeginDocument}{%
238   \def\AfterBeginDocument{\AtBeginDocument}%
239 }{}%

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

283 \Hy@backreffalse
284 \Hy@bookmarksnumberedfalse
285 \Hy@bookmarksopenfalse
286 \Hy@bookmarkstrue
287 \Hy@breaklinksfalse
288 \Hy@centerwindowfalse
289 \Hy@CJKbookmarksfalse
290 \Hy@escapeformfalse
291 \Hy@figuresfalse
292 \Hy@fitwindowfalse
293 \Hy@hyperfootnotesttrue
294 \Hy@hyperindextrue
295 \Hy@hypertextnamesttrue
296 \Hy@implicittrue
297 \Hy@linktocpagefalse
298 \Hy@menubartrue
299 \Hy@naturalnamesfalse
300 \Hy@nestingfalse
301 \Hy@newwindowsetfalse
302 \Hy@newwindowfalse
303 \Hy@pageanchorttrue
304 \Hy@pagelabelstrue
305 \Hy@pdfpagehiddenfalse
306 \Hy@pdfstringfalse
307 \Hy@plainpagesfalse
308 \Hy@raiselinksfalse
309 \Hy@setpagesizetrue
310 \Hy@texhtfalse
311 \Hy@toolbartrue

```

```

312 \Hy@typexmlfalse
313 \Hy@unicodedefalse
314 \Hy@usetitlefalse
315 \Hy@verbosefalse
316 \Hy@windowuitrue
317 \Hy@displaydoctitlefalse

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

320 \newdimen\@linkdim
321 \let\Hy@driver\@empty
322 \let\MaybeStopEarly\relax
323 \newcount\Hy@linkcounter
324 \newcount\Hy@pagecounter
325 \Hy@linkcounter0
326 \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.

```

327 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
328 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

329 \let\Hy@ReturnEnd\@empty
330 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
331 \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@activetrue` babel is not loaded.

```

332 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
333 \def\Hy@safe@activetruefalse{\csname @safe@activetruefalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.

- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
 - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
 - For calculations package `calc` has to be loaded.
 - The expansion of the argument is done at definition time.

Example (T_EX):

```

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

\hypercalcbp

334 \begingroup\expandafter\expandafter\expandafter\endgroup
335 \expandafter\ifx\csname dimexpr\endcsname\relax
336   \def\hypercalcbpdef#1#2{%
337     \begingroup
338       \toks@{%
339         \HyCal@scan#2\hypercalcbp\@nil
340       \expandafter\endgroup
341       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
342   }%
343   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
344     \toks@\expandafter{\the\toks@ #1}%
345     \ifx\\#2\\%
346       \else
347         \Hy@ReturnAfterFi{%
348           \HyCal@do#2\@nil
349         }%
350       \fi
351   }%
352   \def\HyCal@do#1#2\@nil{%
353     \@ifpackageloaded{calc}{-}{-}%
354     \Hy@Warning{%
355       For calculations \string\hypercalcbp\space needs\MessageBreak
356       package calc or e-TeX%
357     }%
358   }%
359   \setlength{\dimen@}{#1}%
360   \setlength{\dimen@}{0.99626401\dimen@}%
361   \edef\x{%
362     \toks@{%
363       \the\toks@
364       \strip@pt\dimen@
365     }%
366   }\x
367   \HyCal@scan#2\@nil
368 }%
369 \else
370   \def\hypercalcbp#1{%
371     \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
372   }%
373   \def\hypercalcbpdef{\def}%
374 \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 ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely be processed by \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
376 \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.

```
377 \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.

```
378 \edef\0{\string\0}%
379 \edef\1{\string\1}%
380 \edef\2{\string\2}%
381 \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.

```
382 \ifHy@unicode
383 \edef\8{\string\8}%
384 \edef\9{\string\9}%
385 \fontencoding{PU}%
386 \HyPsd@UTFviii
387 \else
388 \fontencoding{PD1}%
389 \fi
390 \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).

```
391 \@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).

```
392 \let\@inmathwarn\HyPsd@inmathwarn
```


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

```
393 \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.

```
394 \let\{\textbraceleft
395 \let\}\textbraceright
396 \let\\\textbackslash
397 \let\#\textnumbersign
398 \let\$\textdollar
399 \let\%\textpercent
400 \let\&\textampersand
401 % \let\~\textasciitilde
402 \let\_ \textunderscore
403 \let\P\textparagraph
404 \let\ldots\textellipsis
405 \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.

```
406 \def\{\pdfstringdefWarn\\}%
407 \def\newline{\pdfstringdefWarn\r}%

```

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

```
408 \def\TeX{\TeX}%
409 \def\LaTeX{La\TeX}%
410 \def\LaTeXe{LaTeX2e}%
411 \def\eTeX{e-\TeX}%
412 \def\SliTeX{Sli\TeX}%
413 \def\MF{Metafont}%
414 \def\MP{Metapost}%

```

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

```
415 \let\emph\@firstofone
416 \let\textnormal\@firstofone
417 \let\textrm\@firstofone
418 \let\textsf\@firstofone
419 \let\texttt\@firstofone
420 \let\textbf\@firstofone
421 \let\textmd\@firstofone
422 \let\textit\@firstofone

```

```

423 \let\textsc\@firstofone
424 \let\textsl\@firstofone
425 \let\textup\@firstofone
426 \let\normalfont\@empty
427 \let\rmfamily\@empty
428 \let\sffamily\@empty
429 \let\ttfamily\@empty
430 \let\bfseries\@empty
431 \let\mdseries\@empty
432 \let\itshape\@empty
433 \let\scshape\@empty
434 \let\slshape\@empty
435 \let\upshape\@empty
436 \let\em\@empty
437 \let\rm\@empty
438 \let\Huge\@empty
439 \let\LARGE\@empty
440 \let\Large\@empty
441 \let\footnotesize\@empty
442 \let\huge\@empty
443 \let\large\@empty
444 \let\normalsize\@empty
445 \let\scriptsize\@empty
446 \let\small\@empty
447 \let\tiny\@empty
448 \let\mathversion\@gobble

```

Package color.

```

449 \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).

```

450 \let\textlatin\@firstofone
451 \@ifundefined{language@group}{-}{%
452 \csname HyPsd@babel@\language@group\endcsname
453 }%
454 \HyPsd@GreekPatch

455 \let\@safe@activetrue\relax
456 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

457 \let\cyr\relax

```

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

```

458 \let\es@roman\@Roman

```

Package german.

```

459 \let\glqq\textglqq
460 \let\grqq\textgrqq
461 \let\glq\textglq
462 \let\grq\textgrq
463 \let\flqq\textflqq
464 \let\frqq\textfrqq
465 \let\flq\textflq
466 \let\frq\textfrq

```

Package french. The support is deferred, because it needs `\GenericError` to be disabled (see below).

Package FrenchPro. This package uses:

```

\ifmid@expandable{not fully expandable code}{fully expandable code}
467 \let\ifmid@expandable\@firstoftwo

```

AMS classes.

```

468 \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.

```

469 \let\hspace\HyPsd@hspace

```

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

```

470 \let\label\@gobble
471 \let\index\@gobble
472 \let\glossary\@gobble
473 \let\href\@secondoftwo
474 \let\@mkboth\@gobbletwo

```

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

```

475 \let\ref\HyPsd@ref
476 \let\pageref\HyPsd@pageref
477 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

478 \let\leavevmode\@empty
479 \let\mbox\@empty

```

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

```

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

```

Patch for cjk bookmarks.

```

481 \ifHy@CJKbookmarks
482 \HyPsd@CJKhook
483 \fi

```

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

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

```

484 \Hy@pdfstringtrue
485 \pdfstringdefPreHook

```

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

```

486 \HyPsd@LetUnexpandableSpace\space
487 \HyPsd@LetUnexpandableSpace\ %
488 \HyPsd@LetUnexpandableSpace~%
489 \HyPsd@LetUnexpandableSpace\nobreakspace

```

Package xspace.

```

490 \@ifundefined{xspace}{%
491 \let\xspace\HyPsd@ITALCORR
492 }{%
493 \let\xspace\HyPsd@XSPACE
494 }%
495 \let\/\HyPsd@ITALCORR
496 \let\bgroup\/%
497 \let\egroup\/%

```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```

498 \let\discretionary\@gobbletwo
\@ifstar is defined in LATEX as follows:

```

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

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

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

```

499 \let\@ifnextchar\HyPsd@ifnextchar
500 \let\@ifnextchar\HyPsd@new@ifnextchar
501 \let\@protected@testopt\HyPsd@protected@testopt

```

6.2.2 Expansion

There are several possibilities to expand tokens within L^AT_EX:

\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 T_EX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot be processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. T_EX 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 L^AT_EX'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 PDF1 encoding. Because the protecting mechanism of L^AT_EX 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 T_EX, 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).

```
502 \begingroup
503 \let\GenericError\@gobblefour
504 \let\GenericWarning\@gobbletwo
505 \let\GenericInfo\@gobbletwo
```

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

```
506 \ifx\nofrenchguillemets\@undefined
507 \else
508 \nofrenchguillemets
509 \fi
```

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

```
510 \let\Hy@temp\xdef
511 \let\def\HyPsd@DefCommand
512 \let\gdef\HyPsd@DefCommand
513 \let\edef\HyPsd@DefCommand
514 \let\xdef\HyPsd@DefCommand
515 \let\futurelet\HyPsd@LetCommand
516 \let\let\HyPsd@LetCommand
517 \Hy@temp#1{#2}%
518 \endgroup
```

6.2.3 Postprocessing

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

```
519 \ifx#1\@empty
520 \else
```

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

- T_EX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.

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

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

```

521     \HyPsd@ProtectSpaces#1%
522     \let\HyPsd@String\@empty
523     \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
524     \global\let#1\HyPsd@String

```

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

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

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

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

```

525     \let\HyPsd@SPACEOPTI\relax
526     {%
527         \let\HyPsd@String\@empty
528         \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
529         \global\let#1\HyPsd@String
530     }%
531     \expandafter\HyPsd@RemoveMask\expandafter
532     |\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.

```

533     \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
534     \let\HyPsd@String\@empty
535     \expandafter\HyPsd@GlyphProcess#1\relax\@empty
536     \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.

```
537 \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.1df` can produce an additional space before `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```
538 \ifHy@unicode
539 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
540 \HyPsd@SPACEOPTI#1%
541 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
542 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
543 {\HyPsd@SPACEOPTI\80\273}\#1%
544 \else
545 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
546 \expandafter\HyPsd@Subst\expandafter{%
547 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
548 \string\273}\HyPsd@SPACEOPTI\273}\#1%
549 \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.

```
550 \ifHy@unicode
551 \HyPsd@StringSubst{\}){\80\051}\#1%
552 \HyPsd@Subst){\80\051}\#1%
553 \let\HyPsd@empty\relax
554 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
555 {\HyPsd@empty\80\051}\#1%
556 \else
557 \HyPsd@StringSubst{\}){\051}\#1%
558 \HyPsd@Subst){\051}\#1%
559 \let\HyPsd@empty\relax
560 \HyPsd@StringSubst{\051}\HyPsd@empty\string\}){\#1%
561 \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`.

```

562     \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
563     \@ifundefined{xspace}{%
564     }{%
565         \let\HyPsd@xspace\relax
566         \expandafter\HyPsd@Subst\expandafter
567         {\HyPsd@XSPACE}\HyPsd@xspace#1%
568         \let\HyPsd@xspace\HyPsd@doxspace
569     }%
570     \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.

```

571 %     \HyPsd@Subst{---}\textemdash#1%
572 %     \HyPsd@Subst{--}\textendash#1%
573 %     \HyPsd@Subst{fi}\textfi#1%
574 %     \HyPsd@Subst{fl}\textfl#1%
575 %     \HyPsd@Subst{!'}\texttexclamdown#1%
576 %     \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

577     \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.

```

578     \ifHy@unicode
579     \HyPsd@StringSubst\(\textparenleft#1%
580     \HyPsd@Subst(\textparenleft#1%
581     \else
582     \HyPsd@StringSubst\({\050}#1%
583     \HyPsd@Subst({\050}#1%
584     \HyPsd@StringSubst{\050}{\string\()}#1%
585     \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.

```

586     \ifHy@unicode
587     \edef\HyPsd@SPACEOPTI{\80\040}%
588     \else
589     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
590     \fi
591     \xdef#1{#1\@empty}%
592     \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.

```

593 \endgroup
594 \begingroup
595 \ifHy@unicode
596 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

597 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
598 \@ifundefined{StringEncodingConvertTest}{%
599 }{%
600 \EdefUnescapeString\HyPsd@temp#1%
601 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
602 {utf16be}{pdfdoc}{%
603 \EdefEscapeString\HyPsd@temp\HyPsd@temp
604 \global\let#1\HyPsd@temp
605 \Hy@unicodedefalse
606 }{}%
607 }%
608 \fi
609 \fi

```

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

```

610 \pdfstringdefPostHook#1%
611 \endgroup
612 }

```

\Hy@pdfstringdef

```

613 \def\Hy@pdfstringdef#1#2{%
614 \pdfstringdef\Hy@gtemp{#2}%
615 \let#1\Hy@gtemp
616 }

```

6.3 Encodings

6.3.1 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as T_EX does not process it anyway. So use CM.

```

617 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
618 \DeclareFontFamily{PD1}{pdf}{}
619 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
620 \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`.

```

621 \def\HyPsd@InitUnicode{%
622   \@ifundefined{T@PU}{\input{puenc.def}}{}%
623   \DeclareFontFamily{PU}{pdf}{}%
624   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
625   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
626   \let\HyPsd@InitUnicode\relax
627 }

```

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.

```

628 \newcommand*{\texorpdfstring}{%
629   \ifHy@pdfstring
630     \expandafter\@secondoftwo
631   \else
632     \expandafter\@firstoftwo
633   \fi
634 }

```

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`.

```

635 \@ifundefined{pdfstringdefPreHook}{%
636   \let\pdfstringdefPreHook\@empty
637 }{}
638 \@ifundefined{pdfstringdefPostHook}{%
639   \let\pdfstringdefPostHook\@gobble
640 }{}

```

`\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`.

```

641 \def\pdfstringdefDisableCommands{%
642   \begingroup
643     \makeatletter

```

```

644 \HyPsd@DisableCommands
645 }

```

\HyPsd@DisableCommands

```

646 \long\def\HyPsd@DisableCommands#1{%
647   \toks0=\expandafter{\pdfstringdefPreHook}%
648   \toks1={#1}%
649   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
650 \endgroup
651 }

```

\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.

```

652 \def\pdfstringdefWarn#1{%
653   \expandafter\noexpand\csname<-\string#1\endcsname
654 }

```

6.5 Help macros for expansion

6.5.1 Babel languages

```

655 \newif\ifHy@next

```

Nothing to do for english.

```

656 \@ifundefined{danish@sh@"@sel}{-}{%
657   \def\HyPsd@babel@danish{%
658     \declare@shorthand{danish}{"}{-}%
659     \declare@shorthand{danish}{"}{-}%
660   }%
661 }
662 \@ifundefined{dutch@sh@"@sel}{-}{%
663   \def\HyPsd@babel@dutch{%
664     \declare@shorthand{dutch}{"}{-}%
665     \declare@shorthand{dutch}{"}{-}%
666   }%
667 }
668 \@ifundefined{finnish@sh@"@sel}{-}{%
669   \def\HyPsd@babel@finnish{%
670     \declare@shorthand{finnish}{"}{-}%
671   }%
672 }
673 \@ifundefined{french@sh@:@sel}{-}{%
674   \def\HyPsd@babel@frenchb{%
675     \def\guill@spacing{ }%
676   }%
677 }
678 \@ifundefined{german@sh@"@sel}{-}{%
679   \def\HyPsd@babel@german{%
680     \declare@shorthand{german}{f}{f}%
681     \declare@shorthand{german}{"}{-}%
682     \declare@shorthand{german}{"}{-}%

```

```

683 }%
684 }
685 \@ifundefined{macedonian@sh@"@sel}{-}{%
686   \def\HyPsd@babel@macedonian{%
687     \declare@shorthand{macedonian}{"}{-}%
688     \declare@shorthand{macedonian}{~}{-}%
689   }%
690 }{-}
691 \@ifundefined{ngerman@sh@"@sel}{-}{%
692   \def\HyPsd@babel@ngerman{%
693     \declare@shorthand{ngerman}{"}{-}%
694     \declare@shorthand{ngerman}{~}{-}%
695   }%
696 }
697 \@ifundefined{portuges@sh@"@sel}{-}{%
698   \def\HyPsd@babel@portuges{%
699     \declare@shorthand{portuges}{"}{-}%
700   }%
701 }
702 \@ifundefined{russian@sh@"@sel}{-}{%
703   \def\HyPsd@babel@russian{%
704     \declare@shorthand{russian}{"}{-}%
705     \declare@shorthand{russian}{~}{-}%
706   }%
707 }
708 \@ifundefined{slovene@sh@"@sel}{-}{%
709   \def\HyPsd@babel@slovene{%
710     \declare@shorthand{slovene}{"}{-}%
711   }%
712 }

```

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

```

713 \@ifundefined{spanish@sh@>@sel}{-}{%
714   \def\HyPsd@babel@spanish{%
715     \declare@shorthand{spanish}{<<}{\guillemotleft}%
716     \declare@shorthand{spanish}{>>}{\guillemotright}%
717     \declare@shorthand{spanish}{=}{-}%
718     \declare@shorthand{spanish}{~}{-}%
719     \declare@shorthand{spanish}{!}{\textexclamdown}%
720     \declare@shorthand{spanish}{?}{\textquestiondown}%
721   }%
722 }
723 \@ifundefined{swedish@sh@"@sel}{-}{%
724   \def\HyPsd@babel@swedish{%
725     \declare@shorthand{swedish}{"}{-}%
726     \declare@shorthand{swedish}{~}{-}%
727   }%
728 }
729 \@ifundefined{ukrainian@sh@"@sel}{-}{%
730   \def\HyPsd@babel@ukrainian{%
731     \declare@shorthand{ukrainian}{"}{-}%
732     \declare@shorthand{ukrainian}{~}{-}%
733   }%
734 }
735 \@ifundefined{usorbian@sh@"@sel}{-}{%
736   \def\HyPsd@babel@usorbian{%
737     \declare@shorthand{usorbian}{f}{f}%
738     \declare@shorthand{usorbian}{"}{-}%

```

```

739 }%
740 }
741 \@ifundefined{greek@sh@\string~@sel}{%
742   \let\HyPsd@GreekPatch\@empty
743 }{%
744   \def\HyPsd@GreekPatch{%
745     \let\greeknumeral\HyPsd@greeknumeral
746     \let\Greeknumeral\HyPsd@Greeknumeral
747   }%
748 }
749 \def\HyPsd@greeknumeral#1{%
750   \HyPsd@GreekNum\@firstoftwo{#1}%
751 }
752 \def\HyPsd@Greeknumeral#1{%
753   \HyPsd@GreekNum\@secondoftwo{#1}%
754 }
755 \def\HyPsd@GreekNum#1#2{%
756   \ifHy@unicode
757     \ifnum#2<\@ne
758       \@arabic{#2}%
759     \else
760       \ifnum#2<1000000 %
761         \HyPsd@@GreekNum#1{#2}%
762       \else
763         \@arabic{#2}%
764       \fi
765     \fi
766   \else
767     \@arabic{#2}%
768   \fi
769 }
770 \def\HyPsd@@GreekNum#1#2{%
771   \ifnum#2<\@m
772     \ifnum#2<10 %
773       \expandafter\HyPsd@GreekNumI
774       \expandafter\@gobble\expandafter#1\number#2%
775     \else
776       \ifnum#2<100 %
777         \expandafter\HyPsd@GreekNumII
778         \expandafter\@gobble\expandafter#1\number#2%
779       \else
780         \expandafter\HyPsd@GreekNumIII
781         \expandafter\@gobble\expandafter#1\number#2%
782       \fi
783     \fi
784     \ifnum#2>\z@
785       \textnumeralsigngreek
786     \fi
787   \else
788     \ifnum#2<\@M
789       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
790     \else
791       \ifnum#2<100000 %
792         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
793       \else
794         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
795       \fi

```

```

796     \fi
797     \fi
798 }
799 \def\HyPsd@GreekNumI#1#2#3{%
800     #1{%
801         \ifnum#3>\z@
802             \textnumeralsignlowergreek
803         \fi
804     }%
805     \expandafter#2%
806     \ifcase#3 %
807         {}{}%
808     \or\textalpha\textAlpha
809     \or\textbeta\textBeta
810     \or\textgamma\textGamma
811     \or\textdelta\textDelta
812     \or\textepsilon\textEpsilon
813     \or\textstigmagreek\textStigmagreek
814     \or\textzeta\textZeta
815     \or\texteta\textEta
816     \or\texttheta\textTheta
817     \else
818         {}{}%
819     \fi
820 }
821 \def\HyPsd@GreekNumII#1#2#3#4{%
822     #1{%
823         \ifnum#3>\z@
824             \textnumeralsignlowergreek
825         \fi
826     }%
827     \expandafter#2%
828     \ifcase#3 %
829         {}{}%
830     \or\textiota\textIota
831     \or\textkappa\textKappa
832     \or\textlambda\textLambda
833     \or\textmu\textMu
834     \or\textnu\textNu
835     \or\textxi\textXi
836     \or\textomicron\textOmicron
837     \or\textpi\textPi
838     \or\textkoppagreek\textKoppagreek
839     \else
840         {}{}%
841     \fi
842     \HyPsd@GreekNumI#1#2#4%
843 }
844 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
845     #1{%
846         \ifnum#3>\z@
847             \textnumeralsignlowergreek
848         \fi
849     }%
850     \expandafter#2%
851     \ifcase#3 %
852         {}{}%

```

```

853 \or\textrho\textRho
854 \or\textsigma\textSigma
855 \or\texttau\textTau
856 \or\textupsilon\textUpsilon
857 \or\textphi\textPhi
858 \or\textchi\textChi
859 \or\textpsi\textPsi
860 \or\textomega\textOmega
861 \or\textsampgreek\textSampgreek
862 \else
863   {}{}%
864 \fi
865 \HyPsd@GreekNumII#1#2#4#5%
866 }
867 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
868   \HyPsd@GreekNumI\@firstofone#1#2%
869   \HyPsd@@GreekNum#1{#3#4#5}%
870 }
871 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
872   \HyPsd@GreekNumII\@firstofone#1#2#3%
873   \HyPsd@@GreekNum#1{#4#5#6}%
874 }
875 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
876   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
877   \HyPsd@@GreekNum#1{#5#6#7}%
878 }

```

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 ($\geq 0x40$).

```

879 \begingroup
880 \catcode"7F=\active
881 \toks@{%
882   \let\CJK@ignorespaces\empty
883   \def\CJK@char#1{\@gobbletwo}%
884   \let\CJK@charx\@gobblefour
885   \let\CJK@punctchar\@gobblefour
886   \def\CJK@punctcharx#1{\@gobblefour}%
887   \catcode"7F=\active
888   \def^^7f#1^^7f#2^^7f{%
889     \string #1\HyPsd@DecimalToOctal{#2}%
890   }%
891   % ... ?
892   \ifHy@unicode
893     \def\Hy@cjkpu{\80}%
894   \else
895     \let\Hy@cjkpu\@empty
896   \fi
897   \HyPsd@CJKActiveChars

```

```

898 }%
899 \count@=127 %
900 \@whilenum\count@<255 \do{%
901   \advance\count@ by 1 %
902   \lccode'\~=\count@
903   \lowercase{%
904     \toks@\expandafter{\the\toks@ ~}%
905   }%
906 }%
907 \toks@\expandafter{\the\toks@ !}%
908 \xdef\HyPsd@CJKhook{\the\toks@}%
909 \endgroup

```

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

```

910 \def\HyPsd@CJKActiveChars#1{%
911   \ifx#1!%
912     \let\HyPsd@CJKActiveChars\relax
913   \else
914     \edef#1{\noexpand\Hy@cjkpu\string#1}%
915   \fi
916   \HyPsd@CJKActiveChars
917 }

```

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

```

918 \def\HyPsd@DecimalToOctal#1{%
919   \ifcase #1 %
920     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
921     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
922     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
923     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
924     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
925     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
926     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
927     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
928     \or @\or A\or B\or C\or D\or E\or F\or G%
929     \or H\or I\or J\or K\or L\or M\or N\or O%
930     \or P\or Q\or R\or S\or T\or U\or V\or W%
931     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
932     \or \140\or a\or b\or c\or d\or e\or f\or g%
933     \or h\or i\or j\or k\or l\or m\or n\or o%
934     \or p\or q\or r\or s\or t\or u\or v\or w%
935     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
936     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
937     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
938     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
939     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
940     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
941     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
942     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
943     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
944     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
945     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
946     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
947     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
948     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
949     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%

```



```

950 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
951 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
952 \fi
953 }

```

6.5.3 \@inmathwarn-Patch

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

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

```

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

954 \def\HyPsd@inmathwarn#1#2{%
955   \ifx#2\expandafter
956     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
957       \HyPsd@GLYPHERR
958       \expandafter\@gobble\string#1%
959     >%
960     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
961   \else
962     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
963   \fi

```

```

964 \else
965     \expandafter#2%
966 \fi
967 }
968 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
969 \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

```

970 \def\HyPsd@add@accent#1#2{%
971     \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
972     #2%
973 }%

```

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.

```

974 \def\HyPsd@LetUnexpandableSpace#1{%
975     \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
976 }

```

\HyPsd@UnexpandableSpace \HyPsd@UnexpandableSpace is used in \HyPsd@@ProtectSpaces. In \HyPsd@@ProtectSpaces the space tokens are replaced by unexpandable commands \HyPsd@UnexpandableSpace, but that have the effect of spaces.

```

977 \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.

```

978 \edef\HyPsd@XSPACE{\string#\string X}
979 \edef\HyPsd@ITALCORR{\string#\string I}
980 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```

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

```

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

```

982 \def\HyPsd@@hspace#1*#2\END{%
983     \ifx\#2\%
984         \HyPsd@hspacetest{#1}%

```

```

985 \else
986   \expandafter\HyPsd@hspacetest
987 \fi
988 }

```

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

```

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

```

6.5.8 Fix for AMS classes

```

990 \ifundefined{tocsection}{%
991   \let\HyPSD@AMSclassfix\relax
992 }{%
993   \def\HyPSD@AMSclassfix{%
994     \let\tocpart\HyPSD@tocsection
995     \let\tocchapter\HyPSD@tocsection
996     \let\tocappendix\HyPSD@tocsection
997     \let\tocsection\HyPSD@tocsection
998     \let\tocsubsection\HyPSD@tocsection
999     \let\tocsubsubsection\HyPSD@tocsection
1000     \let\tocparagraph\HyPSD@tocsection
1001   }%
1002   \def\HyPSD@tocsection#1#2#3{%
1003     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1004     #3%
1005   }%
1006 }

```

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.

```

1007 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1008 \def\HyPsd@@ref#1*#2\END{%
1009   \ifx\#2\%
1010     \HyPsd@@@ref{#1}%
1011   \else
1012     \expandafter\HyPsd@@@ref
1013   \fi
1014 }%

```

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

```

1015 \def\HyPsd@@@ref#1{%
1016   \expandafter\ifx\csname r@#1\endcsname\relax
1017     ??%
1018   \else
1019     \expandafter\expandafter\expandafter
1020     \@car\csname r@#1\endcsname\@nil
1021   \fi
1022 }

```

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

```

1023 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```
1024 \def\HyPsd@@pageref#1*#2\END{%
1025   \ifx\#2\%
1026     \HyPsd@@pageref{#1}%
1027   \else
1028     \expandafter\HyPsd@@pageref
1029   \fi
1030 }
```

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

```
1031 \def\HyPsd@@@pageref#1{%
1032   \expandafter\ifx\csname r@#1\endcsname\relax
1033     ??%
1034   \else
1035     \expandafter\expandafter\expandafter\expandafter
1036     \expandafter\expandafter\expandafter\@car
1037     \expandafter\expandafter\expandafter\@gobble
1038     \csname r@#1\endcsname\@nil
1039   \fi
1040 }
```

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

```
1041 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1042 \def\HyPsd@@autoref#1*#2\END{%
1043   \ifx\#2\%
1044     \HyPsd@@autoref{#1}%
1045   \else
1046     \expandafter\HyPsd@@autoref
1047   \fi
1048 }
```

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

```
1049 \def\HyPsd@@@autoref#1{%
1050   \expandafter\ifx\csname r@#1\endcsname\relax
1051     ??%
1052   \else
1053     \expandafter\expandafter\expandafter\HyPsd@autorefname
1054     \csname r@#1\endcsname{}{}{}{}@nil
1055     \expandafter\expandafter\expandafter
1056     \@car\csname r@#1\endcsname@nil
1057   \fi
1058 }
```

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

```
1059 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1060   \ifx\#4\%
1061   \else
1062     \HyPsd@@autorefname#4.\@nil
1063   \fi
1064 }
```

`\HyPsd@@autorefname`

```

1065 \def\HyPsd@autorefname#1.#2\@nil{%
1066   \@ifundefined{#1autorefname}{%
1067     \@ifundefined{#1name}{%
1068       }{%
1069         \csname#1name\endcsname\space
1070       }%
1071     }{%
1072       \csname#1autorefname\endcsname\space
1073     }%
1074 }

```

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 unlimited parameter because of a possible space token after `\futurelet`.

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1075 \begingroup
1076   \def\x#1#2{%
1077     \endgroup
1078     \let#1\def
1079     \def\HyPsd@DefCommand##1##2##{%
1080       #1%
1081       \expandafter\noexpand
1082         \csname\expandafter@gobble\string##1\@empty\endcsname
1083       \@gobble
1084     }%
1085     \let#2\let
1086     \def\HyPsd@LetCommand##1{%
1087       \expandafter\ifx\csname##1\expandafter\endcsname
1088         \csname iftrue\endcsname

```

```

1089     \pdfstringdefWarn\let
1090     \expandafter\@gobble
1091   \else
1092     \expandafter\ifx\csname##1\expandafter\endcsname
1093       \csname iffalse\endcsname
1094     \pdfstringdefWarn\let
1095     \expandafter\expandafter\expandafter\@gobble
1096   \else
1097     #2%
1098     \expandafter\noexpand
1099     \csname##1\expandafter\expandafter\expandafter\endcsname
1100   \fi
1101 \fi
1102 }%
1103 }%
1104 \expandafter\x\csname <def>-command\expandafter\endcsname
1105     \csname <let>-command\endcsname
1106 \def\HyPsd@LetCommand#1{%
1107   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1108   \expandafter\expandafter\expandafter{%
1109     \expandafter\@gobble\string#1\@empty
1110   }%
1111 }

```

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.

```

1112 \def\HyPsd@ifnextchar{%
1113   \pdfstringdefWarn\@ifnextchar
1114   \expandafter\@gobbletwo\@gobble
1115 }

```

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

```

1116 \def\HyPsd@new@ifnextchar{%
1117   \pdfstringdefWarn\new@ifnextchar
1118   \expandafter\@gobbletwo\@gobble
1119 }

```

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`.

```

1120 \def\HyPsd@protected@testopt#1{%
1121   \pdfstringdefWarn#1%
1122   \@gobbletwo
1123 }

```

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:

```
1124 \def\HyPsd@Warning#1{%
1125   \begingroup
1126     \def\space{ }%
1127     \Hy@Warning{#1}%
1128   \endgroup
1129 }
```

6.6.2 Protecting spaces

```
1130 \RequirePackage{etexcmds}[2007/09/09]
1131 \ifetex@unexpanded
1132   \expandafter\@secondoftwo
1133 \else
1134   \expandafter\@firstoftwo
1135 \fi
1136 {%
```

`\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`.

```
1137   \def\HyPsd@ProtectSpaces#1{%
1138     \iftrue
1139       \expandafter\HyPsd@@ProtectSpacesFi
1140       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1141     \fi
1142   }%
```

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

```
1143   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1144     \fi
1145     \ifx\scrollmode#2\scrollmode
1146       \HyPsd@RemoveMask#1\HyPsd@End#3%
1147     \else
1148       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1149       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1150     \fi
1151   }%
```

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.

```
1152   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1153     \toks@\expandafter{#1}%
1154     \xdef#2{\the\toks@}%
1155   }%

1156 }{%
1157   \let\HyPsd@fi\fi
1158   \def\HyPsd@ProtectSpaces#1{%
```

```

1159 \xdef#1{%
1160 \iftrue
1161 \expandafter\HyPsd@@ProtectSpacesFi
1162 \expandafter\expandafter\@empty#1| %
1163 \HyPsd@fi
1164 }%
1165 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1166 }%
1167 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1168 \fi
1169 \etex@unexpanded{#1}%
1170 \ifx\scrollmode#2\scrollmode
1171 \else
1172 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1173 \HyPsd@fi
1174 }%
1175 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1176 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1177 }%
1178 }

```

6.6.3 Remove grouping braces

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

```

1179 \def\HyPsd@RemoveBraces#1{%
1180 \ifx\scrollmode#1\scrollmode
1181 \else
1182 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1183 \fi
1184 }

```

`\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`.

```

1185 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1186 \fi
1187 \def\Hy@temp@A{#1#2}%
1188 \def\Hy@temp@B{#3}%
1189 \ifx\Hy@temp@A\Hy@temp@B
1190 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1191 \HyPsd@String#1%
1192 }%
1193 \ifx\scrollmode#2\scrollmode
1194 \else
1195 \Hy@ReturnAfterFiFiEnd{%
1196 \HyPsd@RemoveBraces{#2}%
1197 }%
1198 \fi
1199 \else
1200 \def\Hy@temp@A{#1}%

```



```

1201 \HyPsd@AppendItalcorr\HyPsd@String
1202 \ifx\Hy@temp@A\@empty
1203 \Hy@ReturnAfterElseFiFiEnd{%
1204 \HyPsd@RemoveBraces{#2}%
1205 }%
1206 \else
1207 \HyPsd@ProtectSpaces\Hy@temp@A
1208 \HyPsd@AppendItalcorr\Hy@temp@A
1209 \Hy@ReturnAfterFiFiEnd{%
1210 \expandafter\HyPsd@RemoveBraces\expandafter
1211 {\Hy@temp@A#2}%
1212 }%
1213 \fi
1214 \fi
1215 \Hy@ReturnEnd
1216 }

```

\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.

```

1217 \def\HyPsd@AppendItalcorr#1{%
1218 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}\#1%
1219 }
1220 \def\HyPsd@@AppendItalcorr#1#2{%
1221 \expandafter\def\expandafter#2\expandafter{#2#1}%
1222 }

```

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).

```

1223 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1224 \global\let\HyPsd@Rest\relax
1225 \ifcat\relax\noexpand#1\relax
1226 \ifx#1\protect
1227 \else
1228 \ifx#1\penalty
1229 \setbox\z@=\hbox{%
1230 \afterassignment\HyPsd@AfterCountRemove
1231 \count@=#2\HyPsd@End
1232 }%
1233 \else
1234 \ifx#1\kern
1235 \setbox\z@=\hbox{%
1236 \afterassignment\HyPsd@AfterDimenRemove
1237 \dimen@=#2\HyPsd@End
1238 }%
1239 \else

```

```

1240         \ifx#1\hskip
1241         \setbox\z@=\hbox{%
1242         \afterassignment\HyPsd@AfterSkipRemove
1243         \skip@=#2\HyPsd@end
1244         }%
1245     \else
1246     \HyPsd@CatcodeWarning{#1}%
1247     \fi
1248 \fi
1249 \fi
1250 \fi
1251 \else
1252     \ifcat#1A% letter
1253     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1254     \HyPsd@String#1%
1255     }%
1256 \else
1257     \ifcat#1 % SPACE
1258     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1259     \HyPsd@String\HyPsd@SPACEOPTI
1260     }%
1261 \else
1262     \ifcat$#1%
1263     \HyPsd@CatcodeWarning{math shift}%
1264 \else
1265     \ifcat&#1%
1266     \HyPsd@CatcodeWarning{alignment tab}%
1267 \else
1268     \ifcat^#1%
1269     \HyPsd@CatcodeWarning{superscript}%
1270 \else
1271     \ifcat_#1%
1272     \HyPsd@CatcodeWarning{subscript}%
1273 \else
1274     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1275     \HyPsd@String#1%
1276     }%
1277     \fi
1278 \fi
1279 \fi
1280 \fi
1281 \fi
1282 \fi
1283 \fi
1284 \ifx\HyPsd@Rest\relax
1285     \ifx\scrollmode#2\scrollmode
1286     \else
1287     \Hy@ReturnAfterFiFiEnd{%
1288     \HyPsd@CheckCatcodes#2\HyPsd@end
1289     }%
1290 \fi
1291 \else
1292     \ifx\HyPsd@Rest\@empty
1293     \else
1294     \Hy@ReturnAfterFiFiEnd{%
1295     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@end
1296     }%

```

```

1297     \fi
1298   \fi
1299   \Hy@ReturnEnd
1300 }

```

Remove counts, dimens, skips.

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

```

1301 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1302   \gdef\HyPsd@Rest{#1}%
1303 }

```

`\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.

```

1304 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1305   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1306     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1307     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1308   \else
1309     \ifdim\dimen@=\z@
1310     \else
1311       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1312     \fi
1313     \gdef\HyPsd@Rest{#1}%
1314   \fi
1315 }

```

`\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).

```

1316 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1317   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1318     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1319     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1320   \else
1321     \ifdim\skip@=\z@
1322     \else
1323       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1324     \fi
1325     \gdef\HyPsd@Rest{#1}%
1326   \fi
1327 }

```

Catcode warnings.

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

```

1328 \def\HyPsd@CatcodeWarning#1{%
1329   \HyPsd@Warning{%
1330     Token not allowed in a PDF string (%
1331     \ifHy@unicode
1332       Unicode%
1333     \else
1334       PDFDocEncoding%
1335     \fi
1336     ),%

```

```

1337 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1338 }%
1339 }
1340 \beginngroup
1341 \catcode'\|=0 %
1342 \catcode'\|=12 %
1343 \gdef\HyPsd@RemoveCmdPrefix#1{%
1344 \expandafter\HyPsd@@RemoveCmdPrefix
1345 \string#1\@empty\<>-|@empty|@empty
1346 }%
1347 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1348 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1349 \def\HyPsd@RemoveSpaceWarning#1{%
1350 \HyPsd@Warning{%
1351 Token not allowed in a PDFDocEncoded string:%
1352 \MessageBreak #1\MessageBreak
1353 removed%
1354 }%
1355 }

```

\HyPsd@ReplaceSpaceWarning

```

1356 \def\HyPsd@ReplaceSpaceWarning#1{%
1357 \HyPsd@Warning{%
1358 Token not allowed in a PDFDocEncoded string:%
1359 \MessageBreak #1\MessageBreak
1360 replaced by space%
1361 }%
1362 }

```

6.6.5 Check for wrong glyphs

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

```

1363 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1364 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1365 \HyPsd@String#1%
1366 }%
1367 \ifx\|#2\%
1368 \else
1369 \Hy@ReturnAfterFi{%
1370 \HyPsd@GlyphProcessWarning#2\@empty
1371 }%
1372 \fi
1373 }
1374 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1375 \HyPsd@Warning{%
1376 Glyph not defined in %
1377 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1378 removing '\@backslashchar#1'%
1379 }%
1380 \HyPsd@GlyphProcess#2\@empty
1381 }

```

Spaces.

`\HyPsd@spaceopti` In the string the spaces are represented by `\HyPsd@spaceopti` tokens. Within an `\edef` it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next `\HyPsd@spaceopti` by an protected space `\040`.

```
1382 \def\HyPsd@spaceopti#1{ % first space
1383   \ifx\HyPsd@spaceopti#1%
1384     \040%
1385   \else
1386     #1%
1387   \fi
1388 }%
```

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.

```
1389 \def\HyPsd@Subst#1#2#3{%
1390   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1391     \fi
1392     ##1%
1393     \ifx\scrollmode##2\scrollmode
1394     \else
1395       #2%
1396       \HyPsd@@ReplaceFi##2\END
1397     \fi
1398   }%
1399   \xdef#3{%
1400     \iftrue
1401       \expandafter\HyPsd@@ReplaceFi#3#1\END
1402     \fi
1403   }%
1404 }
```

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

```
1405 \def\HyPsd@StringSubst#1{%
1406   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1407 }
```

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.

```
1408 \def\HyPsd@doxspace#1{%
1409   \ifx#1\relax\else
1410   \ifx#1.\else
1411   \ifx#1:\else
1412   \ifx#1,\else
1413   \ifx#1;\else
1414   \ifx#1!\else
1415     \ifx#1?\else
```

```

1416         \ifx#1/\else
1417         \ifx#1-\else
1418         \ifx#1'\else
1419         \HyPsd@SPACEOPTI
1420         \fi
1421         \fi
1422         \fi
1423         \fi
1424         \fi
1425         \fi
1426         \fi
1427         \fi
1428         \fi
1429         \fi
1430         #1%
1431     }%

```

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.

```

1432 \begingroup
1433   \catcode'\|=0 %
1434   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1435 |gdef|HyPsd@ConvertToUnicode#1{%
1436   |xdef#1{%
1437     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1438   }%
1439   |ifx#1|@empty
1440   |else
1441     |xdef#1{%
1442       \376\377%
1443       #1%
1444     }%
1445   |fi
1446 }%

```

\HyPsd@DoConvert

```

1447 |gdef|HyPsd@DoConvert#1{%
1448   |ifx#1|@empty
1449   |else
1450     |Hy@ReturnAfterFi{%
1451       |ifx#1\|%
1452       \|%
1453       |expandafter|HyPsd@DoEscape
1454     |else
1455       \000#1%
1456       |expandafter|HyPsd@DoConvert
1457     |fi
1458   }%
1459   |fi
1460 }%

```

\HyPsd@DoEscape

```

1461 |gdef|HyPsd@DoEscape#1{%
1462   |ifx#19%
1463   |expandafter|HyPsd@GetTwoBytes
1464   |else
1465   |Hy@ReturnAfterFi{%
1466     |ifx#18%
1467       00%
1468     |expandafter|HyPsd@GetTwoBytes
1469     |else
1470       #1%
1471     |expandafter|HyPsd@GetOneByte
1472   |fi
1473   }%
1474 |fi
1475 }%

```

\HyPsd@GetTwoBytes

```

1476 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1477   #1\#2#3#4%
1478   |HyPsd@DoConvert
1479   }%

```

\HyPsd@GetOneByte

```

1480 |gdef|HyPsd@GetOneByte#1#2{%
1481   #1#2%
1482   |HyPsd@DoConvert
1483   }%
1484 |endgroup

```

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

```

1485 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1486   \xdef#4{#4#1#2}%
1487   \HyPsd@@ConvertToUnicode#3\END#4%
1488 }

```

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`

```

1489 \begingroup\expandafter\expandafter\expandafter\endgroup
1490 \expandafter\ifx\csname numexpr\endcsname\relax
1491   \let\HyPsd@UTFviii\relax
1492 \else
1493   \def\HyPsd@UTFviii{%
1494     \let\UTFviii@two@octets\HyPsd@UTFviii@two
1495     \let\UTFviii@three@octets\HyPsd@UTFviii@three

```

```

1496 \let\unichar\HyPsd@unichar
1497 }%

```

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.

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

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

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

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

$$(5)$$

```

1498 \def\HyPsd@UTFviii@two#1#2{%
1499 \expandafter\HyPsd@UTFviii@two
1500 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1501 \number'#1\expandafter|%
1502 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1503 \number'#2 \@nil
1504 }%
1505 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1506 \expandafter\8%
1507 \number\numexpr #1-48\expandafter\relax
1508 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1509 \number\numexpr #3-8*%
1510 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1511 \number\numexpr #4-8*#3\relax
1512 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1513 \def\HyPsd@UTFviii@three#1#2#3{%
1514 \expandafter\HyPsd@UTFviii@three
1515 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1516 \number'#1\expandafter|%
1517 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|%
1518 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|%
1519 \number'#2\expandafter|%
1520 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|%
1521 \number'#3 \@nil
1522 }%
1523 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1524 \expandafter\9%
1525 \number\numexpr #1-56\expandafter\relax
1526 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1527 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax

```



```

1528 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1529 \number\numexpr #6-16\expandafter\relax
1530 \number\numexpr #7-8*#6\relax
1531 }%

```

Four octet form: 11110aab (A), 10bccdd (B), 10deeeff (C), and 10ggghhh (D). The result are two surrogate characters 110010aabbccdd and 11001eeeffggghh, or as octal numbers \931a\bcd and \931e\fgh. The conversion equations:

$$a := A/2 - 120 \quad (13)$$

$$b := (isodd(A)?2:0) + (B/32 - 4) \quad (14)$$

$$c := (B - 32 * (B/32))/4 \quad (15)$$

$$d := 2 * (B - 4 * (B/4)) + (C/32 - 4) \quad (16)$$

$$e := (C - 32 * (C/32))/4 \quad (17)$$

$$f := C - 4 * C/4 \quad (18)$$

$$g := D/8 - 16 \quad (19)$$

$$h := D - 8 * (D/8) \quad (20)$$

$$(21)$$

```

1532 \def\HyPsd@UTFviii@four#1{%
1533 \expandafter\HyPsd@UTFviii@@four\number'#1|}%
1534 }%
1535 \def\HyPsd@UTFviii@@four#1|#2|#3|#4{%
1536 \expandafter\HyPsd@UTFviii@@@four\number#1\expandafter|}%
1537 \number'#2\expandafter|}%
1538 \number\dimexpr.03125\dimexpr'#2sp\expandafter|}%
1539 \number'#3\expandafter|}%
1540 \number\dimexpr.03125\dimexpr'#3sp\expandafter|}%
1541 \number'#4\expandafter|}%
1542 \number\dimexpr.125\dimexpr'#4|}%
1543 }%
1544 \def\HyPsd@UTFviii@@@four#1|#2|#3|#4|#5|#6|#7|{%
1545 \931%
1546 \number\numexpr\dimexpr.5\dimexpr#1sp\relax\relax -120\relax
1547 \csname\number\numexpr\ifodd#1 2\else 0\fi +#3-4\relax\endcsname
1548 \number\dimexpr.25\dimexpr #2sp - 32\dimexpr#3sp\relax\relax\relax
1549 % ...
1550 }%

```

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

```

1551 \def\HyPsd@unichar#1{%
1552 \ifHy@unicode
1553 \ifnum#1>"10FFFF %
1554 \HyPsd@UnicodeReplacementCharacter % illegal
1555 \else
1556 \ifnum#1>"FFFF %

```

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

```

1557 \expandafter\HyPsd@unichar\expandafter{%
1558 \number\numexpr 55296+%
1559 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1560 \relax\relax\relax
1561 }%

```

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

```

1562         \expandafter\HyPsd@unichar\expandafter{%
1563             \number\numexpr#1-9216%
1564             -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1565             \relax\relax\relax
1566     }%
1567     \else
1568         \ifnum#1>"7FF %
1569             \9%
1570             \expandafter\HyPsd@unichar@first@byte\expandafter{%
1571                 \number
1572                 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1573             }%
1574         \else
1575             \8%
1576             \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1577         \fi
1578         \expandafter\HyPsd@unichar@second@byte\expandafter{%
1579             \number
1580             \numexpr#1-256*\number
1581             \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1582         }%
1583     \fi
1584 \fi
1585 \else
1586     .% unsupported (Unicode -> PDF Doc Encoding)
1587 \fi
1588 }%
1589 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1590 \def\HyPsd@unichar@first@byte#1{%
1591     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1592     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1593         \number
1594         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1595         \relax\relax\relax
1596     }%
1597 }%
1598 \def\HyPsd@unichar@second@byte#1{%
1599     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1600     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1601         \number
1602         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1603         \relax\relax\relax
1604     }%
1605 }%
1606 \def\HyPsd@unichar@octtwo#1{%
1607     \number\dimexpr.125\dimexpr#1sp\relax\relax
1608     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1609     \relax\relax\relax
1610 }%
1611 \fi

```

7 Support of other packages

7.1 Class memoir

```

1612 \@ifclassloaded{memoir}{%

```

```

1613 \AtEndOfPackage{\RequirePackage{memhfixc}}%
1614 }{}

```

7.2 Package subfigure

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

```

1615 \@ifpackageloaded{subfigure}{%
1616 \@ifundefined{sub@label}{%
1617 \Hy@hypertexnamesfalse
1618 }{%
1619 \renewcommand*{\sub@label}[1]{%
1620 \@bsphack
1621 \subfig@oldlabel{#1}%
1622 \if@files
1623 \begin{group}
1624 \edef\@currentlabstr{%
1625 \expandafter\strip@prefix\meaning\@currentlabelname
1626 }%
1627 \protected@write\@auxout{}{%
1628 \string\newlabel{sub@#1}{%
1629 {\@nameuse{\@thesub\@capttype}}%
1630 {\thepage}%
1631 }%
1632 \expandafter\strip@period\@currentlabstr
1633 \relax.\relax\@@@%
1634 }%
1635 {\@currentHref}%
1636 }%
1637 }%
1638 }%
1639 \end{group}
1640 \fi
1641 \@esphack
1642 }%
1643 \@ifpackagelater{subfigure}{2002/03/26}{%
1644 \providecommand*\toclevel@subfigure{1}%
1645 \providecommand*\toclevel@subtable{1}%
1646 }%
1647 }%
1648 }{}

```

7.3 Package xr and xr-hyper

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

```

1649 \@ifundefined{XR@addURL}{%
1650 }{}

```

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

```

1651 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%
1652 \def\xr@dURL#1#2#3#4#5\\{%
1653 {#1}{#2}%
1654 \if!#4!%
1655 \else
1656 {#3}{#4}{\xr@URL}%
1657 \fi

```

```

1658 }%
1659 }

1660 \def\Hy@true{true}
1661 \def\Hy@false{false}

    Providing dummy definitions.

1662 \let\literalps@out\@gobble
1663 \newcommand\pdfbookmark[3] [] {}
1664 \let\Acrobatmenu\@gobble
1665 \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

```

1666 \let\HyperRaiseLinkHook\@empty
1667 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1668 \def\Hy@raisedlink#1{%
1669   \ifvmode
1670     #1%
1671   \else
1672     \penalty\@M
1673     \smash{%
1674       \begingroup
1675         \let\HyperRaiseLinkLength\@tempdima
1676         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1677         \HyperRaiseLinkHook
1678       \expandafter\endgroup
1679       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1680     }%
1681   \fi
1682 }

```

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

```

1683 \def\Hy@SaveLastskip{%
1684   \let\Hy@RestoreLastskip\relax
1685   \ifvmode
1686     \ifdim\lastskip=\z@
1687       \let\Hy@RestoreLastskip\nobreak
1688     \else
1689       \begingroup
1690         \skip@=-\lastskip
1691       \edef\x{%
1692         \endgroup

```

```

1693         \def\noexpand\Hy@RestoreLastskip{%
1694             \noexpand\ifvmode
1695                 \noexpand\nobreak
1696                 \vskip\the\skip@
1697                 \vskip\the\lastskip\relax
1698             \noexpand\fi
1699         }%
1700     }%
1701     \x
1702     \fi
1703 \else
1704     \ifhmode
1705         \ifdim\lastskip=\z@
1706             \let\Hy@RestoreLastskip\nobreak
1707         \else
1708             \begingroup
1709                 \skip@=-\lastskip
1710                 \edef\x{%
1711                     \endgroup
1712                     \def\noexpand\Hy@RestoreLastskip{%
1713                         \noexpand\ifhmode
1714                             \noexpand\nobreak
1715                             \hskip\the\skip@
1716                             \hskip\the\lastskip\relax
1717                         \noexpand\fi
1718                     }%
1719                 }%
1720             \x
1721             \fi
1722         \fi
1723     \fi
1724 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1725 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1726 \def\Hy@@boolkey[#1]#2#3{%
1727     \lowercase{\def\Hy@tempa{#3}}%
1728     \ifx\Hy@tempa\@empty
1729         \let\Hy@tempa\Hy@true
1730     \fi
1731     \ifx\Hy@tempa\Hy@true
1732     \else
1733         \ifx\Hy@tempa\Hy@false
1734         \else
1735             \let\Hy@tempa\relax
1736         \fi
1737     \fi
1738     \ifx\Hy@tempa\relax
1739         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1740     \else
1741         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1742         \csname Hy@#2\Hy@tempa\endcsname

```

```

1743 \fi
1744 }

```

\Hy@WarnOptionValue

```

1745 \def\Hy@WarnOptionValue#1#2#3{%
1746   \Hy@Warning{%
1747     Unexpected value ‘#1’\MessageBreak
1748     of option ‘#2’ instead of\MessageBreak
1749     #3%
1750   }%
1751 }

```

\Hy@DisableOption

```

1752 \def\Hy@DisableOption#1{%
1753   \@ifundefined{KV@Hyp@#1@default}{%
1754     \define@key{Hyp}{#1}%
1755   }{%
1756     \define@key{Hyp}{#1}[]%
1757   }%
1758   {\Hy@WarnOptionDisabled{#1}}%
1759 }

```

\Hy@WarnOptionDisabled

```

1760 \def\Hy@WarnOptionDisabled#1{%
1761   \Hy@Warning{%
1762     Option ‘#1’ has already been used,\MessageBreak
1763     setting the option has no effect%
1764   }%
1765 }

```

\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.

```

1766 \def\Hy@CheckOptionValue#1#2#3{%
1767   \begingroup
1768   \edef\x{#1}%
1769   \@onelevel@sanitize\x
1770   \let\y=y%
1771   \def\do##1##2{%
1772     \def\z{##1}%
1773     \@onelevel@sanitize\z
1774     \ifx\x\z
1775       \let\y=n%
1776       \let\do\@gobbletwo
1777     \fi
1778   }%
1779   #3%
1780   \ifx\y y%
1781     \def\do##1##2{%
1782       * ‘##1’%
1783       \ifx\##2\\\else\space(##2)\fi
1784     \MessageBreak
1785   }%
1786   \Hy@Warning{%
1787     Values of option ‘#2’:\MessageBreak
1788     #3%
1789     * An empty value disables the option.\MessageBreak
1790     Unknown value ‘\x’%

```

```

1791     }%
1792     \fi
1793   \endgroup
1794 }

```

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

```

1795 \def\Hy@DefNameKey#1{%
1796   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1797 }

```

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

```

1798 \def\Hy@@DefNameKey#1#2#3{%
1799   \define@key{Hyp}{#2}{%
1800     \edef#1{##1}%
1801     \ifx#1\@empty
1802       \else
1803         \Hy@CheckOptionValue{##1}{#2}{#3}%
1804       \fi
1805   }%
1806   \let#1\@empty
1807 }

```

`\Hy@UseNameKey`

```

1808 \def\Hy@UseNameKey#1#2{%
1809   \ifx#2\@empty
1810     \else
1811       /#1/#2%
1812     \fi
1813 }

```

9.2 Defining the options

```

1814 \define@key{Hyp}{implicit}[true]{%
1815   \Hy@boolkey{implicit}{#1}%
1816 }
1817 \define@key{Hyp}{draft}[true]{%
1818   \Hy@boolkey{draft}{#1}%
1819 }
1820 \define@key{Hyp}{final}[true]{%
1821   \Hy@boolkey{final}{#1}%
1822 }
1823 \let\KV@Hyp@nolinks\KV@Hyp@draft
1824 \define@key{Hyp}{a4paper}[true]{%
1825   \def\special@paper{210mm,297mm}%
1826   \def\Hy@pageheight{842}%
1827 }
1828 \define@key{Hyp}{a5paper}[true]{%
1829   \def\special@paper{148mm,210mm}%
1830   \def\Hy@pageheight{595}%
1831 }
1832 \define@key{Hyp}{b5paper}[true]{%
1833   \def\special@paper{176mm,250mm}%

```

```

1834 \def\Hy@pageheight{709}%
1835 }
1836 \define@key{Hyp}{letterpaper}[true]{%
1837 \def\special@paper{8.5in,11in}%
1838 \def\Hy@pageheight{792}%
1839 }
1840 \define@key{Hyp}{legalpaper}[true]{%
1841 \def\special@paper{8.5in,14in}%
1842 \def\Hy@pageheight{1008}%
1843 }
1844 \define@key{Hyp}{executivepaper}[true]{%
1845 \def\special@paper{7.25in,10.5in}%
1846 \def\Hy@pageheight{720}%
1847 }
1848 \define@key{Hyp}{setpagesize}[true]{%
1849 \Hy@boolkey{setpagesize}{#1}%
1850 }
1851 \define@key{Hyp}{debug}[true]{%
1852 \Hy@boolkey[debug]{verbose}{#1}%
1853 }
1854 \define@key{Hyp}{linktopage}[true]{%
1855 \Hy@boolkey{linktopage}{#1}%
1856 }
1857 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1858 \def\XR@ext{dvi}
1859 \define@key{Hyp}{verbose}[true]{%
1860 \Hy@boolkey{verbose}{#1}%
1861 }
1862 \define@key{Hyp}{typexml}[true]{%
1863 \Hy@boolkey{typexml}{#1}%
1864 }

```

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.

```

1865 \define@key{Hyp}{raiselinks}[true]{%
1866 \Hy@boolkey{raiselinks}{#1}%
1867 }

```

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

```

1868 \define@key{Hyp}{breaklinks}[true]{%
1869 \Hy@boolkey{breaklinks}{#1}%
1870 }

```

Determines whether an automatic anchor is put on each page

```

1871 \define@key{Hyp}{pageanchor}[true]{%
1872 \Hy@boolkey{pageanchor}{#1}%
1873 }

```

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.

```

1874 \define@key{Hyp}{plainpages}[true]{%
1875 \Hy@boolkey{plainpages}{#1}%
1876 }

```

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

```

1877 \define@key{Hyp}{naturalnames}[true]{%
1878 \Hy@boolkey{naturalnames}{#1}%

```


1879 }

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

```
1880 \define@key{Hyp}{hypertexnames}[true]{%
1881   \Hy@boolkey{hypertexnames}{#1}%
1882 }
```

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

```
1883 \define@key{Hyp}{nesting}[true]{%
1884   \Hy@boolkey{nesting}{#1}%
1885 }

1886 \define@key{Hyp}{unicode}[true]{%
1887   \Hy@boolkey{unicode}{#1}%
1888   \ifHy@unicode
1889     \def\HyPsd@pdfencoding{unicode}%
1890   \else
1891     \def\HyPsd@pdfencoding{pdfdoc}%
1892   \fi
1893   \HyPsd@LoadUnicode
1894 }

1895 \def\HyPsd@LoadUnicode{%
1896   \@ifundefined{T@PU}{\input{puenc.def}}{}%
1897   \DeclareFontFamily{PU}{pdf}{}%
1898   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
1899   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
1900   \global\let\HyPsd@LoadUnicode\relax
1901 }

1902 \AtBeginDocument{%
1903   \ifx\HyPsd@LoadUnicode\relax
1904   \else
1905     \def\HyPsd@LoadUnicode{%
1906       \PackageError{hyperref}{%
1907         Unicode support for bookmarks is not available.\MessageBreak
1908         Activate unicode support by using one of the options\MessageBreak
1909         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
1910         in the preamble%
1911       }@ehc
1912       \global\let\HyPsd@LoadUnicode\relax
1913       \global\Hy@unicodetrue
1914       \global\let\Hy@unicodetrue\Hy@unicodetrue
1915     }%
1916   \fi
1917 }

1918 \define@key{Hyp}{pdfencoding}{%
1919   \edef\HyPsd@temp{#1}%
1920   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
1921     \let\HyPsd@pdfencoding\HyPsd@temp
1922     \Hy@unicodetrue
1923   \else
1924     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
1925       \z@
1926     \else
1927       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
1928         \z@
1929       \else
1930         \@ne
1931       \fi
```

```

1932         \fi
1933     \let\HyPsd@pdfencoding\HyPsd@temp
1934     \hypersetup{unicode}%
1935     \ifHy@unicode
1936         \def\HyPsd@pdfencoding{#1}%
1937         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
1938             \HyPsd@LoadStringEnc
1939         \fi
1940     \else
1941         \Hy@Warning{Cannot switch to unicode bookmarks}%
1942         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
1943     \fi
1944 \else
1945     \@onelevel@sanitize\HyPsd@temp
1946     \Hy@Warning{%
1947         Values of option 'pdfencoding':\MessageBreak
1948         'pdfdoc', 'unicode', 'auto'.\MessageBreak
1949         Ignoring unknown value '\HyPsd@temp'%
1950     }%
1951 \fi
1952 \fi
1953 }
1954 \def\HyPsd@pdfencoding@auto{auto}
1955 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
1956 \def\HyPsd@pdfencoding@unicode{unicode}
1957 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
1958 \def\HyPsd@LoadStringEnc{%
1959     \RequirePackage{stringenc}[2007/06/14]%
1960     \let\HyPsd@LoadStringEnc\relax
1961 }
1962 \AtBeginDocument{%
1963     \ifpackageloaded{stringenc}{%
1964         \let\HyPsd@LoadStringEnc\relax
1965     }{%
1966         \def\HyPsd@LoadStringEnc{%
1967             \Hy@WarningNoLine{%
1968                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
1969                 in the preamble or load the package there%
1970             }%
1971         }%
1972     }%
1973 }
1974 \newif\ifHy@setpdfversion
1975 \define@key{Hyp}{pdfversion}{%
1976     \ifundefined{Hy@pdfversion@#1}{%
1977         \PackageWarning{hyperref}{%
1978             Unsupported PDF version '#1'.\MessageBreak
1979             Valid values: 1.2 until 1.7%
1980         }%
1981     }{%
1982         \Hy@setpdfversiontrue
1983         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
1984     }%
1985 }
1986 \@namedef{Hy@pdfversion@1.2}{2}%
1987 \@namedef{Hy@pdfversion@1.3}{3}%
1988 \@namedef{Hy@pdfversion@1.4}{4}%

```

```

1989 \@namedef{Hy@pdfversion@1.5}{5}%
1990 \@namedef{Hy@pdfversion@1.6}{6}%
1991 \@namedef{Hy@pdfversion@1.7}{7}%
1992 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

1993 \define@key{Hyp}{hyperref}[true]{%
1994 \define@key{Hyp}{tex4ht}[true]{%
1995   \def\XR@ext{html}%
1996   \Hy@texhttrue
1997   \def\Hy@raisedlink{}%
1998   \setkeys{Hyp}{colorlinks=true}%
1999   \def\BeforeTeXIVht{\usepackage{color}}%
2000   \def\Hy@driver{htex4ht}%
2001   \def\MaybeStopEarly{%
2002     \typeout{Hyperref stopped early}%
2003     \AfterBeginDocument{%
2004       \PDF@FinishDoc
2005       \gdef\PDF@FinishDoc{}%
2006     }%
2007     \endinput
2008   }%
2009 }
2010 \define@key{Hyp}{pdftex}[true]{%
2011   \def\Hy@driver{hpdftex}%
2012   \def\XR@ext{pdf}%
2013   \PassOptionsToPackage{pdftex}{color}%
2014   \Hy@breaklinkstrue
2015 }
2016 \define@key{Hyp}{dvi pdf}[true]{%
2017   \Hy@WarningNoLine{%
2018     Option 'dvi pdf' is deprecated.\MessageBreak
2019     See the user manual for available driver options%
2020   }%
2021 }
2022 \define@key{Hyp}{native pdf}[true]{%
2023   \def\Hy@driver{hdvips}%
2024   \def\Hy@raisedlink{}%
2025   \def\XR@ext{pdf}%
2026 }
2027 \define@key{Hyp}{dvi pdf m}[true]{%
2028   \def\Hy@driver{hdvipdfm}%
2029   \def\XR@ext{pdf}%
2030   \Hy@breaklinkstrue
2031 }
2032 \define@key{Hyp}{dvi pdf m x}[true]{%
2033   \def\Hy@driver{hdvipdfm}%
2034   \def\XR@ext{pdf}%
2035   \Hy@breaklinkstrue
2036 }
2037 \define@key{Hyp}{dvi pdf m x-outline-open}[true]{%
2038   \expandafter\ifx\csname if#1\expandafter\endcsname
2039     \csname iftrue\endcsname
2040     \chardef\SpecialDvipdfmxOutlineOpen@ne
2041   \else
2042     \chardef\SpecialDvipdfmxOutlineOpen@z@

```

```

2043 \fi
2044 }
2045 \define@key{Hyp}{xetex}[true]{%
2046 \def\Hy@driver{hdvipdfm}%
2047 \def\XR@ext{pdf}%
2048 \Hy@breaklinkstrue
2049 }
2050 \define@key{Hyp}{pdfmark}[true]{%
2051 \def\Hy@driver{hdvips}%
2052 \def\Hy@raisedlink{}%
2053 \def\XR@ext{pdf}%
2054 }
2055 \define@key{Hyp}{dvips}[true]{%
2056 \def\Hy@driver{hdvips}%
2057 \def\Hy@raisedlink{}%
2058 \def\XR@ext{pdf}%
2059 }
2060 \define@key{Hyp}{hypertex}[true]{%
2061 \def\Hy@driver{hypertex}%
2062 }
2063 \let\Hy@MaybeStopNow\relax
2064 \define@key{Hyp}{vtex}[true]{%
2065 \begingroup\expandafter\expandafter\expandafter\endgroup
2066 \expandafter\ifx\csname OpMode\endcsname\relax
2067 \latex@error{Non-VTeX processor}{}%
2068 \global\let\Hy@MaybeStopNow\endinput
2069 \endinput
2070 \else
2071 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2072 \def\XR@ext{pdf}%
2073 \def\Hy@driver{hvtex}%
2074 \else
2075 \ifnum\OpMode=10\relax
2076 \def\XR@ext{htm}%
2077 \def\Hy@driver{hvtexhtm}%
2078 \def\MaybeStopEarly{%
2079 \typeout{Hyperref stopped early}%
2080 \AfterBeginDocument{%
2081 \PDF@FinishDoc
2082 \gdef\PDF@FinishDoc{}%
2083 }%
2084 \endinput
2085 }%
2086 \else
2087 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2088 \global\let\Hy@MaybeStopNow\endinput
2089 \endinput
2090 \fi
2091 \fi
2092 \fi
2093 }
2094 \define@key{Hyp}{vtexpdfmark}[true]{%
2095 \begingroup\expandafter\expandafter\expandafter\endgroup
2096 \expandafter\ifx\csname OpMode\endcsname\relax
2097 \latex@error{Non-VTeX processor}{}%
2098 \let\Hy@MaybeStopNow\endinput
2099 \endinput

```

```

2100 \else
2101   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2102   \def\XR@ext{pdf}%
2103   \def\Hy@driver{hvtexmrk}%
2104   \def\Hy@raisedlink{}%
2105   \else
2106     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2107     \let\Hy@MaybeStopNow\endinput
2108     \endinput
2109   \fi
2110 \fi
2111 }
2112 \define@key{Hyp}{dviwindo}[true]{%
2113   \def\Hy@driver{hdvwind}%
2114   \setkeys{Hyp}{colorlinks}%
2115   \PassOptionsToPackage{dviwindo}{color}%
2116 }
2117 \define@key{Hyp}{dvipsone}[true]{%
2118   \def\XR@ext{pdf}%
2119   \def\Hy@driver{hdvipson}%
2120   \def\Hy@raisedlink{}%
2121 }
2122 \define@key{Hyp}{textures}[true]{%
2123   \def\XR@ext{pdf}%
2124   \def\Hy@driver{htexture}%
2125 }
2126 \define@key{Hyp}{latex2html}[true]{%
2127   \AtBeginDocument{\@@latextohtmlX}%
2128 }

```

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

```

2129 \define@key{Hyp}{ps2pdf}[true]{%
2130   \def\Hy@driver{hdvips}%
2131   \def\Hy@raisedlink{}%
2132   \providecommand*\@pdfborder{0 0 1}%
2133 }

```

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.

```

2134 \define@key{Hyp}{hyperfigures}[true]{%
2135   \Hy@boolkey{hyperfigures}{figures}{#1}%
2136 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2137 \define@key{Hyp}{hyperfootnotes}[true]{%
2138   \Hy@boolkey{hyperfootnotes}{#1}%
2139 }

```

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

```

2140 \def\back@none{none}
2141 \def\back@section{section}
2142 \def\back@page{page}
2143 \def\back@slide{slide}
2144 \define@key{Hyp}{backref}[section]{%
2145   \lowercase{\def\Hy@tempa{#1}}%
2146   \ifx\Hy@tempa\@empty

```

```

2147 \let\Hy@tempa\back@section
2148 \fi
2149 \ifx\Hy@tempa\Hy@false
2150 \let\Hy@tempa\back@none
2151 \fi
2152 \ifx\Hy@tempa\back@slide
2153 \let\Hy@tempa\back@section
2154 \fi
2155 \ifx\Hy@tempa\back@page
2156 \PassOptionsToPackage{hyperpageref}{backref}%
2157 \Hy@backreftrue
2158 \else
2159 \ifx\Hy@tempa\back@section
2160 \PassOptionsToPackage{hyperref}{backref}%
2161 \Hy@backreftrue
2162 \else
2163 \ifx\Hy@tempa\back@none
2164 \Hy@backreffalse
2165 \else
2166 \Hy@WarnOptionValue{#1}{backref}{%
2167 'section', 'slide', 'page', 'none', \MessageBreak
2168 or 'false'}%
2169 \fi
2170 \fi
2171 \fi
2172 }
2173 \define@key{Hyp}{pagebackref}[true]{%
2174 \lowercase{\def\Hy@tempa{#1}}%
2175 \ifx\Hy@tempa\@empty
2176 \let\Hy@tempa\Hy@true
2177 \fi
2178 \ifx\Hy@tempa\Hy@true
2179 \PassOptionsToPackage{hyperpageref}{backref}%
2180 \Hy@backreftrue
2181 \else
2182 \ifx\Hy@tempa\Hy@false
2183 \Hy@backreffalse
2184 \else
2185 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2186 \fi
2187 \fi
2188 }

```

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

```

2189 \define@key{Hyp}{hyperindex}[true]{%
2190 \Hy@boolkey{hyperindex}{#1}%
2191 }

```

Configuration of encap char.

```

2192 \define@key{Hyp}{encap}[\l]{%
2193 \def\HyInd@EncapChar{#1}%
2194 }

```

12 Language options

The \autoref feature depends on the language.

```

2195 \def\HyLang@afrikaans{%
2196   \def\equationautorefname{Vergelyking}%
2197   \def\footnoteautorefname{Voetnota}%
2198   \def\itemautorefname{Item}%
2199   \def\figureautorefname{Figuur}%
2200   \def\tableautorefname{Tabel}%
2201   \def\partautorefname{Deel}%
2202   \def\appendixautorefname{Bylae}%
2203   \def\chapterautorefname{Hoofstuk}%
2204   \def\sectionautorefname{Afdeling}%
2205   \def\subsectionautorefname{Subafdeling}%
2206   \def\subsubsectionautorefname{Subsubafdeling}%
2207   \def\paragraphautorefname{Paragraaf}%
2208   \def\subparagraphautorefname{Subparagraaf}%
2209   \def\FancyVerbLineautorefname{Lyn}%
2210   \def\theoremautorefname{Teorema}%
2211   \def\pageautorefname{Bladsy}%
2212 }
2213 \def\HyLang@english{%
2214   \def\equationautorefname{Equation}%
2215   \def\footnoteautorefname{footnote}%
2216   \def\itemautorefname{item}%
2217   \def\figureautorefname{Figure}%
2218   \def\tableautorefname{Table}%
2219   \def\partautorefname{Part}%
2220   \def\appendixautorefname{Appendix}%
2221   \def\chapterautorefname{chapter}%
2222   \def\sectionautorefname{section}%
2223   \def\subsectionautorefname{subsection}%
2224   \def\subsubsectionautorefname{subsubsection}%
2225   \def\paragraphautorefname{paragraph}%
2226   \def\subparagraphautorefname{subparagraph}%
2227   \def\FancyVerbLineautorefname{line}%
2228   \def\theoremautorefname{Theorem}%
2229   \def\pageautorefname{page}%
2230 }
2231 \def\HyLang@french{%
2232   \def\equationautorefname{'Equation}%
2233   \def\footnoteautorefname{note}%
2234   \def\itemautorefname{item}%
2235   \def\figureautorefname{Figure}%
2236   \def\tableautorefname{Tableau}%
2237   \def\partautorefname{Partie}%
2238   \def\appendixautorefname{Appendice}%
2239   \def\chapterautorefname{chapitre}%
2240   \def\sectionautorefname{section}%
2241   \def\subsectionautorefname{sous-section}%
2242   \def\subsubsectionautorefname{sous-sous-section}%
2243   \def\paragraphautorefname{paragraphe}%
2244   \def\subparagraphautorefname{sous-paragraphe}%
2245   \def\FancyVerbLineautorefname{ligne}%
2246   \def\theoremautorefname{Th\'eor\'eme}%
2247   \def\pageautorefname{page}%
2248 }
2249 \def\HyLang@german{%
2250   \def\equationautorefname{Gleichung}%
2251   \def\footnoteautorefname{Fu\ss note}%

```

```

2252 \def\itemautorefname{Punkt}%
2253 \def\figureautorefname{Abbildung}%
2254 \def\tableautorefname{Tabelle}%
2255 \def\partautorefname{Teil}%
2256 \def\appendixautorefname{Anhang}%
2257 \def\chapterautorefname{Kapitel}%
2258 \def\sectionautorefname{Abschnitt}%
2259 \def\subsectionautorefname{Unterabschnitt}%
2260 \def\subsubsectionautorefname{Unterunterabschnitt}%
2261 \def\paragraphautorefname{Absatz}%
2262 \def\subparagraphautorefname{Unterabsatz}%
2263 \def\FancyVerbLineautorefname{Zeile}%
2264 \def\theoremautorefname{Theorem}%
2265 \def\pageautorefname{Seite}%
2266 }
2267 \def\HyLang@italian{%
2268 \def\equationautorefname{Equazione}%
2269 \def\footnoteautorefname{nota}%
2270 \def\itemautorefname{punto}%
2271 \def\figureautorefname{Figura}%
2272 \def\tableautorefname{Tabella}%
2273 \def\partautorefname{Parte}%
2274 \def\appendixautorefname{Appendice}%
2275 \def\chapterautorefname{Capitolo}%
2276 \def\sectionautorefname{sezione}%
2277 \def\subsectionautorefname{sottosezione}%
2278 \def\subsubsectionautorefname{sottosottosezione}%
2279 \def\paragraphautorefname{paragrafo}%
2280 \def\subparagraphautorefname{sottoparagrafo}%
2281 \def\FancyVerbLineautorefname{linea}%
2282 \def\theoremautorefname{Teorema}%
2283 \def\pageautorefname{Pag.\@}%
2284 }
2285 \def\HyLang@magyar{%
2286 \def\equationautorefname{Egyenlet}%
2287 \def\footnoteautorefname{1\ 'abjegyzet}%
2288 \def\itemautorefname{Elem}%
2289 \def\figureautorefname{\ 'Abra}%
2290 \def\tableautorefname{T\ 'abl\ 'azat}%
2291 \def\partautorefname{R\ 'esz}%
2292 \def\appendixautorefname{F\ "uggel\ 'ek}%
2293 \def\chapterautorefname{fejezet}%
2294 \def\sectionautorefname{szakasz}%
2295 \def\subsectionautorefname{alszakasz}%
2296 \def\subsubsectionautorefname{alalszakasz}%
2297 \def\paragraphautorefname{bekezd\ 'es}%
2298 \def\subparagraphautorefname{albekezd\ 'es}%
2299 \def\FancyVerbLineautorefname{sor}%
2300 \def\theoremautorefname{T\ 'etel}%
2301 \def\pageautorefname{oldal}%
2302 }
2303 \def\HyLang@portuges{%
2304 \def\equationautorefname{Equa\c c\~ao}%
2305 \def\footnoteautorefname{Nota de rodap\ 'e}%
2306 \def\itemautorefname{Item}%
2307 \def\figureautorefname{Figura}%
2308 \def\tableautorefname{Tabela}%

```



```

2309 \def\partautorefname{Parte}%
2310 \def\appendixautorefname{Ap\`endice}%
2311 \def\chapterautorefname{Cap\`itulo}%
2312 \def\sectionautorefname{Se\c c\~ao}%
2313 \def\subsectionautorefname{Subse\c c\~ao}%
2314 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2315 \def\paragraphautorefname{par\`agrafo}%
2316 \def\subparagraphautorefname{subpar\`agrafo}%
2317 \def\FancyVerbLineautorefname{linha}%
2318 \def\theoremautorefname{Teorema}%
2319 \def\pageautorefname{P\`agina}%
2320 }
2321 \def\HyLang@russian{%
2322 \def\equationautorefname{%
2323 \cyr\cyrv\cyrry\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
2324 }%
2325 \def\footnoteautorefname{%
2326 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2327 }%
2328 \def\itemautorefname{\cyr\cyrp.}%
2329 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2330 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
2331 \def\partautorefname{\cyr\cyrch.}%
2332 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2333 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2334 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2335 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2336 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2337 \def\paragraphautorefname{\cyr\cyrp.}%
2338 \def\subparagraphautorefname{\cyr\cyrp.}%
2339 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2340 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2341 \def\pageautorefname{\cyr\cyrs.}%
2342 }
2343 \def\HyLang@spanish{%
2344 \def\equationautorefname{Ecuaci\`on}%
2345 \def\footnoteautorefname{Nota a pie de p\`agina}%
2346 \def\itemautorefname{Elemento}%
2347 \def\figureautorefname{Figura}%
2348 \def\tableautorefname{Tabla}%
2349 \def\partautorefname{Parte}%
2350 \def\appendixautorefname{Ap\`endice}%
2351 \def\chapterautorefname{Cap\`itulo}%
2352 \def\sectionautorefname{Secci\`on}%
2353 \def\subsectionautorefname{Subsecci\`on}%
2354 \def\subsubsectionautorefname{Subsubsecci\`on}%
2355 \def\paragraphautorefname{P\`arrafo}%
2356 \def\subparagraphautorefname{Subp\`arrafo}%
2357 \def\FancyVerbLineautorefname{L\`inea}%
2358 \def\theoremautorefname{Teorema}%
2359 \def\pageautorefname{P\`agina}%
2360 }
2361 \def\HyLang@vietnamese{%
2362 \def\equationautorefname{Ph\`uhorn\{}ohorn\}ng tr\`inh}%
2363 \def\footnoteautorefname{Ch\`u th\`ich}%
2364 \def\itemautorefname{m\`d\`u\`c}%
2365 \def\figureautorefname{H\`inh}%

```

```

2366 \def\tableautorefname{B\h{a}ng}%
2367 \def\partautorefname{Ph\‘\acircumflex{}n}%
2368 \def\appendixautorefname{Ph\d{u} 1\d{u}c}%
2369 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2370 \def\sectionautorefname{m\d{u}c}%
2371 \def\subsectionautorefname{m\d{u}c}%
2372 \def\subsubsectionautorefname{m\d{u}c}%
2373 \def\paragraphautorefname{dj{}o\d{a}n}%
2374 \def\subparagraphautorefname{dj{}o\d{a}n}%
2375 \def\FancyVerbLineautorefname{d\‘ong}%
2376 \def\theoremautorefname{DJ{}\d{i}nh 1\‘y}%
2377 \def\pageautorefname{Trang}%
2378 }

```

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

```

2379 \def\HyLang@addto#1#2{%
2380   #2%
2381   \@temptokena{#2}%
2382   \ifx#1\relax
2383     \let#1\@empty
2384   \fi
2385   \ifx#1\undefined
2386     \edef#1{\the\@temptokena}%
2387   \else
2388     \toks@\expandafter{#1}%
2389     \edef#1{\the\toks@\the\@temptokena}%
2390   \fi
2391   \@temptokena{}\toks@\@temptokena
2392 }

2393 \def\HyLang@DeclareLang#1#2{%
2394   \begingroup
2395     \edef\x##1##2{%
2396       \noexpand\ifx##2\relax
2397         \errmessage{No definitions for language #2’ found!}%
2398       \noexpand\fi
2399     \endgroup
2400     \noexpand\define@key{Hyp}{#1}[]{%
2401       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2402     }%
2403   }%
2404   \expandafter\x\csname extras#1\expandafter\endcsname
2405     \csname HyLang@#2\endcsname
2406 }

2407 \HyLang@DeclareLang{english}{english}
2408 \HyLang@DeclareLang{UKenglish}{english}
2409 \HyLang@DeclareLang{british}{english}
2410 \HyLang@DeclareLang{USenglish}{english}
2411 \HyLang@DeclareLang{american}{english}
2412 \HyLang@DeclareLang{german}{german}
2413 \HyLang@DeclareLang{austrian}{german}
2414 \HyLang@DeclareLang{ngerman}{german}
2415 \HyLang@DeclareLang{naustrian}{german}
2416 \HyLang@DeclareLang{russian}{russian}
2417 \HyLang@DeclareLang{brazil}{portuges}
2418 \HyLang@DeclareLang{brazilian}{portuges}
2419 \HyLang@DeclareLang{portuguese}{portuges}

```

```

2420 \HyLang@DeclareLang{spanish}{spanish}
2421 \HyLang@DeclareLang{afrikaans}{afrikaans}
2422 \HyLang@DeclareLang{french}{french}
2423 \HyLang@DeclareLang{frenchb}{french}
2424 \HyLang@DeclareLang{français}{french}
2425 \HyLang@DeclareLang{acadian}{french}
2426 \HyLang@DeclareLang{canadien}{french}
2427 \HyLang@DeclareLang{italian}{italian}
2428 \HyLang@DeclareLang{magyar}{magyar}
2429 \HyLang@DeclareLang{hungarian}{magyar}

```

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

```

2430 \define@key{Hyp}{vietnamese}[]{}%
2431 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2432 \AtEndOfPackage{%
2433   \ifundefined{T@PU}{}{}%
2434   \input{puvnenc.def}%
2435 }%
2436 }%
2437 }
2438 \define@key{Hyp}{vietnam}[]{}%
2439 \HyLang@addto\extravietnam\HyLang@vietnamese
2440 \AtEndOfPackage{%
2441   \ifundefined{T@PU}{}{}%
2442   \input{puvnenc.def}%
2443 }%
2444 }%
2445 }

```

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

```

2446 \define@key{Hyp}{arabic}[]{}%
2447 \AtEndOfPackage{%
2448   \ifundefined{T@PU}{}{}%
2449   \input{puarenc.def}%
2450 }%
2451 }%
2452 }

```

13 Options to change appearance of links

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

```

2453 \define@key{Hyp}{colorlinks}[true]{}%
2454 \Hy@boolkey{colorlinks}{#1}%
2455 \ifHy@colorlinks
2456   \def\@pdfborder{0 0 0}%
2457   \let\@pdfborderstyle\@empty
2458   \fi
2459 }
2460 \define@key{Hyp}{frenchlinks}[true]{}%
2461 \Hy@boolkey{frenchlinks}{#1}%
2462 }

```

14 Bookmarking

```

2463 \define@key{Hyp}{bookmarks}[true]{}%
2464 \Hy@boolkey{bookmarks}{#1}%

```

```

2465 }
2466 \define@key{Hyp}{bookmarksopen}[true]{%
2467   \Hy@boolkey{bookmarksopen}{#1}%
2468 }

```

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.

```

2469 \let\Hy@bookmarksdepth\c@tocdepth
2470 \define@key{Hyp}{bookmarksdepth}[]{%
2471   \begingroup
2472     \edef\x{#1}%
2473     \ifx\x\empty
2474       \global\let\Hy@bookmarksdepth\c@tocdepth
2475     \else
2476       \@ifundefined{toclevel@\x}{%
2477         \@onelevel@sanitize\x
2478         \edef\y{\expandafter\@car\x\@nil}%
2479         \ifcase 0\expandafter\ifx\y-1\fi
2480           \expandafter\ifnum\expandafter'\y>47 %
2481             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2482           \Hy@Warning{Unknown document division name (\x)}%
2483         \else
2484           \setbox\z@=\hbox{%
2485             \count@=\x
2486             \xdef\Hy@bookmarksdepth{\the\count@}%
2487           }%
2488         \fi
2489       }{%
2490         \setbox\z@=\hbox{%
2491           \count@=\csname toclevel@\x\endcsname
2492           \xdef\Hy@bookmarksdepth{\the\count@}%
2493         }%
2494       }%
2495     \fi
2496   \endgroup
2497 }

```

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

```

2498 \define@key{Hyp}{bookmarksopenlevel}{%
2499   \def\@bookmarksopenlevel{#1}%
2500 }
2501 \def\@bookmarksopenlevel{\maxdimen}
2502 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2503 \define@key{Hyp}{bookmarkstype}{%
2504   \def\Hy@bookmarkstype{#1}%
2505 }
2506 \def\Hy@bookmarkstype{toc}

```

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

```

2507 \define@key{Hyp}{bookmarksnumbered}[true]{%
2508   \Hy@boolkey{bookmarksnumbered}{#1}%
2509 }

Option CJKbookmarks enables the patch for CJK bookmarks.

2510 \define@key{Hyp}{CJKbookmarks}[true]{%
2511   \Hy@boolkey{CJKbookmarks}{#1}%
2512 }

2513 \def\Hy@temp#1{%
2514   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2515 }

2516 \def\Hy@@temp#1#2#3{%
2517   \define@key{Hyp}{#2color}{%
2518     \HyColor@HyperrefColor{##1}#1%
2519   }%
2520   \def#1{#3}%
2521 }

2522 \Hy@temp{link}{red}
2523 \Hy@temp{anchor}{black}
2524 \Hy@temp{cite}{green}
2525 \Hy@temp{file}{cyan}
2526 \Hy@temp{url}{magenta}
2527 \Hy@temp{menu}{red}
2528 \Hy@temp{run}{\@filecolor}
2529 \define@key{Hyp}{pagecolor}{%
2530   \Hy@WarningPageColor
2531 }
2532 \def\Hy@WarningPageColor{%
2533   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2534   \global\let\Hy@WarningPageColor\relax
2535 }

2536 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2537 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2538 \let\@baseurl\@empty
2539 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2540 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2541 \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.

```

2542 \let\@pdfpagetransition\relax
2543 \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.

```

2544 \let\@pdfpageduration\relax
2545 \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.

```

2546 \newif\ifHy@useHidKey
2547 \Hy@useHidKeyfalse
2548 \define@key{Hyp}{pdfpagehidden}[true]{%
2549   \Hy@boolkey{pdfpagehidden}{#1}%
2550   \ifHy@pdfpagehidden
2551     \global\Hy@useHidKeytrue
2552   \fi
2553 }

```

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).

```

2554 \def\Hy@ColorList{cite,file,link,menu,run,url}
2555 \@for\Hy@temp:=\Hy@ColorList\do{%
2556   \edef\Hy@temp{%
2557     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2558       \noexpand\HyColor@HyperrefBorderColor
2559       {##1}%
2560       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2561       {hyperref}%
2562       {\Hy@temp bordercolor}%
2563     }%
2564   }%
2565   \Hy@temp
2566 }
2567 \define@key{Hyp}{pagebordercolor}{%
2568   \Hy@WarningPageBorderColor
2569 }
2570 \def\Hy@WarningPageBorderColor{%
2571   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2572   \global\let\Hy@WarningPageBorderColor\relax
2573 }
2574 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2575 \Hy@DefNameKey{pdfhighlight}{%
2576   \do{/I}{Invert}%
2577   \do{/N}{None}%
2578   \do{/O}{Outline}%
2579   \do{/P}{Push}%
2580 }
2581 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2582 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2583 \def\Hy@setpdfborder{%
2584   \ifx\@pdfborder\@empty
2585     \else
2586       /Border[\@pdfborder]%
2587     \fi
2588     \ifx\@pdfborderstyle\@empty
2589     \else
2590       /BS<<\@pdfborderstyle>>%
2591     \fi
2592 }
2593 \Hy@DefNameKey{pdfpagemode}{%
2594   \do{UseNone}{%

```

```

2595 \do{UseOutlines}{}%
2596 \do{UseThumbs}{}%
2597 \do{FullScreen}{}%
2598 \do{UseOC}{PDF 1.5}%
2599 \do{UseAttachments}{PDF 1.6}%
2600 }
2601 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2602 \do{UseNone}{}%
2603 \do{UseOutlines}{}%
2604 \do{UseThumbs}{}%
2605 \do{FullScreen}{}%
2606 \do{UseOC}{PDF 1.5}%
2607 \do{UseAttachments}{PDF 1.6}%
2608 }
2609 \Hy@DefNameKey{pdfdirection}{%
2610 \do{L2R}{Left to right}%
2611 \do{R2L}{Right to left}%
2612 }
2613 \Hy@DefNameKey{pdfviewarea}{%
2614 \do{MediaBox}{}%
2615 \do{CropBox}{}%
2616 \do{BleedBox}{}%
2617 \do{TrimBox}{}%
2618 \do{ArtBox}{}%
2619 }
2620 \Hy@DefNameKey{pdfviewclip}{%
2621 \do{MediaBox}{}%
2622 \do{CropBox}{}%
2623 \do{BleedBox}{}%
2624 \do{TrimBox}{}%
2625 \do{ArtBox}{}%
2626 }
2627 \Hy@DefNameKey{pdfprintarea}{%
2628 \do{MediaBox}{}%
2629 \do{CropBox}{}%
2630 \do{BleedBox}{}%
2631 \do{TrimBox}{}%
2632 \do{ArtBox}{}%
2633 }
2634 \Hy@DefNameKey{pdfprintclip}{%
2635 \do{MediaBox}{}%
2636 \do{CropBox}{}%
2637 \do{BleedBox}{}%
2638 \do{TrimBox}{}%
2639 \do{ArtBox}{}%
2640 }
2641 \Hy@DefNameKey{pdfprintscaling}{%
2642 \do{AppDefault}{}%
2643 \do{None}{}%
2644 }
2645 \Hy@DefNameKey{pdfduplex}{%
2646 \do{Simplex}{}%
2647 \do{DuplexFlipShortEdge}{}%
2648 \do{DuplexFlipLongEdge}{}%
2649 }
2650 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2651 \do{true}{}%

```

```

2652 \do{false}{}%
2653 }
2654 \define@key{Hyp}{pdfprintpagerange}{%
2655 \def\@pdfprintpagerange{#1}%
2656 }
2657 \Hy@DefNameKey{pdfnumcopies}{%
2658 \do{2}{two copies}%
2659 \do{3}{three copies}%
2660 \do{4}{four copies}%
2661 \do{5}{five copies}%
2662 }
2663 \define@key{Hyp}{pdfusetitle}[true]{%
2664 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2665 }
2666 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2667 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2668 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2669 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2670 \define@key{Hyp}{pdfcreationdate}{\pdfstringdef\@pdfcreationdate{#1}}
2671 \define@key{Hyp}{pdfmoddate}{\pdfstringdef\@pdfmoddate{#1}}
2672 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2673 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2674 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2675 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2676 \let\setpdflinkmargin\@gobble
2677 \def\calculate@pdfview#1 #2\{ %
2678 \def\@pdfview{#1}%
2679 \ifx\#2\%
2680 \def\@pdfviewparams{ -32768}%
2681 \else
2682 \def\@pdfviewparams{ #2}%
2683 \fi
2684 }
2685 \begingroup\expandafter\expandafter\expandafter\endgroup
2686 \expandafter\ifx\csname numexpr\endcsname\relax
2687 \def\Hy@number#1{%
2688 \expandafter\@firstofone\expandafter{\number#1}%
2689 }%
2690 \else
2691 \def\Hy@number#1{%
2692 \the\numexpr#1\relax
2693 }%
2694 \fi
2695 \define@key{Hyp}{pdfstartpage}{%
2696 \ifx\#1\%
2697 \def\@pdfstartpage{}%
2698 \else
2699 \edef\@pdfstartpage{\Hy@number{#1}}%
2700 \fi
2701 }%
2702 \define@key{Hyp}{pdfstartview}{%
2703 \ifx\#1\%
2704 \def\@pdfstartview{}%
2705 \else
2706 \hypercalcbpdef\@pdfstartview{ /#1 }%
2707 \fi
2708 }

```



```

2709 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2710 \define@key{Hyp}{pdftoolbar}[true]{%
2711   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2712 }
2713 \define@key{Hyp}{pdfmenubar}[true]{%
2714   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2715 }
2716 \define@key{Hyp}{pdfwindowui}[true]{%
2717   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2718 }
2719 \define@key{Hyp}{pdffitwindow}[true]{%
2720   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2721 }
2722 \define@key{Hyp}{pdfcenterwindow}[true]{%
2723   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2724 }
2725 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2726   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2727 }
2728 \define@key{Hyp}{pdfnewwindow}[true]{%
2729   \def\Hy@temp{#1}%
2730   \ifx\Hy@temp\@empty
2731     \Hy@newwindowsetfalse
2732   \else
2733     \Hy@newwindowsettrue
2734     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2735   \fi
2736 }
2737 \def\Hy@SetNewWindow{%
2738   \ifHy@newwindowset
2739     /NewWindow %
2740     \ifHy@newwindow true\else false\fi
2741   \fi
2742 }
2743 \Hy@DefNameKey{pdfpagelayout}{%
2744   \do{SinglePage}{}%
2745   \do{OneColumn}{}%
2746   \do{TwoColumnLeft}{}%
2747   \do{TwoColumnRight}{}%
2748   \do{TwoPageLeft}{PDF 1.5}%
2749   \do{TwoPageRight}{PDF 1.5}%
2750 }
2751 \define@key{Hyp}{pdflang}{%
2752   \def\@pdflang{#1}%
2753 }
2754 \define@key{Hyp}{pdfpagelabels}[true]{%
2755   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2756 }
2757 \define@key{Hyp}{pdfescapeform}[true]{%
2758   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2759 }

```

Default values:

```

2760 \def\@linkbordercolor{1 0 0}
2761 \def\@urlbordercolor{0 1 1}
2762 \def\@menubordercolor{1 0 0}
2763 \def\@filebordercolor{0 .5 .5}
2764 \def\@runbordercolor{0 .7 .7}

```

```

2765 \def\@citebordercolor{0 1 0}
2766 \def\@pdfhighlight{/I}
2767 \def\@pdftitle{}
2768 \def\@pdfauthor{}
2769 \let\@pdfproducer\relax
2770 \def\@pdfcreator{LaTeX with hyperref package}
2771 \def\@pdfcreationdate{}
2772 \def\@pdfmoddate{}
2773 \def\@pdfsubject{}
2774 \def\@pdfkeywords{}
2775 \def\@pdfpagescrop{}
2776 \def\@pdfstartview{ /Fit }
2777 \def\@pdfstartpage{1}
2778 \def\@pdfprintpagerange{}
2779 \def\@pdflang{}
2780 \let\PDF@SetupDoc\@empty
2781 \let\PDF@FinishDoc\@empty
2782 \let\phantomsection\@empty
2783 \let\special@paper\@empty
2784 \@ifundefined{stockwidth}{%
2785   \ifdim\paperwidth>\z@
2786     \ifdim\paperheight>\z@
2787       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2788     \fi
2789   \fi
2790 }{%
2791   \ifdim\stockwidth>\z@
2792     \ifdim\stockheight>\z@
2793       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2794     \fi
2795   \fi
2796 }
2797 \begingroup
2798 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2799 \dimen@=\x\relax
2800 \ifdim\dimen@>\z@
2801   \else
2802     \dimen@=11in\relax
2803     \Hy@WarningNoLine{%
2804       Height of page (\expandafter\string\x) %
2805       is invalid (\the\x),\MessageBreak
2806       using 11in%
2807     }%
2808   \fi
2809   \dimen@=0.99626401\dimen@
2810   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2811 \endgroup
2812 \def\HyInd@EncapChar{\|}
2813 \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.

```

2814 \let\hyper@normalise\ExecuteOptions
2815 \let\ExecuteOptions\hypersetup
2816 \Hy@RestoreCatcodes
2817 \InputIfFileExists{hyperref.cfg}{-}{-}

```

```

2818 \Hy@SetCatcodes
2819 \let\ExecuteOptions\hyper@normalise
2820 \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`.

```

2821 \RequirePackage{kvoptions}[2006/08/17]

    Add option tex4ht if package tex4ht is loaded.

2822 \@ifpackageloaded{tex4ht}{%
2823   \@ifpackagewith{hyperref}{tex4ht}{}{%
2824     \PassOptionsToPackage{tex4ht}{hyperref}%
2825   }%
2826 }{}

2827 \let\ReadBookmarks\relax
2828 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2829 \AtBeginDocument{%
2830   \ifHy@draft
2831     \let\hyper@@anchor\@gobble
2832     \gdef\hyper@link#1#2#3{#3}%
2833     \let\hyper@anchorstart\@gobble
2834     \let\hyper@anchorend\@empty
2835     \let\hyper@linkstart\@gobbletwo
2836     \let\hyper@linkend\@empty
2837     \def\hyper@linkurl#1#2{#1}%
2838     \def\hyper@linkfile#1#2#3{#1}%
2839     \def\hyper@link@{#1}#2#3{}%
2840     \def\Acrobatmenu#1#2{#2}%
2841     \let\PDF@SetupDoc\@empty
2842     \let\PDF@FinishDoc\@empty
2843     \let\@fifthoffive\@secondoftwo
2844     \let\@secondoffive\@secondoftwo
2845     \let\ReadBookmarks\relax
2846     \let\WriteBookmarks\relax
2847     \Hy@WarningNoLine{ draft mode on}%
2848   \fi
2849   \Hy@DisableOption{draft}%
2850   \Hy@DisableOption{nolinks}%
2851   \Hy@DisableOption{final}%
2852 }
2853 \Hy@DisableOption{pdfversion}%

```

15.1 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.

```

2854 \Hy@nextfalse
2855 \@ifundefined{spanish@sh@"@sel}{}{\Hy@nexttrue}
2856 \@ifundefined{galician@sh@"@sel}{}{\Hy@nexttrue}
2857 \@ifundefined{estonian@sh@"@sel}{}{\Hy@nexttrue}
2858 \ifHy@next
2859   \let\texttilde\~%
2860 \fi

```

```

2861 \ifHy@figures
2862   \Hy@Info{Hyper figures ON}%
2863 \else
2864   \Hy@Info{Hyper figures OFF}%
2865 \fi
2866 \ifHy@nesting
2867   \Hy@Info{Link nesting ON}%
2868 \else
2869   \Hy@Info{Link nesting OFF}%
2870 \fi
2871 \ifHy@hyperindex
2872   \Hy@Info{Hyper index ON}%
2873 \else
2874   \Hy@Info{Hyper index OFF}%
2875 \fi
2876 \ifHy@plainpages
2877   \Hy@Info{Plain pages ON}%
2878 \else
2879   \Hy@Info{Plain pages OFF}%
2880 \fi
2881 \ifHy@backref
2882   \Hy@Info{Backreferencing ON}%
2883 \else
2884   \Hy@Info{Backreferencing OFF}%
2885 \fi
2886 \ifHy@typexml
2887   \AtEndOfPackage{%
2888     \RequirePackage{color}%
2889     \RequirePackage{nameref}%
2890   }%
2891 \fi
2892 \Hy@DisableOption{typexml}
2893 \ifHy@implicit
2894   \typeout{Implicit mode ON; LaTeX internals redefined}%
2895 \else
2896   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
2897   \def\MaybeStopEarly{%
2898     \typeout{Hyperref stopped early}%
2899     \AfterBeginDocument{%
2900       \PDF@FinishDoc
2901       \gdef\PDF@FinishDoc{}}%
2902   }%
2903   \endinput
2904 }%
2905 \AtBeginDocument{%
2906   \let\autoref\ref
2907   \let\autopageref\pageref
2908   \ifx\@pdfpagemode\@empty
2909     \gdef\@pdfpagemode{UseNone}%
2910   \fi
2911   \global\Hy@backreffalse
2912 }%
2913 \AtEndOfPackage{%
2914   \global\let\ReadBookmarks\relax
2915   \global\let\WriteBookmarks\relax
2916 }%
2917 \fi

```

```
2918 \Hy@DisableOption{implicit}
```

15.1.1 Driver loading

```
2919 \AtEndOfPackage{%
2920   \@ifpackageloaded{tex4ht}{%
2921     \def\Hy@driver{htex4ht}%
2922     \Hy@texhttrue
2923   }{%
2924     \ifx\Hy@driver\@empty
2925       \providecommand*{\Hy@defaultdriver}{hypertex}%
2926       \begingroup\expandafter\expandafter\expandafter\endgroup
2927       \expandafter\ifx\csname pdfoutput\endcsname\relax
2928         \begingroup\expandafter\expandafter\expandafter\endgroup
2929         \expandafter\ifx\csname OpMode\endcsname\relax
2930           \begingroup\expandafter\expandafter\expandafter\endgroup
2931           \expandafter\ifx\csname XeTeXversion\endcsname\relax
2932             \let\Hy@driver\Hy@defaultdriver
2933           \else
2934             \def\Hy@driver{hdvipdfm}%
2935           \fi
2936         \else
2937           \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2938             \def\Hy@driver{hvtex}%
2939             \def\XR@ext{pdf}%
2940           \else
2941             \ifnum\OpMode=10\relax
2942               \def\XR@ext{htm}%
2943               \def\Hy@driver{hvtexhtm}%
2944               \def\MaybeStopEarly{%
2945                 \typeout{Hyperref stopped early}%
2946                 \AfterBeginDocument{%
2947                   \PDF@FinishDoc
2948                   \gdef\PDF@FinishDoc{}}%
2949               }%
2950               \endinput
2951             }%
2952           \else
2953             \let\Hy@driver\Hy@defaultdriver
2954           \fi
2955         \fi
2956       \fi
2957     \else
2958       \ifnum\pdfoutput<1 %
2959         \let\Hy@driver\Hy@defaultdriver
2960       \else
2961         \def\Hy@driver{hpdfTeX}%
2962         \def\XR@ext{pdf}%
2963         \PassOptionsToPackage{pdfTeX}{color}%
2964         \Hy@breaklinktrue
2965       \fi
2966     \fi
2967     \ifx\Hy@driver\Hy@defaultdriver
2968       \def\Hy@temp{hdvips}%
2969       \ifx\Hy@temp\Hy@driver
2970         \def\Hy@raisedlink{}%
2971       \def\XR@ext{pdf}%

```

```

2972 \fi
2973 \def\Hy@temp{hdvipdfm}%
2974 \ifx\Hy@temp\Hy@driver
2975 \def\XR@ext{pdf}%
2976 \Hy@breaklinkstrue
2977 \fi
2978 \def\Hy@temp{hdviwind}%
2979 \ifx\Hy@temp\Hy@driver
2980 \setkeys{Hyp}{colorlinks}%
2981 \PassOptionsToPackage{dviwindo}{color}%
2982 \fi
2983 \def\Hy@temp{hdvipson}%
2984 \ifx\Hy@temp\Hy@driver
2985 \def\XR@ext{pdf}%
2986 \def\Hy@raisedlink{}%
2987 \fi
2988 \def\Hy@temp{textures}%
2989 \ifx\Hy@temp\Hy@driver
2990 \def\XR@ext{pdf}%
2991 \fi
2992 \fi
2993 \typeout{*hyperref using default driver \Hy@driver*}%
2994 \else
2995 \typeout{*hyperref using driver \Hy@driver*}%
2996 \fi
2997 \input{\Hy@driver.def}%
2998 \let\@unprocessedoptions\relax
2999 \Hy@RestoreCatcodes
3000 }
3001 \newif\ifHy@DvipdfmxOutlineOpen
3002 \begingroup\expandafter\expandafter\expandafter\endgroup
3003 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3004 \else
3005 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3006 \Hy@DvipdfmxOutlineOpentruue
3007 \fi
3008 \fi
3009 \Hy@DisableOption{tex4ht}
3010 \Hy@DisableOption{pdftex}
3011 \Hy@DisableOption{dvipdf}
3012 \Hy@DisableOption{nativepdf}
3013 \Hy@DisableOption{dvipdfm}
3014 \Hy@DisableOption{dvipdfmx}
3015 \Hy@DisableOption{dvipdfmx-outline-open}
3016 \Hy@DisableOption{pdfmark}
3017 \Hy@DisableOption{dvips}
3018 \Hy@DisableOption{hypertex}
3019 \Hy@DisableOption{vtex}
3020 \Hy@DisableOption{vtexpdfmark}
3021 \Hy@DisableOption{dviwindo}
3022 \Hy@DisableOption{dvipsone}
3023 \Hy@DisableOption{textures}
3024 \Hy@DisableOption{latex2html}
3025 \Hy@DisableOption{ps2pdf}
3026 \Hy@DisableOption{xetex}

```

15.1.2 Bookmarks

```

3027 \def\WriteBookmarks{0}
3028 \def\@bookmarkopenstatus#1{%
3029   \ifHy@bookmarksopen

```

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

```

3030   \ifnum#1<\expandafter\@firstofone\expandafter
3031     {\number\@bookmarksopenlevel} % explicit space
3032   \else
3033     -%
3034   \fi
3035 \else
3036   -%
3037 \fi
3038 }
3039 \ifHy@bookmarks
3040   \Hy@Info{Bookmarks ON}%
3041   \ifx\@pdfpagemode\@empty
3042     \def\@pdfpagemode{UseOutlines}%
3043   \fi
3044 \else
3045   \def\@bookmarkopenstatus#1{%
3046     \Hy@Info{Bookmarks OFF}%
3047     \AtEndOfPackage{%
3048       \global\let\ReadBookmarks\relax
3049       \global\let\WriteBookmarks\relax
3050     }%
3051     \ifx\@pdfpagemode\@empty
3052       \def\@pdfpagemode{UseNone}%
3053     \fi
3054   \fi
3055 \Hy@DisableOption{bookmarks}

```

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

```

3056 \AtBeginDocument{%
3057   \ifHy@colorlinks
3058     \ifHy@typexml
3059     \else
3060       \RequirePackage{color}%
3061     \fi
3062     \def\Hy@colorlink#1{%
3063       \begingroup
3064         \HyColor@UseColor#1%
3065       }%
3066     \def\Hy@endcolorlink{\endgroup}%
3067     \Hy@Info{Link coloring ON}%
3068   \else
3069     \ifHy@frenchlinks
3070       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3071       \def\Hy@endcolorlink{\endgroup}%
3072       \Hy@Info{French linking ON}%
3073     \else

```

for grouping consistency:

```

3074       \def\Hy@colorlink#1{\begingroup}%
3075       \def\Hy@endcolorlink{\endgroup}%
3076       \Hy@Info{Link coloring OFF}%
3077     \fi

```

```

3078 \fi
3079 \Hy@DisableOption{colorlinks}%
3080 \Hy@DisableOption{frenchlinks}%
3081 \ifHy@texht
3082 \long\def\@firstoffive#1#2#3#4#5{#1}%
3083 \long\def\@secondoffive#1#2#3#4#5{#2}%
3084 \long\def\@thirdoffive#1#2#3#4#5{#3}%
3085 \long\def\@fourthoffive#1#2#3#4#5{#4}%
3086 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3087 \providecommand*\@safe@activetrue{}%
3088 \providecommand*\@safe@activesfalse{}%
3089 \def\T@ref#1{%
3090 \Hy@safe@activetrue
3091 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3092 \Hy@safe@activesfalse
3093 }%
3094 \def\T@pageref#1{%
3095 \Hy@safe@activetrue
3096 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3097 \Hy@safe@activesfalse
3098 }%
3099 \else
3100 \ifHy@typexml\else\RequirePackage{nameref}\fi
3101 \fi
3102 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3103 \DeclareRobustCommand\pageref{%
3104 \@ifstar\@pagerefstar\T@pageref
3105 }%
3106 }
3107 \AfterBeginDocument{%
3108 \ifHy@texht
3109 \else
3110 \ReadBookmarks
3111 \fi
3112 }
3113 \ifHy@backref
3114 \RequirePackage{backref}%
3115 \else
3116 \let\Hy@backout\@gobble
3117 \fi
3118 \Hy@DisableOption{backref}
3119 \Hy@DisableOption{pagebackref}
3120 \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.

```

3121 \begingroup
3122   \endlinechar=-1 %
3123   \catcode'\^^A=14 %
3124   \catcode'\^^M\active

```



```

3125 \catcode'\% \active
3126 \catcode'\# \active
3127 \catcode'\_ \active
3128 \catcode'\$ \active
3129 \gdef\hyper@normalise{^^A
3130   \begingroup
3131   \catcode'\^^M \active
3132   \def^^M{ }^^A
3133   \catcode'\% \active
3134   \let%\@percentchar
3135   \let%\@percentchar
3136   \catcode'\# \active
3137   \def#{\hyper@hash}^^A
3138   \def\#{\hyper@hash}^^A
3139   \@makeother\&^^A
3140   \edef\textunderscore{\string_}^^A
3141   \let\_ \textunderscore
3142   \catcode'\_ \active
3143   \let\_ \textunderscore
3144   \let~\hyper@tilde
3145   \let~\hyper@tilde
3146   \let\textasciitilde\hyper@tilde
3147   \let\\\@backslashchar
3148   \edef$\string$}^^A
3149   \Hy@safe@activetrue
3150   \hyper@n@rmalise
3151 }^^A
3152 \catcode'\#=6 ^^A
3153 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3154 \gdef\hyper@n@rmalise#1#2{^^A
3155   \def\Hy@tempa{#2}^^A
3156   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3157     \Hy@ReturnAfterElseFi{^^A
3158       \hyper@@normalise{#1}^^A
3159     }^^A
3160   \else
3161     \Hy@ReturnAfterFi{^^A
3162       \hyper@@normalise{#1}{#2}^^A
3163     }^^A
3164   \fi
3165 }^^A
3166 \gdef\hyper@@normalise#1#2{^^A
3167   \edef\Hy@tempa{^^A
3168     \endgroup
3169     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3170   }^^A
3171   \Hy@tempa
3172 }^^A
3173 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3174   #1^^A
3175   \ifx\limits#2\limits
3176   \else
3177     \Hy@ReturnAfterFi{^^A
3178       \Hy@RemovePercentCr #2\@nil
3179     }^^A
3180   \fi
3181 }^^A

```

```

3182 \endgroup
3183 \providecommand*\hyper@chars{%
3184   \let\#\hyper@hash
3185   \let%\@percentchar
3186   \Hy@safe@activetrue
3187 }

3188 \def\hyperlink#1#2{%
3189   \hyper@@link{#1}{#2}%
3190 }

3191 \DeclareRobustCommand*\href{%
3192   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3193 }
3194 \def\Hy@href#1{%
3195   \hyper@normalise\href@
3196 }
3197 \begingroup
3198   \catcode'\$=6 %
3199   \catcode'\#=12 %
3200   \gdef\href@#1{\expandafter\href@split$1##\}%
3201   \gdef\href@split$1#$2#$3\{%
3202     \hyper@@link{#1}{#2}%
3203   }%
3204 \endgroup

```

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

```

3205 \RequirePackage{url}
3206 \let\HyOrg@url\url
3207 \def\Hurl{\begingroup \Url}
3208 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3209 \def\nolinkurl@#1{\Hurl{#1}}
3210 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3211 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3212 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3213 \providecommand\hyper@image[2]{#2}

3214 \def\hypertarget#1#2{%
3215   \ifHy@nesting
3216     \hyper@@anchor{#1}{#2}%
3217   \else
3218     \hyper@@anchor{#1}{\relax}#2%
3219   \fi
3220 }

```

`\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.

```

3221 \DeclareRobustCommand*\hyperref{%
3222   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3223 }
3224 \def\Hy@babelnormalise#1[#2]{%
3225   \begingroup
3226     \Hy@safe@activetrue
3227     \edef\Hy@tempa{%
3228       \endgroup

```

```

3229 \noexpand#1[#{#2}]%
3230 }%
3231 \Hy@tempa
3232 }
3233 \def\@hyperref{\hyper@normalise\@hyperref}
3234 \def\@hyperref#1#2#3{%
3235 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3236 \expandafter\tryhyper@link\ref@one\{#1}%
3237 }
3238 \def\tryhyper@link#1\#2{%
3239 \hyper@@link{#2}{#1}%
3240 }
3241 \def\hyperdef{\ifnextchar[{\label@hyperdef}{\@hyperdef}}
3242 \def\@hyperdef#1#2#3{%, category, name, text
3243 \ifHy@nesting
3244 \hyper@@anchor{#1.#2}{#3}%
3245 \else
3246 \hyper@@anchor{#1.#2}{\relax}#3%
3247 \fi
3248 }

```

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

```

3249 \def\label@hyperref[#1]{%
3250 \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
3251 }%
3252 \def\label@\@hyperref#1#2#3{%
3253 \ifx#1\relax
3254 \protect\G@refundefinedtrue
3255 \latex@warning{%
3256 Hyper reference ‘#2’ on page \thepage \space undefined%
3257 }%
3258 \hyper@@link{}{??}{#3}%
3259 \else
3260 \hyper@@link{\expandafter\@fifthoffive#1}%
3261 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3262 \fi
3263 }
3264 \def\label@hyperdef[#1]#2#3#4{ label name, category, name,
3265 % anchor text
3266 \@bsphack
3267 \if@filesw
3268 \protected@write\@auxout{%
3269 {\string\newlabel{#1}{\{#\}#\}#\}#2.#3}}%
3270 \fi
3271 \@esphack
3272 \ifHy@nesting
3273 \hyper@@anchor{#2.#3}{#4}%
3274 \else
3275 \hyper@@anchor{#2.#3}{\relax}#4%
3276 \fi
3277 }

```

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.

```
3278 \def\hyper@link{\let\Hy@reserved@a\relax
3279   \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3280 }
3281 \def\hyper@link@[#1]#2#3#4{%
3282   \begingroup
3283     \protected@edef\Hy@tempa{#2}%
3284     \Hy@safe@activestrue
3285     \edef\x{#3}%
3286     \ifx\Hy@tempa\@empty
3287       \toks0{\hyper@link{#1}}%
3288     \else
3289       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3290     \fi
3291     \toks2{#4}%
3292     \edef\Hy@tempa{\the\toks2}%
3293     \edef\x{\endgroup
3294       \ifx\Hy@tempa\@empty
3295         \noexpand\Hy@Warning{Suppressing empty link}%
3296       \else
3297         \the\toks0 {\x}{\the\toks2}}%
3298     \fi
3299   }%
3300   \x
3301 }
```

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.

```
3302 \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.

```
3303   \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3304 }
```

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

```
3305 \def\@pdftempwordfile{file}%
3306 \def\@pdftempwordrun{run}%
3307 \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:

```

3308 \ifx\#6\%
3309 \expandafter\@hyper@linkfile file:#7\#{3}{#2}%
3310 \else
3311 \ifx\#4\%
3312 \expandafter\@hyper@linkfile file:#7\#{3}{#2}%
3313 \else

```

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

```

3314 \def\@pdftempa{#4}%
3315 \ifx\@pdftempa\@pdftempwordfile
3316 \expandafter\@hyper@linkfile#7\#{3}{#2}%
3317 \else

```

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

```

3318 \ifx\@pdftempa\@pdftempwordrun
3319 \expandafter\@hyper@launch#7\#{3}{#2}%
3320 \else

```

otherwise its a URL

```

3321 \hyper@linkurl{#3}{#7\ifx\#2\else\hyper@hash#2\fi}%
3322 \fi
3323 \fi
3324 \fi
3325 \fi
3326 }

```

By default, turn run: into file:

```

3327 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3328 \hyper@linkurl{#2}{%
3329 \Hy@linkfileprefix
3330 #1%
3331 \ifx\#3\%
3332 \else
3333 \hyper@hash
3334 #3%
3335 \fi
3336 }%
3337 }

```

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

```

3338 \def\@hyper@linkfile file:#1\#2#3{%
3339 %file url,link string, name
3340 \filename@parse{#1}%
3341 \ifx\filename@ext\relax
3342 \edef\filename@ext{\XR@ext}%
3343 \fi
3344 \def\use@file{\filename@area\filename@base.\filename@ext}%
3345 \ifx\filename@ext\XR@ext
3346 \hyper@linkfile{#2}{\use@file}{#3}%
3347 \else
3348 \ifx\@baseurl\@empty
3349 \hyper@linkurl{#2}{%
3350 \Hy@linkfileprefix\use@file\ifx\#3\else\hyper@hash#3\fi
3351 }%

```

```

3352 \else
3353 \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
3354 \fi
3355 \fi
3356 }

```

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.

```

3357 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3358 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3359 \ifx\\#1\\%
3360 #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3361 \else
3362 \def\anchor@spot{#2#3}%
3363 \let\put@me@back\@empty
3364 \ifx\relax#2\relax
3365 \else
3366 \ifHy@nesting
3367 \else
3368 \ifcat a\noexpand#2\relax
3369 \else
3370 \ifcat 0\noexpand#2 \relax
3371 \else
3372 % \typeout{Anchor start is not alphanumeric %
3373 % on input line\the\inputlineno%
3374 % }%
3375 \let\anchor@spot\@empty
3376 \def\put@me@back{#2#3}%
3377 \fi
3378 \fi
3379 \fi
3380 \fi
3381 \ifHy@activeanchor
3382 \anchor@spot
3383 \else
3384 \hyper@anchor{#1}%
3385 \fi
3386 \expandafter\put@me@back
3387 \fi
3388 \let\anchor@spot\@empty
3389 }

```

18 Compatibility with the *LaTeX2html* 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.

```

3390 \let\htmladding\hyperimage

```

```

3391 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3392 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3393 \def\htmlref#1#2{% anchor text, label
3394   \label@hyperref[{#2}]{#1}%
3395 }

```

This is really too much. The \LaTeX html 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.

```

3396 \def\@@latextohtmlX{%
3397   \let\hhyperref\hyperref
3398   \def\hyperref##1##2##3##4{% anchor text for HTML
3399     % text to print before label in print
3400     % label
3401     % post-label text in print
3402     ##2\ref{##4}##3%
3403   }%
3404 }

```

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.

```

3405 \RequirePackage{bitset}

```

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

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

```

\HyField@NewFlag #1: type: F annot flags, Ff field flags
#2: PDF name
#3: PDF position
3406 \def\HyField@NewFlag#1#2{%
3407   \lowercase{\HyField@NewOption{#2}}%
3408   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3409 }

```

```

\HyField@NewFlagOnly
3410 \def\HyField@NewFlagOnly#1#2{%
3411   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3412 }

```

```

\HyField@NewOption #1: option name
3413 \def\HyField@NewOption#1{%
3414   \expandafter\newif\csname ifFld@#1\endcsname
3415   \define@key{Field}{#1}[true]{%
3416     \lowercase{\Field@boolkey{##1}}{#1}%
3417   }%
3418 }

```

\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

```

3419 \def\HyField@NewBitsetFlag#1#2#3#4{%
3420   \begingroup
3421     \count@=#4\relax
3422     \advance\count@\m@ne
3423     \def\x##1{%
3424       \endgroup
3425       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3426       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
3427         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3428           (\number#4) #2%
3429         }%
3430       \else
3431         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3432           \csname HyField@#3@#1\endcsname
3433           /#2%
3434         }%
3435       \fi
3436     }%
3437   \expandafter\x\expandafter{\the\count@}%
3438 }
```

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

```

3439 \def\HyField@UseFlag#1#2{%
3440   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3441 }
```

\HyField@@UseFlag

```

3442 \def\HyField@@UseFlag#1#2{%
3443   \bitsetSetValue{HyField@#2}{%
3444     \csname HyField@#2@#1\endcsname
3445   }{%
3446     \csname ifFld@#1\endcsname 1\else 0\fi
3447   }%
3448 }
```

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

```

3449 \def\HyField@SetFlag#1#2{%
3450   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3451 }
```

\HyField@@SetFlag

```

3452 \def\HyField@@SetFlag#1#2{%
3453   \bitsetSetValue{HyField@#2}{%
3454     \csname HyField@#2@#1\endcsname
3455   }{1}%
3456 }
```

\HyField@PrintFlags

```

3457 \def\HyField@PrintFlags#1#2{%
3458   \ifHy@verbose
3459     \begingroup
```



```

3460 \let\Hy@temp\@empty
3461 \let\MessageBreak\relax
3462 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3463 \bitsetGetSetBitList{HyField@#1}\do{%
3464 \edef\Hy@temp{%
3465 \Hy@temp
3466 \csname HyField@#1@\x\endcsname\MessageBreak
3467 }%
3468 }%
3469 \edef\x{\endgroup
3470 \noexpand\Hy@Info{%
3471 Field flags: %
3472 \expandafter\ifx\@car#1\@nil S\else/\fi
3473 #1 %
3474 \bitsetGetDec{HyField@#1} %
3475 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3476 \Hy@temp
3477 for #2%
3478 }%
3479 }\x
3480 \fi
3481 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3482 \HyField@NewFlag{Ff}{ReadOnly}{1}
3483 \HyField@NewFlag{Ff}{Required}{2}
3484 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3485 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3486 \HyField@NewFlag{Ff}{Radio}{16}
3487 \HyField@NewFlag{Ff}{Pushbutton}{17}
3488 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3489 \HyField@NewFlag{Ff}{Multiline}{13}
3490 \HyField@NewFlag{Ff}{Password}{14}
3491 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3492 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3493 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3494 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3495 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3496 \HyField@NewFlag{Ff}{Combo}{18}
3497 \HyField@NewFlag{Ff}{Edit}{19}
3498 \HyField@NewFlag{Ff}{Sort}{20}
3499 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3500 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3501 \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.

```

3502 \newif\iffld@popdown
3503 \define@key{Field}{popdown}[true]{%

```

```

3504 \lowercase{\Field@boolkey{#1}}{popdown}%
3505 }

```

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.

```

3506 \HyField@NewFlag{F}{Invisible}{1}
3507 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3508 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3509 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3510 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3511 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3512 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3513 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3514 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

```

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

```

3515 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3516 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3517 \HyField@NewFlag{Submit}{GetMethod}{4}
3518 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3519 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3520 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3521 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3522 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3523 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3524 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3525 \HyField@NewFlag{Submit}{ExclFKey}{12}
3526 \HyField@NewFlag{Submit}{EmbedForm}{14}

3527 \define@key{Field}{export}{%
3528   \lowercase{\def\Hy@temp{#1}}%
3529   \@ifundefined{Fld@export@\Hy@temp}{%
3530     \@onelevel@sanitize\Hy@temp
3531     \PackageError{hyperref}{%
3532       Unknown export format '\Hy@temp'.\MessageBreak
3533       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3534     }{\@ehc
3535   }{%
3536     \let\Fld@export\Hy@temp
3537   }%
3538 }

3539 \def\Fld@export{fdf}
3540 \@namedef{Fld@export@fdf}{0}%
3541 \@namedef{Fld@export@html}{1}%
3542 \@namedef{Fld@export@xfdf}{2}%
3543 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3544 \def\HyField@FlagsSubmit{%
3545   \bitsetReset{HyField@Submit}%
3546   \ifcase\@nameuse{Fld@export@\Fld@export} %
3547     % FDF
3548     \HyField@UseFlag{Submit}{IncludeNoValueFields}%

```

```

3549 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3550 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3551 \HyField@UseFlag{Submit}{IncludeAnnotations}%
3552 \HyField@UseFlag{Submit}{CanonicalFormat}%
3553 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3554 \HyField@UseFlag{Submit}{ExclFKey}%
3555 \HyField@UseFlag{Submit}{EmbedForm}%
3556 \or % HTML
3557 \HyField@SetFlag{Submit}{ExportFormat}%
3558 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3559 \HyField@UseFlag{Submit}{GetMethod}%
3560 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3561 \HyField@UseFlag{Submit}{CanonicalFormat}%
3562 \or % XFDF
3563 \HyField@SetFlag{Submit}{XFDF}%
3564 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3565 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3566 \HyField@UseFlag{Submit}{CanonicalFormat}%
3567 \or % PDF
3568 \HyField@SetFlag{Submit}{SubmitPDF}%
3569 \HyField@UseFlag{Submit}{GetMethod}%
3570 \fi
3571 \HyField@PrintFlags{Submit}{submit button field}%
3572 \bitsetIsEmpty{HyField@Submit}{%
3573 \def\Fld@submitflags{%
3574 }{%
3575 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3576 }%
3577 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

3578 \def\HyField@FlagsAnnot#1{%
3579 \bitsetReset{HyField@F}%
3580 \HyField@UseFlag{F}{Invisible}%
3581 \HyField@UseFlag{F}{Hidden}%
3582 \HyField@UseFlag{F}{Print}%
3583 \HyField@UseFlag{F}{NoZoom}%
3584 \HyField@UseFlag{F}{NoRotate}%
3585 \HyField@UseFlag{F}{NoView}%
3586 \HyField@UseFlag{F}{Locked}%
3587 \HyField@UseFlag{F}{ToggleNoView}%
3588 \HyField@UseFlag{F}{LockedContents}%
3589 \HyField@PrintFlags{F}{#1}%
3590 \bitsetIsEmpty{HyField@F}{%
3591 \def\Fld@annotflags{%
3592 }{%
3593 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3594 }%
3595 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

3596 \def\HyField@FlagsPushButton{%

```

```

3597 \HyField@FlagsAnnot{push button field}%
3598 \bitsetReset{HyField@Ff}%
3599 \HyField@UseFlag{Ff}{ReadOnly}%
3600 \HyField@UseFlag{Ff}{Required}%
3601 \HyField@UseFlag{Ff}{NoExport}%
3602 \HyField@SetFlag{Ff}{Pushbutton}%
3603 \HyField@PrintFlags{Ff}{push button field}%
3604 \bitsetIsEmpty{HyField@Ff}{%
3605     \def\Fld@flags{%
3606     }{%
3607     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
3608     }%
3609 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

3610 \def\HyField@FlagsCheckBox{%
3611 \HyField@FlagsAnnot{check box field}%
3612 \bitsetReset{HyField@Ff}%
3613 \HyField@UseFlag{Ff}{ReadOnly}%
3614 \HyField@UseFlag{Ff}{Required}%
3615 \HyField@UseFlag{Ff}{NoExport}%
3616 \HyField@PrintFlags{Ff}{check box field}%
3617 \bitsetIsEmpty{HyField@Ff}{%
3618     \def\Fld@flags{%
3619     }{%
3620     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
3621     }%
3622 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

3623 \def\HyField@FlagsRadioButton{%
3624 \HyField@FlagsAnnot{radio button field}%
3625 \bitsetReset{HyField@Ff}%
3626 \HyField@UseFlag{Ff}{ReadOnly}%
3627 \HyField@UseFlag{Ff}{Required}%
3628 \HyField@UseFlag{Ff}{NoExport}%
3629 \HyField@UseFlag{Ff}{NoToggleToOff}%
3630 \HyField@SetFlag{Ff}{Radio}%
3631 \HyField@UseFlag{Ff}{RadiosInUnison}%
3632 \HyField@PrintFlags{Ff}{radio button field}%
3633 \bitsetIsEmpty{HyField@Ff}{%
3634     \def\Fld@flags{%
3635     }{%
3636     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
3637     }%
3638 }

```

19.1.7 Text fields

\HyField@FlagsText

```

3639 \def\HyField@FlagsText{%
3640 \HyField@FlagsAnnot{text field}%

```

```

3641 \bitsetReset{HyField@Ff}%
3642 \HyField@UseFlag{Ff}{ReadOnly}%
3643 \HyField@UseFlag{Ff}{Required}%
3644 \HyField@UseFlag{Ff}{NoExport}%
3645 \HyField@UseFlag{Ff}{Multiline}%
3646 \HyField@UseFlag{Ff}{Password}%
3647 \HyField@UseFlag{Ff}{FileSelect}%
3648 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3649 \HyField@UseFlag{Ff}{DoNotScroll}%
3650 \ifFld@comb
3651   \ifcase0\ifFld@multiline
3652     \else\ifFld@password
3653     \else\ifFld@fileselect
3654     \else 1\fi\fi\fi\relax
3655   \PackageError{hyperref}{%
3656     Field option 'comb' cannot used together with\MessageBreak
3657     'multiline', 'password', or 'fileselect'%
3658   }\@ehc
3659   \else
3660     \HyField@UseFlag{Ff}{Comb}%
3661   \fi
3662 \fi
3663 \HyField@UseFlag{Ff}{RichText}%
3664 \HyField@PrintFlags{Ff}{text field}%
3665 \bitsetIsEmpty{HyField@Ff}{%
3666   \def\Fld@flags{}%
3667 }{%
3668   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3669 }%
3670 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

3671 \def\HyField@FlagsChoice{%
3672   \HyField@FlagsAnnot{choice field}%
3673   \bitsetReset{HyField@Ff}%
3674   \HyField@UseFlag{Ff}{ReadOnly}%
3675   \HyField@UseFlag{Ff}{Required}%
3676   \HyField@UseFlag{Ff}{NoExport}%
3677   \HyField@UseFlag{Ff}{Combo}%
3678   \ifFld@combo
3679     \HyField@UseFlag{Ff}{Edit}%
3680   \fi
3681   \HyField@UseFlag{Ff}{Sort}%
3682   \HyField@UseFlag{Ff}{MultiSelect}%
3683   \ifFld@combo
3684     \ifFld@edit
3685       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3686     \fi
3687   \fi
3688   \HyField@UseFlag{Ff}{CommitOnSelChange}%
3689   \HyField@PrintFlags{Ff}{choice field}%
3690   \bitsetIsEmpty{HyField@Ff}{%
3691     \def\Fld@flags{}%
3692   }{%
3693     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

3694 }%
3695 }

```

19.2 Choice field

```

3696 \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`.

```

3697 \def\HyField@PDFChoices#1{%
3698   \begingroup
3699   \gdef\Fld@choices{}%
3700   \def\HyTmp@optlist{}%
3701   \let\HyTmp@optitem\relax
3702   \count@=0 %
3703   \kv@parse{#1}{%
3704     \Hy@pdfstringdef\kv@key\kv@key
3705     \ifx\kv@value\relax
3706       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
3707         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
3708       \else
3709         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
3710       \fi
3711     \else
3712       \Hy@pdfstringdef\kv@value\kv@value
3713       \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
3714     \fi
3715   \edef\HyTmp@optlist{%
3716     \HyTmp@optlist
3717     \HyTmp@optitem{\the\count@}{\kv@key}0%
3718   }%
3719   \advance\count@ by 1 %
3720   \@gobbletwo
3721 }%
3722 \xdef\Fld@choices{/Opt[\Fld@choices]}%
3723 \ifFld@multiselect
3724   \HyField@@PDFChoices{DV}\Fld@default
3725   \HyField@@PDFChoices{V}\Fld@value
3726 \else
3727   \ifx\Fld@default\relax
3728   \else
3729     \pdfstringdef\Hy@gtemp\Fld@default
3730     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
3731   \fi
3732   \ifx\Fld@value\relax
3733   \else
3734     \pdfstringdef\Hy@gtemp\Fld@value
3735     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
3736   \fi
3737 \fi
3738 \endgroup
3739 }

```

`\HyField@@PDFChoices`

```

3740 \def\HyField@@PDFChoices#1#2{%
3741   \ifx#2\relax

```

```

3742 \else
3743   \count@=0 %
3744   \def\HyTmp@optitem##1##2##3{%
3745     \def\HyTmp@key{##2}%
3746     \ifx\HyTmp@key\Hy@gtemp
3747       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
3748         \HyTmp@optlist
3749         \HyTmp@optitem{##1}{##2}1%
3750       }%
3751       \let\HyTmp@found=Y%
3752     \else
3753       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
3754         \HyTmp@optlist
3755         \HyTmp@optitem{##1}{##2}##3%
3756       }%
3757     \fi
3758   }%
3759   \expandafter\comma@parse\expandafter{##2}{%
3760     \pdfstringdef\Hy@gtemp\comma@entry
3761     \let\HyTmp@found=N %
3762     \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
3763     \HyTmp@optlist
3764     \ifx\HyTmp@found Y%
3765       \advance\count@ by 1 %
3766     \else
3767       \@onelevel@sanitize\comma@entry
3768       \PackageWarning{hyperref}{%
3769         \string\ChoiceBox: Ignoring value '\comma@entry',%
3770         \MessageBreak
3771         it cannot be found in the choices%
3772       }%
3773     \fi
3774     \@gobble
3775   }%
3776   \def\HyTmp@optitem##1##2##3{%
3777     \ifnum##3=1 %
3778       (##2)%
3779     \fi
3780   }%
3781   \ifcase\count@
3782   \or
3783     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
3784   \else
3785     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
3786     \ifx#1V%
3787       \def\HyTmp@optitem##1##2##3{%
3788         \ifnum##3=1 %
3789           \@firstofone{ ##1}%
3790         \fi
3791       }%
3792       \edef\HyTmp@optlist{\HyTmp@optlist}%
3793       \xdef\Fld@choices{%
3794         \Fld@choices
3795         /I[\expandafter\@firstofone\HyTmp@optlist]%
3796       }%
3797     \fi
3798   \fi

```

```

3799 \fi
3800 }

```

19.3 Forms

\HyField@SetKeys

```

3801 \def\HyField@SetKeys{%
3802   \setkeys{Field}%
3803 }

3804 \newif\ifFld@checked
3805 \newif\ifFld@disabled
3806 \Fld@checkedfalse
3807 \Fld@disabledfalse
3808 \newcount\Fld@menulength
3809 \newdimen\Fld@Width
3810 \newdimen\Fld@charsize
3811 \Fld@charsize=10\p@
3812 \def\Fld@maxlen{0}
3813 \def\Fld@align{0}
3814 \def\Fld@color{0 0 0 rg}
3815 \def\Fld@bcolor{1 1 1}
3816 \def\Fld@bordercolor{1 0 0}
3817 \def\Fld@bordersep{1\p@}
3818 \def\Fld@borderwidth{1}
3819 \def\Fld@borderstyle{S}
3820 \def\Fld@cbsymbol{4}
3821 \def\Fld@rotation{0}
3822 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
3823 \def\endForm{\@endForm}
3824 \newif\ifForm@html
3825 \Form@htmlfalse
3826 \def\Form@boolkey#1#2{%
3827   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
3828 }
3829 \define@key{Form}{action}{%
3830   \hyper@normalise\Hy@DefFormAction{#1}%
3831 }
3832 \def\Hy@DefFormAction{\def\Fld@action}
3833 \def\enc@html{html}
3834 \define@key{Form}{encoding}{%
3835   \def\Hy@tempa{#1}%
3836   \ifx\Hy@tempa\enc@html
3837     \Form@htmltrue
3838     \def\Fld@export{html}%
3839   \else
3840     \typeout{hyperref: form 'encoding' key set to #1 %
3841     -- unknown type%
3842   }%
3843   \Form@htmlfalse
3844 \fi
3845 }
3846 \define@key{Form}{method}{%
3847   \lowercase{\def\Hy@temp{#1}}%
3848   \@ifundefined{Form@method@\Hy@temp}{%
3849     \@onelevel@sanitize\Hy@temp
3850     \PackageError{hyperref}{%

```



```

3851     Unknown method '\Hy@temp'.\MessageBreak
3852     Known values are 'post' and 'get'%
3853   }\@ehc
3854 }{%
3855   \let\Form@method\Hy@temp
3856   \ifcase\@nameuse{Form@method@\Hy@temp} %
3857     \Fld@getmethodfalse
3858   \else
3859     \Fld@getmethodtrue
3860   \fi
3861 }%
3862 }
3863 \def\Form@method{}
3864 \@namedef{Form@method@post}{0}
3865 \@namedef{Form@method@get}{1}
3866 \def\Fld@boolkey#1#2{%
3867   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
3868 }
3869 \newtoks\Fld@toks
3870 \Fld@toks={ }%
3871 \def\Fld@addtoks#1#2{%
3872   \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
3873   \@processme
3874 }
3875 \def\Fld@checkequals#1=#2=#3\\{%
3876   \def\@currDisplay{#1}%
3877   \ifx\#2\\%
3878     \def\@currValue{#1}%
3879   \else
3880     \def\@currValue{#2}%
3881   \fi
3882 }
3883 \define@key{Field}{loc}{%
3884   \def\Fld@loc{#1}%
3885 }
3886 \define@key{Field}{checked}[true]{%
3887   \lowercase{\Fld@boolkey{#1}}{checked}%
3888 }
3889 \define@key{Field}{disabled}[true]{%
3890   \lowercase{\Fld@boolkey{#1}}{disabled}%
3891 }
3892 \define@key{Field}{accesskey}{%
3893   \Fld@addtoks{accesskey}{#1}%
3894 }
3895 \define@key{Field}{tabkey}{%
3896   \Fld@addtoks{tabkey}{#1}%
3897 }
3898 \define@key{Field}{name}{%
3899   \def\Fld@name{#1}%
3900 }
3901 \define@key{Field}{width}{%
3902   \def\Fld@width{#1}%
3903   \Fld@Width#1\setbox0=\hbox{m}%
3904 }
3905 \define@key{Field}{maxlen}{%
3906   \def\Fld@maxlen{#1}%
3907 }

```

```

3908 \define@key{Field}{menulength}{%
3909   \Fld@menulength=#1\relax
3910 }
3911 \define@key{Field}{height}{%
3912   \def\Fld@height{#1}%
3913 }
3914 \define@key{Field}{charsize}{%
3915   \Fld@charsize=#1%
3916 }
3917 \define@key{Field}{borderwidth}{%
3918   \def\Fld@borderwidth{#1}%
3919 }
3920 \define@key{Field}{borderstyle}{%
3921   \def\Fld@borderstyle{#1}%
3922 }
3923 \define@key{Field}{bordersep}{%
3924   \def\Fld@bordersep{#1}%
3925 }
3926 \define@key{Field}{default}{%
3927   \def\Fld@default{#1}%
3928 }
3929 \define@key{Field}{align}{%
3930   \def\Fld@align{#1}%
3931 }
3932 \define@key{Field}{value}{%
3933   \def\Fld@value{#1}%
3934 }
3935 \define@key{Field}{checkboxsymbol}{%
3936   \def\Fld@cbsymbol{#1}%
3937 }
3938 \define@key{Field}{rotation}{%
3939   \def\Fld@rotation{#1}%
3940 }
3941 \define@key{Field}{backgroundcolor}{%
3942   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
3943 }
3944 \define@key{Field}{bordercolor}{%
3945   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
3946 }
3947 \define@key{Field}{color}{%
3948   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
3949 }
3950 \def\Fld@format@code{}
3951 \def\Fld@validate@code{}
3952 \def\Fld@calculate@code{}
3953 \def\Fld@keystroke@code{}
3954 \def\Fld@onfocus@code{}
3955 \def\Fld@onblur@code{}
3956 \def\Fld@onmousedown@code{}
3957 \def\Fld@onmouseup@code{}
3958 \def\Fld@onenter@code{}
3959 \def\Fld@onexit@code{}
3960 \define@key{Field}{keystroke}{%
3961   \def\Fld@keystroke@code{#1}%
3962 }
3963 \define@key{Field}{format}{%

```

```

3964 \def\Fld@format@code{#1}%
3965 }
3966 \define@key{Field}{validate}{%
3967 \def\Fld@validate@code{#1}%
3968 }
3969 \define@key{Field}{calculate}{%
3970 \def\Fld@calculate@code{#1}%
3971 }
3972 \define@key{Field}{onfocus}{%
3973 \def\Fld@onfocus@code{#1}%
3974 }
3975 \define@key{Field}{onblur}{%
3976 \def\Fld@onblur@code{#1}%
3977 }
3978 \define@key{Field}{onenter}{%
3979 \def\Fld@onenter@code{#1}%
3980 }
3981 \define@key{Field}{onexit}{%
3982 \def\Fld@onexit@code{#1}%
3983 }
3984 \define@key{Field}{onselect}{%
3985 \Field@addtoks{onselect}{#1}%
3986 }
3987 \define@key{Field}{onchange}{%
3988 \Field@addtoks{onchange}{#1}%
3989 }
3990 \define@key{Field}{onclick}{%
3991 \def\Fld@onclick{#1}%
3992 \Field@addtoks{onclick}{#1}%
3993 }
3994 \define@key{Field}{ondblclick}{%
3995 \Field@addtoks{ondblclick}{#1}%
3996 }
3997 \define@key{Field}{onmousedown}{%
3998 \Field@addtoks{onmousedown}{#1}%
3999 }
4000 \define@key{Field}{onmouseup}{%
4001 \Field@addtoks{onmouseup}{#1}%
4002 }
4003 \define@key{Field}{onmouseover}{%
4004 \Field@addtoks{onmouseover}{#1}%
4005 }
4006 \define@key{Field}{onmousemove}{%
4007 \Field@addtoks{onmousemove}{#1}%
4008 }
4009 \define@key{Field}{onmouseout}{%
4010 \Field@addtoks{onmouseout}{#1}%
4011 }
4012 \define@key{Field}{onkeypress}{%
4013 \Field@addtoks{onkeypress}{#1}%
4014 }
4015 \define@key{Field}{onkeydown}{%
4016 \Field@addtoks{onkeydown}{#1}%
4017 }
4018 \define@key{Field}{onkeyup}{%
4019 \Field@addtoks{onkeyup}{#1}%
4020 }

```

```

4021 %
4022 \DeclareRobustCommand\TextField{%
4023   \@ifnextchar[{\@TextField}{\@TextField[]}%
4024 }
4025 \DeclareRobustCommand\ChoiceMenu{%
4026   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4027 }
4028 \DeclareRobustCommand\CheckBox{%
4029   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4030 }
4031 \DeclareRobustCommand\PushButton{%
4032   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4033 }
4034 \DeclareRobustCommand\Gauge{%
4035   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4036 }
4037 \DeclareRobustCommand\Submit{%
4038   \@ifnextchar[{\@Submit}{\@Submit[]}%
4039 }
4040 \DeclareRobustCommand\Reset{%
4041   \@ifnextchar[{\@Reset}{\@Reset[]}%
4042 }
4043 \def\LayoutTextField#1#2{% label, field
4044   #1 #2%
4045 }
4046 \def\LayoutChoiceField#1#2{% label, field
4047   #1 #2%
4048 }
4049 \def\LayoutCheckField#1#2{% label, field
4050   #1 #2%
4051 }
4052 \def\LayoutPushButtonField#1{% button
4053   #1%
4054 }
4055 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4056 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4057 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4058 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4059 \def\MakeButtonField#1{%
4060   \sbox0{%
4061     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4062   }%
4063   \@tempdima\ht0 %
4064   \advance\@tempdima by \Fld@borderwidth bp %
4065   \advance\@tempdima by \Fld@borderwidth bp %
4066   \ht0\@tempdima
4067   \@tempdima\dp0 %
4068   \advance\@tempdima by \Fld@borderwidth bp %
4069   \advance\@tempdima by \Fld@borderwidth bp %
4070   \dp0\@tempdima
4071   \box0\relax
4072 }
4073 \def\DefaultHeightofSubmit{14pt}
4074 \def\DefaultWidthofSubmit{2cm}
4075 \def\DefaultHeightofReset{14pt}
4076 \def\DefaultWidthofReset{2cm}
4077 \def\DefaultHeightofCheckBox{\baselineskip}

```

```

4078 \def\DefaultWidthofCheckBox{\baselineskip}
4079 \def\DefaultHeightofChoiceMenu{\baselineskip}
4080 \def\DefaultWidthofChoiceMenu{\baselineskip}
4081 \def\DefaultHeightofText{\baselineskip}
4082 \def\DefaultHeightofTextMultiline{4\baselineskip}
4083 \def\DefaultWidthofText{3cm}
4084 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4085 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4086 \def\DefaultOptionsofPushButton{print}
4087 \def\DefaultOptionsofCheckBox{print}
4088 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4089 \def\DefaultOptionsofListBox{print}
4090 \def\DefaultOptionsofComboBox{print,edit,sort}
4091 \def\DefaultOptionsofPopdownBox{print}
4092 \def\DefaultOptionsofRadio{print,notoggletooft}

```

20 Setup

```

4093 \ifHy@figures
4094   \Hy@Info{Hyper figures ON}%
4095 \else
4096   \Hy@Info{Hyper figures OFF}%
4097 \fi
4098 \ifHy@nesting
4099   \Hy@Info{Link nesting ON}%
4100 \else
4101   \Hy@Info{Link nesting OFF}%
4102 \fi
4103 \ifHy@hyperindex
4104   \Hy@Info{Hyper index ON}%
4105 \else
4106   \Hy@Info{Hyper index OFF}%
4107 \fi
4108 \ifHy@backref
4109   \Hy@Info{backreferencing ON}%
4110 \else
4111   \Hy@Info{backreferencing OFF}%
4112 \fi
4113 \ifHy@colorlinks
4114   \Hy@Info{Link coloring ON}%
4115 \else
4116   \Hy@Info{Link coloring OFF}%
4117 \fi

```

21 Low-level utility macros

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

```

4118 \edef\hyper@hash{\string#}
4119 \edef\hyper@tilde{\string~}
4120 \edef\hyper@quote{\string"}
4121 \let\@currentHref\@empty
4122 \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.

```

4123 \AfterBeginDocument{%
4124   \Hy@pdfstringtrue
4125   \PDF@SetupDoc
4126   \let\PDF@SetupDoc\@empty
4127   \Hy@DisableOption{pdfpagescrop}%
4128   \Hy@DisableOption{pdfpagemode}%
4129   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4130   \Hy@DisableOption{pdfdirection}%
4131   \Hy@DisableOption{pdfviewarea}%
4132   \Hy@DisableOption{pdfviewclip}%
4133   \Hy@DisableOption{pdfprintarea}%
4134   \Hy@DisableOption{pdfprintclip}%
4135   \Hy@DisableOption{pdfprintscaling}%
4136   \Hy@DisableOption{pdfduplex}%
4137   \Hy@DisableOption{pdfpicktraybypdfsize}%
4138   \Hy@DisableOption{pdfprintpagerange}%
4139   \Hy@DisableOption{pdfnumcopies}%
4140   \Hy@DisableOption{pdfstartview}%
4141   \Hy@DisableOption{pdfstartpage}%
4142   \Hy@DisableOption{pdftoolbar}%
4143   \Hy@DisableOption{pdfmenubar}%
4144   \Hy@DisableOption{pdfwindowui}%
4145   \Hy@DisableOption{pdffitwindow}%
4146   \Hy@DisableOption{pdfcenterwindow}%
4147   \Hy@DisableOption{pdfdisplaydoctitle}%
4148   \Hy@DisableOption{pdfpagelayout}%
4149   \Hy@DisableOption{pdflang}%
4150   \Hy@DisableOption{baseurl}%
4151   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4152   \Hy@pdfstringfalse
4153 }

```

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.

```

4154 \def\NoHyper{%
4155   \def\hyper@link@{##1}##2##3##4{##4}%
4156   \def\hyper@@anchor##1{%
4157     \global\let\hyper@livelink\hyper@link
4158     \gdef\hyper@link##1##2##3{##3}%
4159     \def\hyper@anchorstart##1{%
4160       \let\hyper@anchorend\@empty
4161       \def\hyper@linkstart##1##2{%
4162         \let\hyper@linkend\@empty
4163         \def\hyper@linkurl##1##2{##1}%
4164         \def\hyper@linkfile##1##2##3{##1}%
4165         \def\hyper@link@{##1}##2##3{%
4166           \let\Hy@backout\@gobble
4167         }
4168       \def\stop@hyper{%
4169         \def\hyper@link@{##1}##2##3##4{##4}%
4170         \let\Hy@backout\@gobble
4171         \def\hyper@@anchor##1{%

```

```

4172 \def\hyper@link##1##2##3{##3}%
4173 \def\hyper@anchorstart##1{}%
4174 \let\hyper@anchorend\@empty
4175 \def\hyper@linkstart##1##2{}%
4176 \let\hyper@linkend\@empty
4177 \def\hyper@linkurl##1##2{##1}%
4178 \def\hyper@linkfile##1##2##3{##1}%
4179 \def\hyper@link@{##1}##2##3{}%
4180 }
4181 \def\endNoHyper{%
4182 \global\let\hyper@link\hyper@livelink
4183 }
4184 \</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:

```

4185 \<*nohyperref>
4186 \let\hyper@@anchor\@gobble
4187 \def\hyper@link#1#2#3{#3}%
4188 \let\hyper@anchorstart\@gobble
4189 \let\hyper@anchorend\@empty
4190 \let\hyper@linkstart\@gobbletwo
4191 \let\hyper@linkend\@empty
4192 \def\hyper@linkurl#1#2{#1}%
4193 \def\hyper@linkfile#1#2#3{#1}%
4194 \def\hyper@link@{#1}#2#3{}%
4195 \let\PDF@SetupDoc\@empty
4196 \let\PDF@FinishDoc\@empty

```

Some top-level commands:

```

4197 \let\Acrobatmenu\@gobble
4198 \let\pdfstringdefDisableCommands\@gobbletwo
4199 \let\texorpdfstring\@firstoftwo
4200 \let\pdfbookmark\@undefined
4201 \newcommand\pdfbookmark[3][]{ }
4202 \let\phantomsection\@empty
4203 \let\hypersetup\@gobble
4204 \let\hyperbaseurl\@gobble
4205 \let\href\@gobble
4206 \let\hyperdef\@gobbletwo
4207 \let\hyperlink\@gobble
4208 \let\hypertarget\@gobble
4209 \def\hyperref{%
4210 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4211 }
4212 \long\def\@gobbleopt[#1]{ }
4213 \let\hyperpage\@empty
4214 \</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}`

```
4215 \*package>
4216 \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.

```
4217 \if@filesw
4218   \ifHy@typexml
4219     \immediate\closeout\@mainaux
4220     \immediate\openout\@mainaux\jobname.aux\relax
4221     \immediate\write\@auxout{<relaxxml>\relax}%
4222   \fi
4223   \immediate\write\@auxout{%
4224     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4225     \global\let\string\oldcontentsline\string\contentsline^^J%
4226     \gdef\string\contentsline%
4227       \string#1\string#2\string#3\string#4{%
4228       \string\oldcontentsline%
4229       {\string#1}{\string#2}{\string#3}}^^J%
4230     \global\let\string\oldnewlabel\string\newlabel^^J%
4231     \gdef\string\newlabel\string#1\string#2{%
4232     \string\newlabelxx{\string#1}\string#2^^J%
4233     \gdef\string\newlabelxx%
4234     \string#1\string#2\string#3\string#4\string#5\string#6{%
4235     \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.

```
4236     \string\AtEndDocument{%
4237       \let\string\contentsline\string\oldcontentsline^^J%
4238       \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.

```
4239     \string\else^^J%
4240     \global\let\string\hyper@last\relax^^J%
4241     \string\fi^^J%
4242   }%
4243 \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.

```
4244 \ifx\hyper@last\@undefined
4245   \def\@starttoc#1{%
4246     \begingroup
4247     \makeatletter
4248     \IfFileExists{\jobname.#1}{%
4249       \Hy@WarningNoLine{%
4250         old #1 file detected, not used; run LaTeX again%
```



```

4251         }%
4252     }{}%
4253     \if@filesw
4254         \expandafter\newwrite\csname tf@#1\endcsname
4255         \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4256     \fi
4257     \@nobreakfalse
4258 \endgroup
4259 }%
4260 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4261 \fi
4262 }

```

25 Title strings

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

```

4263 \ifHy@usetitle
4264   \let\HyOrg@title\title
4265   \let\HyOrg@author\author
4266   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4267   \def\Hy@scanopttitle[#1]{%
4268     \gdef\Hy@title{#1}%
4269     \HyOrg@title[{#1}]%
4270   }%
4271   \def\Hy@scantitle#1{%
4272     \gdef\Hy@title{#1}%
4273     \HyOrg@title{#1}%
4274   }%
4275   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4276   \def\Hy@scanoptauthor[#1]{%
4277     \gdef\Hy@author{#1}%
4278     \HyOrg@author[{#1}]%
4279   }%
4280   \def\Hy@scanauthor#1{%
4281     \gdef\Hy@author{#1}%
4282     \HyOrg@author{#1}%
4283   }%

```

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

```

4284 \begingroup
4285   \def\process@me#1\@nil#2{%
4286     \expandafter\let\expandafter\x\csname @#2\endcsname
4287     \edef\y{\expandafter\strip@prefix\meaning\x}%
4288     \def\c##1##2\@nil{%
4289       \ifx\\##1\\%
4290         \else
4291           \expandafter\gdef\csname Hy@#2\endcsname
4292             \expandafter{\x}%
4293         \fi
4294       }%
4295       \expandafter\c\y\relax#1\@nil
4296     }%
4297     \expandafter\process@me\string\@latex@\@nil{title}%
4298     \expandafter\process@me\string\@latex@\@nil{author}%

```

```

4299 \endgroup
4300 \fi
4301 \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.

```

4302 \def\Hy@UseMaketitleString#1{%
4303   \@ifundefined{Hy@#1}{}%
4304   \begingroup
4305     \let\Hy@samed@hook\pdfstringdefPreHook
4306     \pdfstringdefDisableCommands{%
4307       \expandafter\let\expandafter\\csname Hy@newline@#1\endcsname
4308       \let\newline\\%
4309     }%
4310     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4311       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4312         \csname Hy@#1\endcsname\@empty
4313       }%
4314     \fi
4315     \global\let\pdfstringdefPreHook\Hy@samed@hook
4316   \endgroup
4317 }%
4318 }
4319 \def\Hy@newline@title#1{ #1}
4320 \def\Hy@newline@author#1{, #1}
4321 \def\Hy@UseMaketitleInfos{%
4322   \Hy@UseMaketitleString{title}%
4323   \Hy@UseMaketitleString{author}%
4324 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4325 \RequirePackage{atbegshi}[2007/09/09]
4326 \def\Hy@EveryPageHook{}
4327 \def\Hy@EveryPageBoxHook{}
4328 \def\Hy@FirstPageHook{}
4329 \AtBeginShipout{%
4330   \Hy@EveryPageHook
4331   \ifx\Hy@EveryPageBoxHook\@empty
4332   \else
4333     \setbox\AtBeginShipoutBox=\vbox{%
4334       \offinterlineskip
4335       \Hy@EveryPageBoxHook
4336       \box\AtBeginShipoutBox

```

```

4337 }%
4338 \fi
4339 }
4340 \AtBeginShipoutFirst{%
4341 \Hy@FirstPageHook
4342 }
4343 \g@addto@macro\Hy@FirstPageHook{%
4344 \PDF@FinishDoc
4345 \gdef\PDF@FinishDoc{}}%
4346 }

```

27.1 PDF /PageLabels

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

```

4347 \ifHy@pagelabels
4348 \begingroup\expandafter\expandafter\expandafter\endgroup
4349 \expandafter\ifx\csname thepage\endcsname\relax
4350 \Hy@pagelabelsfalse
4351 \Hy@WarningNoLine{%
4352 Option 'pdfpagelabels' is turned off\MessageBreak
4353 because \string\thepage\space is undefined%
4354 }%
4355 \csname fi\endcsname
4356 \csname iffalse\expandafter\endcsname
4357 \fi

```

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

```

4358 \def\thispdfpagelabel#1{%
4359 \gdef\HyPL@thisLabel{#1}%
4360 }%
4361 \global\let\HyPL@thisLabel\relax

```

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

```

4362 \def\HyPL@Labels{}%

```

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

```

4363 \newcount\Hy@abspage
4364 \Hy@abspage=0 %

```

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

```

4365 \def\HyPL@LastType{init}%
4366 \def\HyPL@LastNumber{0}%
4367 \def\HyPL@LastPrefix{}%

```

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

```

4368 \def\HyPL@arabic{D}%
4369 \def\HyPL@Roman{R}%
4370 \def\HyPL@roman{r}%
4371 \def\HyPL@Alph{A}%
4372 \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.

```

4373 \def\HyPL@EveryPage{%
4374 \begingroup
4375 \ifx\HyPL@thisLabel\relax

```

```

4376     \let\HyPL@page\thepage
4377 \else
4378     \let\HyPL@page\HyPL@thisLabel
4379     \global\let\HyPL@thisLabel\relax
4380 \fi
4381 \let\HyPL@Type\relax
4382 \ifnum\the\c@page>0 %
4383     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4384 \fi
4385 \let\Hy@temp Y%
4386 \ifx\HyPL@Type\HyPL@LastType
4387 \else
4388     \let\Hy@temp N%
4389 \fi
4390 \ifx\HyPL@Type\relax
4391     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4392 \else
4393     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4394 \fi
4395 \ifx\HyPL@Prefix\HyPL@LastPrefix
4396 \else
4397     \let\Hy@temp N%
4398 \fi
4399 \if Y\Hy@temp
4400     \advance\c@page by -1 %
4401     \ifnum\HyPL@LastNumber=\the\c@page\relax
4402     \else
4403         \let\Hy@temp N%
4404     \fi
4405     \Hy@StepCount\c@page
4406 \fi
4407 \if N\Hy@temp
4408     \ifx\HyPL@Type\relax
4409         \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4410     \else
4411         \HyPL@StorePageLabel{%
4412             \ifx\HyPL@Prefix\@empty
4413             \else
4414                 /P(\HyPL@Prefix)%
4415             \fi
4416             /S/\csname HyPL\HyPL@Type\endcsname
4417             \ifnum\the\c@page=1 %
4418             \else
4419                 \space/St \the\c@page
4420             \fi
4421             }%
4422     \fi
4423 \fi
4424 \xdef\HyPL@LastNumber{\the\c@page}%
4425 \global\let\HyPL@LastType\HyPL@Type
4426 \global\let\HyPL@LastPrefix\HyPL@Prefix
4427 \endgroup
4428 \Hy@GlobalStepCount\Hy@abspage
4429 }%

```

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

```

4430 \def\HyPL@CheckThePage#1\@nil{%

```

```

4431 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4432 }%

```

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

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

```

4433 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4434 \def\Hy@tempa{#4}%
4435 \def\Hy@tempb{\csname\endcsname\c@page}%
4436 \ifx\Hy@tempa\Hy@tempb
4437 \expandafter\ifx\csname HyPL#3\endcsname\relax
4438 \else
4439 \def\HyPL@Type{#3}%
4440 \def\HyPL@Prefix{#2}%
4441 \fi
4442 \else
4443 \begingroup
4444 \let\Hy@next\endgroup
4445 \let\HyPL@found\@undefined
4446 \def\arabic{\HyPL@Format{arabic}}%
4447 \def\Roman{\HyPL@Format{Roman}}%
4448 \def\roman{\HyPL@Format{roman}}%
4449 \def\Alph{\HyPL@Format{Alph}}%
4450 \def\alph{\HyPL@Format{alph}}%
4451 \protected@edef\Hy@temp{#1}%
4452 \ifx\HyPL@found\relax
4453 \toks@{\expandafter{\Hy@temp}}%
4454 \edef\Hy@next{\endgroup
4455 \noexpand\HyPL@@CheckThePage\the\toks@
4456 \noexpand\HyPL@found\relax\noexpand\@nil
4457 }%
4458 \fi
4459 \Hy@next
4460 \fi
4461 }%

```

`\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`.

```

4462 \def\HyPL@Format#1#2{%
4463 \ifx\HyPL@found\@undefined
4464 \expandafter\ifx\csname c@#2\endcsname\c@page
4465 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4466 \else
4467 \expandafter\noexpand\csname#1\endcsname{#2}%
4468 \fi
4469 \else
4470 \expandafter\noexpand\csname#1\endcsname{#2}%
4471 \fi
4472 }%

```

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

```

4473 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4474 \def\Hy@tempa{#3}%
4475 \def\Hy@tempb{\HyPL@found\relax}%

```

```

4476 \ifx\Hy@tempa\Hy@tempb
4477 \def\HyPL@Type{#2}%
4478 \def\HyPL@Prefix{#1}%
4479 \fi
4480 }%

```

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

```

4481 \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`.

```

4482 \def\HyPL@Useless{0<</S/D>>}%
4483 \@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.

```

4484 \def\HyPL@SetPageLabels{%
4485 \onelevel@sanitize\HyPL@Labels
4486 \ifx\HyPL@Labels\empty
4487 \else
4488 \ifx\HyPL@Labels\HyPL@Useless
4489 \else
4490 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4491 \fi
4492 \fi
4493 }%

```

```

4494 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4495 \fi

```

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

```

4496 \Hy@DisableOption{pdfpagelabels}
4497 </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`

```

4498 <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.

```

4499 <*vTeX>
4500 \edef\Hy@VTeXversion{%
4501 \ifx\VTeXversion\undefined
4502 \z@
4503 \else
4504 \ifx\VTeXversion\relax
4505 \z@
4506 \else
4507 \VTeXversion
4508 \fi

```

```

4509 \fi
4510 }
4511 \begingroup
4512 \ifnum\Hy@VTeXversion<660 %
4513 \gdef\Hy@PutCatalog#1{%
4514 \Hy@WarningNoLine{%
4515 VTeX 6.59g or above required for pdfpagelabels%
4516 }%
4517 }%
4518 \else
4519 \gdef\Hy@PutCatalog#1{%
4520 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4521 }%
4522 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4523 \ifx\#2\%
4524 \else
4525 \immediate\special{!pdfpagelabels #2}%
4526 \fi
4527 }%
4528 \fi
4529 \endgroup
4530 </vtex>

4531 <*pdfTeX | vtex>

```

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

```

4532 \ifHy@pagelabels
4533 \def\HyPL@StorePageLabel#1{%
4534 \toks@\expandafter{\HyPL@Labels}%
4535 \xdef\HyPL@Labels{%
4536 \the\toks@
4537 \the\Hy@abspage<<#1>>%
4538 }%
4539 }%

```

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.

```

4540 \@ifclassloaded{revtex4}{%
4541 \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4542 }{%
4543 \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4544 }%

4545 \fi
4546 </pdfTeX | vtex>

```

27.1.2 pdfmarkbase, dvipdfm

`\Hy@PutCatalog`

```

4547 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
4548 <*pdfmarkbase>
4549 \def\Hy@PutCatalog#1{%
4550 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4551 }
4552 </pdfmarkbase>

4553 <*pdfmarkbase | dvipdfm>
4554 \ifHy@pagelabels

```

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

```
4555 \def\HyPL@StorePageLabel#1{%
4556   \if@files
4557     \begingroup
4558       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4559       \immediate\write\@mainaux{%
4560         \string\HyPL@Entry{\Hy@tempa}%
4561       }%
4562     \endgroup
4563   \fi
4564 }%
```

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.

```
4565 \AfterBeginDocument{%
4566   \if@files
4567     \immediate\write\@mainaux{%
4568       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4569     }%
4570   \fi
4571   \ifx\HyPL@Labels\@empty
4572     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4573   \else
4574     \HyPL@SetPageLabels
4575   \fi
4576   \let\HyPL@Entry\@gobble
4577 }%
```

`\HyPL@Entry`

```
4578 \def\HyPL@Entry#1{%
4579   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4580     \HyPL@Labels
4581     #1%
4582   }%
4583 }%

4584 \fi
4585 </pdfmarkbase | dvipdfm>
4586 <*package>
4587 \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

```

4588 \def\Hy@CounterExists#1{%
4589   \begingroup\expandafter\expandafter\expandafter\endgroup
4590   \expandafter\ifx\csname c#1\endcsname\relax
4591     \expandafter\@gobble
4592   \else
4593     \begingroup\expandafter\expandafter\expandafter\endgroup
4594     \expandafter\ifx\csname the#1\endcsname\relax
4595       \expandafter\expandafter\expandafter\@gobble
4596     \else
4597       \expandafter\expandafter\expandafter\@firstofone
4598     \fi
4599   \fi
4600 }
4601 \Hy@CounterExists{section}{%
4602   \newcommand\theHequation{\theHsection.\arabic{equation}}%
4603 }
4604 \Hy@CounterExists{part}{%
4605   \newcommand\theHpart{\arabic{part}}%
4606 }
4607 \@ifundefined{thechapter}{%
4608   \newcommand\theHsection    {\arabic{section}}%
4609   \newcommand\theHfigure     {\arabic{figure}}%
4610   \newcommand\theHtable      {\arabic{table}}%
4611 }{%
4612   \newcommand\theHchapter     {\arabic{chapter}}%
4613   \newcommand\theHfigure      {\theHchapter.\arabic{figure}}%
4614   \newcommand\theHtable       {\theHchapter.\arabic{table}}%
4615   \newcommand\theHsection     {\theHchapter.\arabic{section}}%
4616 }
4617 \newcommand\theHsubsection   {\theHsection.\arabic{subsection}}
4618 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4619 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
4620 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4621 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
4622 \newcommand\theHthm          {\theHsection.\arabic{thm}}

4623 \let\H@item\item
4624 \newcounter{Item}
4625 \def\theHItem{\arabic{Item}}
4626 \def\item{%
4627   \@hyper@itemfalse
4628   \if@nmbrlist\@hyper@itemtrue\fi
4629   \H@item
4630 }

4631 \newcommand\theHenumi      {\theHItem}
4632 \newcommand\theHenumii     {\theHItem}
4633 \newcommand\theHenumiii    {\theHItem}
4634 \newcommand\theHenumiv     {\theHItem}
4635 \newcommand\theHHfootnote  {\arabic{Hfootnote}}
4636 \newcommand\theHmpfootnote{\arabic{mpfootnote}}

```

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.

```
4637 \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.

```
4638 \let\H@refstepcounter\refstepcounter
4639 \edef\name@of@eq{equation}%
4640 \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.

```
4641 \newif\if@hyper@item
4642 \newif\if@skiphyperref
4643 \@hyper@itemfalse
4644 \@skiphyperreffalse
4645 \def\refstepcounter#1{%
4646   \ifHy@pdfstring
4647   \else
4648     \H@refstepcounter{#1}%
4649     \edef\This@name{#1}%
4650     \ifx\This@name\name@of@slide
4651     \else
4652       \if@skiphyperref
4653       \else
4654         \if@hyper@item
4655         \stepcounter{Item}%
4656         \hyper@refstepcounter{Item}%
4657       \else
4658         \hyper@refstepcounter{#1}%
4659       \fi
4660     \fi
4661   \fi
4662 \fi
4663 }
```

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

```
4664 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
4665 \def\hyper@refstepcounter#1{%
4666   \edef\This@name{#1}%
4667   \ifx\This@name\name@of@eq
4668     \@ifundefined{theHequation}{%
4669       \make@stripped@name{\theequation}%
4670       \let\theHequation\newname
4671     }{}%
4672   \fi
4673   \@ifundefined{theH#1}{%
4674     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4675   }{}%
4676   \hyper@makecurrent{#1}%
4677   \ifmeasuring@
4678   \else
4679     \Hy@raisedlink{%
4680       \hyper@anchorstart{\@currentHref}\hyper@anchorend
```

```

4681 }%
4682 \fi
4683 }

```

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`.

```

4684 \begingroup\expandafter\expandafter\expandafter\endgroup
4685 \expandafter\ifx\csname chapter\endcsname\relax
4686 \def\Hy@chapterstring{section}%
4687 \else
4688 \def\Hy@chapterstring{chapter}%
4689 \fi
4690 \def\Hy@appendixstring{appendix}
4691 \def\Hy@chapapp{\Hy@chapterstring}
4692 \let\HyOrg@appendix\appendix
4693 \def\appendix{%
4694 \ifundefined{chapter}%
4695 {\gdef\theHsection{\Alph{section}}}%
4696 {\gdef\theHchapter{\Alph{chapter}}}%
4697 \xdef\Hy@chapapp{\Hy@appendixstring}%
4698 \HyOrg@appendix
4699 }

```

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

```

4700 \def\hyper@makecurrent#1{%
4701 \begingroup
4702 \edef\Hy@param{#1}%
4703 \ifx\Hy@param\Hy@chapterstring
4704 \let\Hy@param\Hy@chapapp
4705 \fi
4706 \ifHy@hypertextnames
4707 \let\@number\@firstofone
4708 \ifundefined{latin@Alph}{-}{%
4709 \ifx\@Alph\greek@Alph
4710 \def\@Alph{Alph\@arabic}%
4711 \fi
4712 }%
4713 \ifHy@naturalnames
4714 \let\textlatin\@firstofone
4715 \xdef\@currentHlabel{\csname the#1\endcsname}%
4716 \else
4717 \xdef\@currentHlabel{\csname theH#1\endcsname}%
4718 \fi
4719 \xdef\@currentHref{%
4720 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
4721 }%
4722 \else
4723 \Hy@GlobalStepCount\Hy@linkcounter
4724 \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
4725 \fi
4726 \endgroup
4727 }

```

```

4728 \@ifpackageloaded{fancyvrb}{%
4729   \def\FV@StepLineNo{%
4730     \FV@SetLineNo
4731     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
4732     \FV@StepLineNo
4733   }%
4734 }{}

```

29 Package lastpage support

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

```

\lastpage@putlabel
4735 \AtBeginDocument{%
4736   \@ifclassloaded{revtex4}{%
4737     \@namedef{ver@lastpage.sty}{1994/06/25}%
4738   }{}%
4739   \@ifpackageloaded{lastpage}{%
4740     \ifHy@pageanchor
4741     \else
4742       \Hy@WarningNoLine{%
4743         The \string\pageref{LastPage} link doesn't work\MessageBreak
4744         with disabled option 'pageanchor'%
4745       }%
4746     \fi
4747     \def\lastpage@putlabel{%
4748       \addtocounter{page}{-1}%
4749       \if@filesw
4750         \begingroup
4751           \let\@number\@firstofone
4752           \ifHy@pageanchor
4753             \ifHy@hypertexnames
4754               \ifHy@plainpages
4755                 \def\Hy@temp{\arabic{page}}%
4756               \else
4757                 \Hy@unicodedefalse
4758                 \pdfstringdef\Hy@temp{\thepage}%
4759             \fi
4760           \else
4761             \def\Hy@temp{\the\Hy@pagecounter}%
4762           \fi
4763         \fi
4764         \immediate\write\@auxout{%
4765           \string\newlabel
4766           {LastPage}{\the\thepage}{\thepage}{\thepage}%
4767           \ifHy@pageanchor page.\Hy@temp\fi}{}}%
4768       }%
4769     \endgroup
4770   \fi
4771   \addtocounter{page}{1}%
4772 }%

```

```

4773 \@ifclassloaded{revtex4}{%
4774 \begingroup
4775 \toks@{\expandafter{\lastpage@putlabel}}%
4776 \edef\x{\endgroup
4777 \def\noexpand\lastpage@putlabel{%
4778 \noexpand\stepcounter{page}%
4779 \the\toks@
4780 \noexpand\addtocounter{page}\noexpand\m@ne
4781 }%
4782 }%
4783 \x
4784 }{}%
4785 }{}%
4786 }
4787 </package>
4788 <*check>
4789 \checkpackage{lastpage}[1994/06/25]
4790 \checkcommand\def\lastpage@putlabel{%
4791 \addtocounter{page}{-1}%
4792 \immediate\write\@auxout{%
4793 \string\newlabel{LastPage}{\the\thepage}}%
4794 }%
4795 \addtocounter{page}{1}%
4796 }
4797 </check>
4798 <*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.

```

4799 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
4800 \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:

```

4801 \@ifpackageloaded{titlesec}{%
4802 \def\ttl@Hy@steplink#1{%
4803 \Hy@GlobalStepCount\Hy@linkcounter
4804 \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
4805 \def\ttl@Hy@saveanchor{%
4806 \Hy@raisedlink{%
4807 \hyper@anchorstart{\@currentHref}\hyper@anchorend
4808 }%
4809 }%
4810 }%
4811 \def\ttl@Hy@refstepcounter#1{%
4812 \let\ttl@b\Hy@raisedlink
4813 \def\Hy@raisedlink##1{%
4814 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
4815 }%

```

```

4816 \refstepcounter{#1}%
4817 \let\Hy@raisedlink\ttl@b
4818 }%
4819 {}

```

Package titletoc support:

```

4820 \@ifpackageloaded{titletoc}{%
4821 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
4822 }{}

```

32 Package varioref support

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

```

4823 \def\Hy@varioref@undefined{???}{?}{?}{?}{?}
4824 \@ifpackageloaded{varioref}{%
4825 \def\vref@pagenum#1#2{%
4826 \ifundefined{r@#2}{%
4827 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
4828 }{}%
4829 \edef#1{\getpagerefnumber{#2}}%
4830 }%
4831 }{}

```

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

```

4832 \@ifpackageloaded{longtable}{%
4833 \beginingroup
4834 \def\y{\LT@array}%
4835 \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
4836 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
4837 \expandafter\endgroup
4838 \expandafter\def\y[#1]##2{%
4839 \H@refstepcounter{#1}%
4840 \hyper@makecurrent{table}%
4841 \let\Hy@LT@currentHlabel\@currentHlabel
4842 \let\Hy@LT@currentHref\@currentHref
4843 #2\@sharp####4%
4844 }%
4845 }%
4846 \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

4847 \beginingroup
4848 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
4849 \endgroup
4850 \def\LT@start{%
4851 #1%
4852 \let\@currentHlabel\Hy@LT@currentHlabel
4853 \let\@currentHref\Hy@LT@currentHref

```

```

4854      \Hy@raisedlink{%
4855        \hyper@anchorstart{\@currentHref}\hyper@anchorend
4856      }%
4857      \ifvoid\LT@firsthead\copy
4858      #2%
4859    }%
4860  }%
4861  \expandafter\x\LT@start\@nil
4862 }{}

```

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.

```

4863 \let\new@refstepcounter\refstepcounter
4864 \let\H@equation\equation
4865 \let\H@endequation\endequation
4866 \ifpackageloaded{amsmath}{%
4867   \long\def\Hy@temp{%
4868     \incr@eqnum
4869     \mathdisplay@push
4870     \st@rredfalse \global\@eqnswtrue
4871     \mathdisplay{equation}%
4872   }%
4873   \ifx\Hy@temp\equation
4874     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
4875       \csname iftrue\endcsname
4876   \else
4877     \long\def\equation{%
4878       \mathdisplay@push
4879       \st@rredfalse \global\@eqnswtrue
4880       \mathdisplay{equation}%
4881       \incr@eqnum
4882     }%
4883   \fi
4884 \fi
4885 }{%
4886 \def\equation{%
4887   \let\refstepcounter\H@refstepcounter
4888   \H@equation
4889   \@ifundefined{theHequation}{%
4890     \make@stripped@name{\theequation}%
4891     \let\theHequation\newname
4892   }{}%
4893   \hyper@makecurrent{equation}%
4894   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
4895   \let\refstepcounter\new@refstepcounter
4896 }%
4897 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
4898 }

```

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.

```

4899 \newif\if@eqnstar
4900 \@eqnstarfalse
4901 \let\H@eqnarray\eqnarray
4902 \let\H@endeqnarray\endeqnarray
4903 \def\eqnarray{%
4904   \let\Hy@reserved@a\relax
4905   \def\@currentHref{}%
4906   \H@eqnarray
4907   \if@eqnstar
4908   \else
4909     \ifx\\ \@currentHref\\%
4910     \else
4911       \@ifundefined{theHequation}{%
4912         \make@stripped@name{\theequation}%
4913         \let\theHequation\newname
4914       }{}%
4915       \hyper@makecurrent{equation}%
4916       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
4917     \fi
4918   \fi
4919 }
4920 \def\endeqnarray{%
4921   \H@endeqnarray
4922 }

```

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.

```

4923 \@namedef{eqnarray*}{%
4924   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
4925 }
4926 \@namedef{endeqnarray*}{%
4927   \nonumber\endeqnarray\@eqnstarfalse
4928 }

```

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

```

4929 \@ifundefined{subeqnarray}{}{%
4930   \let\H@subeqnarray\subeqnarray
4931   \let\H@endsubeqnarray\endsubeqnarray
4932   \def\subeqnarray{%
4933     \let\Hy@reserved@a\relax
4934     \H@subeqnarray
4935     \@ifundefined{theHequation}{%
4936       \make@stripped@name{\theequation}%
4937       \let\theHequation\newname
4938     }{}%
4939     \hyper@makecurrent{equation}%
4940     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
4941   }%
4942   \def\endsubeqnarray{%
4943     \H@endsubeqnarray
4944   }%
4945   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
4946 }

```


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

```

4947 \def\make@stripped@name#1{%
4948   \begingroup
4949     \escapechar\m@ne
4950     \global\let\newname\@empty
4951     \protected@edef\Hy@tempa{#1}%
4952     \edef\@tempb{%
4953       \noexpand\@tfor\noexpand\Hy@tempa:=%
4954       \expandafter\strip@prefix\meaning\Hy@tempa
4955     }%
4956     \@tempb\do{%
4957       \if\Hy@tempa\else
4958       \if}\Hy@tempa\else
4959       \xdef\newname{\newname\Hy@tempa}%
4960     \fi
4961   \fi
4962 }%
4963 \endgroup
4964 }

```

Support for amsmath's subequations:

```

4965 \begingroup\expandafter\expandafter\expandafter\endgroup
4966 \expandafter\ifx\csname subequations\endcsname\relax
4967 \else
4968   \let\HyOrg@subequations\subequations
4969   \def\subequations{%
4970     \stepcounter{equation}%
4971     \protected@edef\theHparentequation{%
4972       \@ifundefined{theHequation}\theequation\theHequation
4973     }%
4974     \addtocounter{equation}{-1}%
4975     \HyOrg@subequations
4976     \def\theHequation{\theHparentequation\alph{equation}}%
4977     \ignorespaces
4978   }%
4979 \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.

```

4980 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
4981 \ifHy@hyperfootnotes
4982   \newcounter{Hfootnote}%
4983   \let\H@@footnotetext\@footnotetext
4984   \let\H@@footnotemark\@footnotemark
4985   \def\@xfootnotenext[#1]{%
4986     \begingroup
4987       \csname c@\@mpfn\endcsname #1\relax
4988       \unrestored@protected\xdef\@thefnmark{\thempfn}%
4989     \endgroup
4990     \ifx\@footnotetext\@mpfootnotetext

```

```

4991     \expandafter\H@@mpfootnotetext
4992     \else
4993     \expandafter\H@@footnotetext
4994     \fi
4995 }%
4996 \def\@xfootnotemark[#1]{%
4997     \begingroup
4998     \c@footnote #1\relax
4999     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5000     \endgroup
5001     \H@@footnotemark
5002 }%
5003 \let\H@@mpfootnotetext\@mpfootnotetext
5004 \long\def\@mpfootnotetext#1{%
5005     \H@@mpfootnotetext{%
5006         \ifHy@nesting
5007             \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5008         \else
5009             \Hy@raisedlink{%
5010                 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5011             }#1%
5012         \fi
5013     }%
5014 }%
5015 \long\def\@footnotetext#1{%
5016     \H@@footnotetext{%
5017         \ifHy@nesting
5018             \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5019         \else
5020             \Hy@raisedlink{%
5021                 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5022             }%
5023             \let\@currentHlabel\Hy@footnote@currentHlabel
5024             \let\@currentHref\Hy@footnote@currentHref
5025             \let\@currentlabelname\@empty
5026             #1%
5027         \fi
5028     }%
5029 }%

```

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.

```

5030 \def\@footnotemark{%
5031     \leavevmode
5032     \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5033     \stepcounter{Hfootnote}%
5034     \global\let\Hy@saved@currentHlabel\@currentHlabel
5035     \global\let\Hy@saved@currentHref\@currentHref
5036     \hyper@makecurrent{Hfootnote}%
5037     \global\let\Hy@footnote@currentHlabel\@currentHlabel
5038     \global\let\Hy@footnote@currentHref\@currentHref
5039     \global\let\@currentHlabel\Hy@saved@currentHlabel
5040     \global\let\@currentHref\Hy@saved@currentHref
5041     \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5042     \@makefnmark
5043     \hyper@linkend

```

```

5044 \ifhmode\spacefactor\@x@sf\fi
5045 \relax
5046 }%

```

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.

```

5047 \@ifpackageloaded{longtable}{%
5048 \CheckCommand*{\LT@p@ftntext}[1]{%
5049 \edef\@tempa{%
5050 \the\LT@p@ftn
5051 \noexpand\footnotetext[\the\c@footnote]%
5052 }%
5053 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5054 }%
5055 \long\def\LT@p@ftntext#1{%
5056 \edef\@tempa{%
5057 \the\LT@p@ftn
5058 \begin{group}
5059 \noexpand\c@footnote=\the\c@footnote\relax
5060 \noexpand\protected@xdef
5061 \noexpand\@thefnmark{\noexpand\thempfn}%
5062 \noexpand\protected@xdef\noexpand\@thefnmark{%
5063 \noexpand\thempfn
5064 }%
5065 \expandafter\expandafter\expandafter\noexpand
5066 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5067 \expandafter\expandafter\expandafter{%
5068 \expandafter\Hy@footnote@currentHref\expandafter
5069 }\expandafter{\Hy@footnote@currentHlabel}%
5070 }%
5071 \global\LT@p@ftn\expandafter{%
5072 \@tempa{#1}%
5073 \end{group}
5074 }%
5075 }%
5076 \long\def\Hy@LT@footnotetext#1#2#3{%
5077 \H@@@footnotetext{%
5078 \ifHy@nesting
5079 \hyper@@anchor{#1}{#3}%
5080 \else
5081 \Hy@raisedlink{%
5082 \hyper@@anchor{#1}{\relax}%
5083 }%
5084 \def\@currentHlabel{#2}%
5085 \def\@currentHref{#1}%
5086 \let\@currentlabelname\@empty
5087 #3%
5088 \fi
5089 }%
5090 }%
5091 }-}%

```

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.

```

5092 \let\HyOrg@maketitle\maketitle
5093 \def\maketitle{%

```

```

5094 \let\Hy@saved@footnotemark\@footnotemark
5095 \let\Hy@saved@footnotetext\@footnotetext
5096 \let\@footnotemark\H@@footnotemark
5097 \let\@footnotetext\H@@footnotetext
5098 \ifnextchar[\Hy@maketitle@optarg{% ]
5099 \HyOrg@maketitle
5100 \Hy@maketitle@end
5101 }%
5102 }%
5103 \def\Hy@maketitle@optarg[#1]{%
5104 \HyOrg@maketitle[#{1}]%
5105 \Hy@maketitle@end
5106 }%
5107 \def\Hy@maketitle@end{%
5108 \ifx\@footnotemark\H@@footnotemark
5109 \let\@footnotemark\Hy@saved@footnotemark
5110 \fi
5111 \ifx\@footnotetext\H@@footnotetext
5112 \let\@footnotetext\Hy@saved@footnotetext
5113 \fi
5114 }%

```

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

```

5115 \def\realfootnote{%
5116 \ifnextchar[\@xfootnote{%
5117 \stepcounter{\@mpfn}%
5118 \protected@xdef\@thefnmark{\thempfn}%
5119 \H@@footnotemark\H@@footnotetext
5120 }%
5121 }%

5122 \fi
5123 \Hy@DisableOption{hyperfootnotes}

5124 </package>
5125 <*check>
5126 \checklatex
5127 \checkcommand\def\@xfootnotenext[#1]{%
5128 \begingroup
5129 \csname c@\@mpfn\endcsname #1\relax
5130 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5131 \endgroup
5132 \@footnotetext
5133 }
5134 \checkcommand\def\@xfootnotemark[#1]{%
5135 \begingroup
5136 \c@footnote #1\relax
5137 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5138 \endgroup
5139 \@footnotemark
5140 }
5141 \checkcommand\def\@footnotemark{%
5142 \leavevmode
5143 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5144 \@makefnmark
5145 \ifhmode\spacefactor\@x@sf\fi
5146 \relax
5147 }

```

```

5148 </check>
5149 <*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.

```

5150 \def\caption{%
5151   \ifx\@captype\@undefined
5152     \latex@error{\noexpand\caption outside float}\@ehd
5153     \expandafter\@gobble
5154   \else
5155     \H@refstepcounter\@captype
5156     \let\Hy@tempa\@caption
5157     \@ifundefined{float@caption}{%
5158       {%
5159         \expandafter\ifx\csname @float@c@\@captype\endcsname
5160           \float@caption
5161         \let\Hy@tempa\Hy@float@caption
5162       \fi
5163     }%
5164     \expandafter\@firstofone
5165   \fi
5166   {\@dblarg{\Hy@tempa\@captype}}%
5167 }
5168 \long\def\@caption#1[#2]#3{%
5169   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5170     \csname iftrue\endcsname
5171     \global\let\@currentHref\hc@currentHref
5172   \else
5173     \hyper@makecurrent{\@captype}%
5174   \fi
5175   \def\@currentlabelname{#2}%
5176   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5177     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5178   }%
5179   \begingroup
5180     \@parboxrestore
5181     \if@minipage
5182       \setminipage
5183     \fi
5184     \normalsize
5185     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5186       \csname iftrue\endcsname
5187       \global\@capstartfalse
5188       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5189     \else
5190       \@makecaption{\csname fnum@#1\endcsname}{%
5191         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5192     \ifHy@nesting
5193       \hyper@@anchor{\@currentHref}{#3}%
5194     \else
5195       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5196     \fi

```

```

5197     }%
5198     \fi
5199     \par
5200 \endgroup
5201 }

```

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.

```

5202 \let\Hy@float@caption\@caption
5203 \ifpackageloaded{float}{%
5204   \def\Hy@float@caption{%
5205     \ifx\Hy@float@currentHref\@undefined
5206       \hyper@makecurrent{\@capttype}%
5207       \global\let\Hy@float@currentHref\@currentHref
5208     \else
5209       \let\@currentHref\Hy@float@currentHref
5210     \fi
5211     \float@caption
5212   }%
5213   \let\HyOrg@float@makebox\float@makebox
5214   \renewcommand{\float@makebox}[1]{%
5215     \HyOrg@float@makebox{%
5216       #1\relax
5217       \ifx\Hy@float@currentHref\@undefined
5218       \else
5219         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5220       \global\let\Hy@float@currentHref\@undefined
5221       \fi
5222     }%
5223   }%
5224 }{}

5225 \end{package}
5226 \ifcheck
5227 \checklatex[1999/06/01 - 2000/06/01]
5228 \checkcommand\def\caption{%
5229   \ifx\@capttype\@undefined
5230     \@latex@error{\noexpand\caption outside float}\@ehd
5231     \expandafter\@gobble
5232   \else
5233     \refstepcounter{\@capttype}
5234     \expandafter\@firstofone
5235   \fi
5236   {\@dblarg{\@caption\@capttype}}%
5237 }

5238 \checkcommand\long\def\@caption#1[#2]#3{%
5239   \par
5240   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5241     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5242   \begingroup
5243     \@parboxrestore
5244     \if@minipage
5245       \@setminipage
5246     \fi
5247     \normalsize
5248     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5249   \endgroup
5250 }

```

```

5251 </check>
5252 <*package>

```

37 Bibliographic references

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

However, 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.

```

5253 \def\hyper@natlinkstart#1{%
5254   \Hy@backout{#1}%
5255   \hyper@linkstart{cite}{cite.#1}%
5256   \def\hyper@nat@current{#1}%
5257 }
5258 \def\hyper@natlinkend{%
5259   \hyper@linkend
5260 }
5261 \def\hyper@natlinkbreak#1#2{%
5262   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5263 }
5264 \def\hyper@natanchorstart#1{%
5265   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5266 }
5267 \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.

```

5268 \@ifundefined{NAT@parse}{%
5269   \providecommand*\@extra@binfo{}%
5270   \providecommand*\@extra@b@citeb{}%
5271   \def\bibcite#1#2{%
5272     \newl@bel{b}{#1\@extra@binfo}{%
5273       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
5274     }%
5275   }%
5276   \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.”.

```

5277 \let\Hy@bibcite\bibcite
5278 \begingroup
5279   \@ifundefined{bbl@cite@choice}{%
5280     \g@addto@macro\bbl@cite@choice{%
5281       \let\bibcite\Hy@bibcite
5282     }%
5283   }%
5284 \endgroup

```

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

```

5285 \providecommand*\@BIBLABEL{\@biblabel}%

```

```

5286 \def\@lbibitem[#1]#2{%
5287   \@skiphyperreftrue
5288   \H@item[%
5289     \ifx\Hy@raisedlink\@empty
5290       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5291       \@BIBLABEL{#1}%
5292       \hyper@anchorend
5293     \else
5294       \Hy@raisedlink{%
5295         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5296       }%
5297       \@BIBLABEL{#1}%
5298     \fi
5299     \hfill
5300   ]%
5301   \@skiphyperreffalse
5302   \if@filesw
5303     \begingroup
5304       \let\protect\noexpand
5305       \immediate\write\@auxout{%
5306         \string\bibcite{#2}{#1}%
5307       }%
5308     \endgroup
5309   \fi
5310   \ignorespaces
5311 }%

```

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

```

5312 \def\@bibitem#1{%
5313   \@skiphyperreftrue\H@item\@skiphyperreffalse
5314   \Hy@raisedlink{%
5315     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5316   }%
5317   \if@filesw
5318     \begingroup
5319       \let\protect\noexpand
5320       \immediate\write\@auxout{%
5321         \string\bibcite{#1}{\the\value{\@listctr}}%
5322       }%
5323     \endgroup
5324   \fi
5325   \ignorespaces
5326 }%
5327 }{}

5328 </package>
5329 <*check>
5330 \checklatex
5331 \checkcommand\def\@lbibitem[#1]#2{%
5332   \item[\@biblabel{#1}\hfill]%
5333   \if@filesw
5334     {%
5335       \let\protect\noexpand
5336       \immediate\write\@auxout{%
5337         \string\bibcite{#2}{#1}%
5338       }%
5339     }%

```



```

5340 \fi
5341 \ignorespaces
5342 }
5343 \checkcommand\def\@bibitem#1{%
5344 \item
5345 \if@filesw
5346 \immediate\write\@auxout{%
5347 \string\bibcite{#1}{\the\value{\@listctr}}}%
5348 }%
5349 \fi
5350 \ignorespaces
5351 }
5352 \</check>
5353 \<package>

```

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

```

5354 \@ifclassloaded{revtex}{%
5355 \Hy@Info{*** compatibility with revtex **** }%
5356 \def\revtex@checking#1#2{%
5357 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5358 \expandafter\def\csname b@#1\endcsname{#2}%
5359 \@SetMaxRnhefLabel{#1}%
5360 \expandafter\let\csname b@#1\endcsname\T@temp
5361 }%

```

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

```

5362 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5363 \providecommand*{\extra@b@citeb}{}%
5364 \def\CITE[#1]#2{%
5365 \let\citea\@empty
5366 \leavevmode
5367 \unskip
5368 $^{\%
5369 \scriptstyle
5370 \CITE{%
5371 \@for\citeb:=#2\do{%
5372 \citea
5373 \def\citea{\penalty\@m\ }%
5374 \edef\citeb{\expandafter\@firstofone\citeb}%
5375 \if@filesw
5376 \immediate\write\@auxout{\string\citation{\citeb}}%
5377 \fi
5378 \@ifundefined{b@\citeb\extra@b@citeb}{}%
5379 \mbox{\reset@font\bfseries ?}%
5380 \G@refundefinedtrue
5381 \@latex@warning{%
5382 Citation ‘\citeb’ on page \thepage \space undefined%
5383 }%
5384 }%
5385 {\csname b@\citeb\extra@b@citeb\endcsname}%
5386 }%
5387 }%
5388 }{#1}%
5389 }$%
5390 }%

```

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.

```

5391 \def\@citex[#1]#2{%
5392   \let\@citea\@empty
5393   \@cite{%
5394     \@for\@citeb:=#2\do{%
5395       \@citea
5396       \def\@citea{,\penalty\@m\ }%
5397       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5398       \if@filesw
5399         \immediate\write\@auxout{\string\citation{\@citeb}}%
5400       \fi
5401       \ifundefined{b@\@citeb\@extra@b@citeb}{%
5402         \mbox{\reset@font\bfseries ?}%
5403         \G@refundefinedtrue
5404         \@latex@warning{%
5405           Citation ‘\@citeb’ on page \thepage \space undefined}%
5406       }%
5407     }{%
5408       \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5409     }%
5410   }%
5411 }{#1}%
5412 }%
5413 }{}

```

37.1 Package harvard

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

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

```

5414 \@ifpackageloaded{harvard}{%
5415   \AtBeginDocument{%
5416     \Hy@Info{*** compatibility with harvard ***}%
5417     \Hy@raiselinksfalse
5418     \def\harvardcite#1#2#3#4{%
5419       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
5420       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
5421       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
5422       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5423     }%
5424     \def\HAR@citetoaux#1{%
5425       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5426       \ifHy@backref
5427         \ifx\@empty\@currentlabel
5428         \else
5429           \@bsphack
5430           \if@filesw
5431             \protected@write\@auxout{}{%
5432               \string\writefile{brf}{%
5433                 \string\backcite{#1}{%
5434                   {\thepage}{\@currentlabel}{\@currentHref}}%
5435             }%

```

```

5436         }%
5437     }%
5438     \fi
5439     \@esphack
5440     \fi
5441     \fi
5442 }%
5443 \def\harvarditem{%
5444     \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
5445 }%
5446 \def\@harvarditem[#1]#2#3#4#5\par{%
5447     \item[]%
5448     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5449     \if@filesw
5450         \begingroup
5451             \def\protect##1{\string ##1\space}%
5452             \ifthenelse{\equal{#1}{\null}}{%
5453                 {\def\next{{#4}{#2}{#2}{#3}}}%
5454                 {\def\next{{#4}{#2}{#1}{#3}}}%
5455             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5456         \endgroup
5457     \fi
5458     \protect\hspace*{-\labelwidth}%
5459     \protect\hspace*{-\labelsep}%
5460     \ignorespaces
5461     #5%
5462     \ifHy@backref
5463         \newblock
5464         \backref{\csname br@#4\endcsname}%
5465     \fi
5466     \par
5467 }%

```

\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:

```

5468     \long\def\HAR@checkcitations#1#2#3#4{%
5469         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5470         \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5471             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
5472             \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5473                 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
5474                 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5475                     \else
5476                         \@tempswatrue
5477                     \fi
5478                 \else
5479                     \@tempswatrue
5480                 \fi
5481             \else
5482                 \@tempswatrue
5483             \fi
5484         }%
5485     }%
5486 }{}

```

37.2 Package chicago

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

```
5487 \@ifpackageloaded{chicago}{%  
  
  \citeN  
  
5488    \def\citeN{%  
5489      \def\@citesep{--1000}%  
5490      \def\@cite##1##2{##1}%  
5491      \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%  
5492      \@citedata@opt  
5493    }%  
  
  \shortciteN  
  
5494    \def\shortciteN{%  
5495      \def\@citesep{--1000}%  
5496      \def\@cite##1##2{##1}%  
5497      \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%  
5498      \@citedata@opt  
5499    }%  
  
  \@citedata@opt  
  
5500    \def\@citedata@opt{%  
5501      \let\@cite@opt\@empty  
5502      \@ifnextchar [{%  
5503        \@tempswatrue  
5504        \@citedatax@opt  
5505      }{%  
5506        \@tempswafalse  
5507        \@citedatax[]%  
5508      }%  
5509    }%  
  
  \@citedatax@opt  
  
5510    \def\@citedatax@opt[#1]{%  
5511      \def\@cite@opt{, #1}%  
5512      \@citedatax[{#1}]%  
5513    }%  
  
5514  }{}
```

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.

```
5515 \def\Hy@EveryPageAnchor{%  
5516   \Hy@DistillerDestFix  
5517   \ifHy@pageanchor  
5518     \ifHy@hypertextnames  
5519       \ifHy@plainpages  
5520         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
```

```

5521     \else
5522     \begingroup
5523     \let\@number\@firstofone
5524     \Hy@unicodedefalse
5525     \pdfstringdef\@the@H@page{\thepage}%
5526     \endgroup
5527     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
5528     \fi
5529     \else
5530     \Hy@GlobalStepCount\Hy@pagecounter
5531     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5532     \fi
5533     \vbox to 0pt{%
5534     \kern\voffset
5535     \kern\topmargin
5536     \kern-1bp\relax
5537     \hbox to 0pt{%
5538     \kern\hoffset
5539     \kern\ifodd\value{page}%
5540     \oddsidemargin
5541     \else
5542     \evensidemargin
5543     \fi
5544     \kern-1bp\relax
5545     \Hy@TempPageAnchor
5546     \hss
5547     }%
5548     \vss
5549     }%
5550     \fi
5551 }
5552 \g@addto@macro\Hy@EveryPageBoxHook{%
5553   \Hy@EveryPageAnchor
5554 }

```

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.

```

5555 \begingroup\expandafter\expandafter\expandafter\endgroup
5556 \expandafter\ifx\csname chapter\endcsname\relax
5557   \def\toclevel@part{0}%
5558 \else
5559   \def\toclevel@part{-1}%
5560 \fi
5561 \def\toclevel@chapter{0}
5562 \def\toclevel@section{1}
5563 \def\toclevel@subsection{2}
5564 \def\toclevel@subsubsection{3}
5565 \def\toclevel@paragraph{4}
5566 \def\toclevel@subparagraph{5}
5567 \def\toclevel@figure{0}
5568 \def\toclevel@table{0}
5569 \ifpackageloaded{listings}{%
5570   \providecommand*\theHlstlisting{\thelstlisting}%

```

```

5571 \providecommand*\toclevel@lstlisting{0}%
5572 }{}
5573 \@ifpackageloaded{listing}{%
5574 \providecommand*\theHlisting{\thelisting}%
5575 \providecommand*\toclevel@listing{0}%
5576 }{}
5577 \def\addcontentsline#1#2#3{% toc extension, type, tag
5578 \begingroup
5579 \let\label\@gobble
5580 \let\textlatin\@firstofone
5581 \ifx\@currentHref\@empty
5582 \Hy@Warning{%
5583 No destination for bookmark of \string\addcontentsline,%
5584 \MessageBreak destination is added%
5585 }%
5586 \phantomsection
5587 \fi
5588 \expandafter\ifx\csname toclevel@#2\endcsname\relax
5589 \begingroup
5590 \def\Hy@tempa{#1}%
5591 \ifx\Hy@tempa\Hy@bookmarkstype
5592 \Hy@WarningNoLine{%
5593 bookmark level for unknown #2 defaults to 0%
5594 }%
5595 \else
5596 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5597 \fi
5598 \endgroup
5599 \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5600 \fi
5601 \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
5602 \Hy@writebookmark{\csname the#2\endcsname}%
5603 {#3}%
5604 {\@currentHref}%
5605 {\Hy@toclevel}%
5606 {#1}%
5607 \ifHy@verbose
5608 \def\Hy@tempa{#3}%
5609 \@onelevel@sanitize\Hy@tempa
5610 \typeout{pdfTeX: bookmark at \the\inputlineno: %
5611 {\csname the#2\endcsname}%
5612 {\Hy@tempa}%
5613 {\@currentHref}%
5614 {\Hy@toclevel}%
5615 {#1}%
5616 }%
5617 \fi
5618 \addtocontents{#1}{%
5619 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5620 }%
5621 \endgroup
5622 }
5623 \def\contentsline#1#2#3#4{%
5624 \ifx\#4\%
5625 \csname l@#1\endcsname{#2}{#3}%
5626 \else
5627 \ifHy@linktocpage

```

```

5628     \csname l@#1\endcsname{{#2}}{%
5629     \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5630     }%
5631     \else
5632     \csname l@#1\endcsname{%
5633     \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5634     }{#3}%
5635     \fi
5636     \fi
5637 }

5638 </package>
5639 <*check>
5640 \checklatex
5641 \checkcommand\def\addcontentsline#1#2#3{%
5642 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
5643 }
5644 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5645 </check>
5646 <*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.

```

5647 \let\H@definecounter\@definecounter
5648 \def\@definecounter#1{%
5649   \H@definecounter{#1}%
5650   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5651 }

```

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.

```

5652 \let\H@newctr\@newctr
5653 \def\@newctr#1[#2]{%
5654   \H@newctr#1[{#2}]%
5655   \expandafter\def\csname theH#1\endcsname{%
5656     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
5657   }%
5658 }

```

41 AMS \LaTeX compatibility

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

```

5659 \let\Hmake@df@tag@@\make@df@tag@@
5660 \def\make@df@tag@@#1{%
5661   \Hmake@df@tag@@{#1}%
5662   \Hy@GlobalStepCount\Hy@linkcounter
5663   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5664   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5665 }

```

```

5666 \let\Hmake@df@tag@@@make@df@tag@@@
5667 \def\make@df@tag@@@#1{%
5668   \Hmake@df@tag@@@{#1}%
5669   \Hy@GlobalStepCount\Hy@linkcounter
5670   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5671   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5672 }

```

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

```

5673 \@ifpackagewith{hyperref}{pdfTeX}{%
5674   \let\H@seteqlabel\@seteqlabel
5675   \def\@seteqlabel#1{%
5676     \H@seteqlabel{#1}%
5677     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5678     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5679   }%
5680 }{}

```

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.

```

5681 \let\HyOrg@addtoreset\@addtoreset
5682 \def\@addtoreset#1#2{%
5683   \HyOrg@addtoreset{#1}{#2}%
5684   \expandafter\xdef\csname theH#1\endcsname{%
5685     \expandafter\noexpand
5686     \csname the\@ifundefined{theH#2}{H#2\endcsname
5687     .\noexpand\the\noexpand\value{#1}%
5688   }%
5689 }

```

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

```

5690 </package>
5691 <*check>
5692 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
5693 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
5694   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
5695     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
5696       \@addtoreset{#2}{#3}%
5697       \@xp\xdef\csname the#2\endcsname{%
5698         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
5699       }%
5700     }%
5701   }%

```



```

5702 }%
5703 </check>
5704 <*package>
5705 \ifpackageloaded{amsmath}{%
5706   \ifpackagelater{amsmath}{1999/12/14}{%
5707     \renewcommand*{\numberwithin}[3][\arabic]{%
5708       \ifundefined{c@#2}{\@nocounterr{#2}}{%
5709         \ifundefined{c@#3}{\@nocnterr{#3}}{%
5710           \HyOrg@addtoreset{#2}{#3}%
5711           \xp\xdef\csname the#2\endcsname{%
5712             \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
5713           }%
5714           \xp\xdef\csname theH#2\endcsname{%
5715             \xp\@nx
5716             \csname the\ifundefined{theH#3}{H#3\endcsname
5717             .\@nx#1{#2}%
5718           }%
5719         }%
5720       }%
5721     }%
5722   }{%
5723     \Hy@WarningNoLine{%
5724       \string\numberwithin\space of package ‘amsmath’ %
5725       only fixed\MessageBreak
5726       for version 2000/06/06 v2.12 or newer%
5727     }%
5728   }%
5729 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

5730 \ifHy@figures
5731   \let\Hy@Gin@setfile\Gin@setfile
5732   \def\Gin@setfile#1#2#3{%
5733     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
5734   }%
5735 \fi
5736 \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.

```

5737 \ifHy@hyperindex
5738   \def\HyInd@ParenLeft{(%
5739   \def\HyInd@ParenRight{)%

```

```

5740 \Hy@nextfalse
5741 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
5742 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
5743 \begingroup
5744   \lccode'\|=\expandafter'\HyInd@EncapChar\relax
5745 \lowercase{\endgroup
5746   \ifHy@next
5747     \let\HyInd@org@wrindex\@wrindex
5748     \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
5749     \def\HyInd@wrindex#1#2|#3|#4\{\%
5750       \ifx\|#3\%
5751         \HyInd@org@wrindex{#1}{#2|hyperpage}%
5752       \else
5753         \def\Hy@temp@A{#3}%
5754         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
5755           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
5756           \relax
5757           \HyInd@org@wrindex{#1}{#2|#3}%
5758         \else
5759           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
5760         \fi
5761       \fi
5762     }%
5763   \else
5764     \def\@wrindex#1{\@wrindex#1||\}%
5765     \def\@wrindex#1|#2|#3\{\%
5766       \if@files
5767         \ifx\|#2\%
5768           \protected@write\@indexfile{}\%
5769             \string\indexentry{#1|hyperpage}{\thepage}%
5770           }%
5771         \else
5772           \def\Hy@temp@A{#2}%
5773           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
5774             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
5775             \relax
5776             \protected@write\@indexfile{}\%
5777               \string\indexentry{#1|#2}{\thepage}%
5778             }%
5779           \else
5780             \protected@write\@indexfile{}\%
5781               \string\indexentry{#1|#2hyperpage}{\thepage}%
5782             }%
5783           \fi
5784         \fi
5785       \fi
5786     \endgroup
5787     \@esphack
5788   }%
5789 \fi
5790 }%
5791 \fi
5792 \Hy@DisableOption{hyperindex}
5793 \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.

```

5794 \def\hyperpage#1{\@hyperpage#1---\}

```

```

5795 \def \@hyperpage#1--#2--#3\{\%
5796   \ifx\#2\%
5797     \@commahyperpage{#1}%
5798   \else
5799     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
5800   \fi
5801 }
5802 \def \@commahyperpage#1{\@commahyperpage#1, ,\}
5803 \def \@commahyperpage#1, #2,#3\{\%
5804   \ifx\#2\%
5805     \HyInd@pagelink{#1}%
5806   \else
5807     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
5808   \fi
5809 }

```

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

```

5810 \def \HyInd@pagelink#1{\%
5811   \begingroup
5812     \toks@={}%
5813     \HyInd@removespaces#1 \@nil
5814   \endgroup
5815 }
5816 \def \HyInd@removespaces#1 #2\@nil{\%
5817   \toks@=\expandafter{\the\toks@#1}%
5818   \ifx\#2\%
5819     \edef\x{\the\toks@}%
5820     \ifx\x\@empty
5821     \else
5822       \hyperlink{page.\the\toks@}{\the\toks@}%
5823     \fi
5824   \else
5825     \Hy@ReturnAfterFi{\%
5826       \HyInd@removespaces#2\@nil
5827     }%
5828   \fi
5829 }

```

44 Compatibility with foiltex

```

5830 \@ifclassloaded{foils}{\%
5831   \providecommand*\ext@table{lot}%
5832   \providecommand*\ext@figure{lof}%
5833 }{\}

```

45 Compatibility with seminar slide package

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

```

5834 \@ifclassloaded{seminar}{\%
5835   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
5836 }{\%
5837   \Hy@seminarslidesfalse
5838 }
5839 \@ifpackageloaded{slidesec}{\%

```

```

5840 \newcommand\theHslidesection {\arabic{slidesection}}%
5841 \newcommand\theHslidesubsection{%
5842   \theHslidesection.\arabic{slidesubsection}%
5843 }%
5844 \def\slide@heading[#1]#2{%
5845   \H@refstepcounter{slidesection}%
5846   \@addtoreset{slidesubsection}{slidesection}%
5847   \addtocontents{los}{%
5848     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
5849     {\@SCTR}{\slideheading.\theslidesection}%
5850   }%
5851   \def\Hy@tempa{#2}%
5852   \ifx\Hy@tempa\@empty
5853   \else
5854     {%
5855       \edef\@currentlabel{%
5856         \csname p@slidesection\endcsname\theslidesection
5857       }%
5858       \makeslideheading{#2}%
5859     }%
5860   \fi
5861   \gdef\theslideheading{#1}%
5862   \gdef\theslidesubheading{%
5863     \ifHy@bookmarksnumbered
5864       \def\Hy@slidetitle{\theslidesection\space #1}%
5865     \else
5866       \def\Hy@slidetitle{#1}%
5867     \fi
5868     \ifHy@hypertextnames
5869       \ifHy@naturalnames
5870         \hyper@@anchor{slideheading.\theslidesection}{\relax}%
5871         \Hy@writebookmark
5872           {\theslidesection}%
5873           {\Hy@slidetitle}%
5874           {slideheading.\theslidesection}%
5875           {1}%
5876           {toc}%
5877       \else
5878         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
5879         \Hy@writebookmark
5880           {\theslidesection}%
5881           {\Hy@slidetitle}%
5882           {slideheading.\theHslidesection}%
5883           {1}%
5884           {toc}%
5885       \fi
5886     \else
5887       \Hy@GlobalStepCount\Hy@linkcounter
5888       \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
5889       \Hy@writebookmark
5890         {\theslidesection}%
5891         {\Hy@slidetitle}%
5892         {slideheading.\the\Hy@linkcounter}%
5893         {1}%
5894         {toc}%
5895     \fi
5896   }%

```

```

5897 \def\slide@subheading[#1]#2{%
5898   \H@refstepcounter{slidesubsection}%
5899   \addtocontents{los}{%
5900     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
5901     {\@SCTR}{slideheading.\theslidesubsection}%
5902   }%
5903   \def\Hy@tempa{#2}%
5904   \ifx\Hy@tempa\@empty
5905   \else
5906   {%
5907     \edef\@currentlabel{%
5908       \csname p@slidesubsection\endcsname\theslidesubsection
5909     }%
5910     \makeslidesubheading{#2}%
5911   }%
5912   \fi
5913   \gdef\theslidesubheading{#1}%
5914   \ifHy@bookmarksnumbered
5915     \def\Hy@slidetitle{\theslidesubsection\space #1}%
5916   \else
5917     \def\Hy@slidetitle{#1}%
5918   \fi
5919   \ifHy@hypertextnames
5920     \ifHy@naturalnames
5921       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
5922       \Hy@writebookmark
5923         {\theslidesubsection}%
5924         {\Hy@slidetitle}%
5925         {slideheading.\theslidesubsection}%
5926         {2}%
5927         {toc}%
5928     \else
5929       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
5930       \Hy@writebookmark
5931         {\theslidesubsection}%
5932         {\Hy@slidetitle}%
5933         {slideheading.\theHslidesubsection}%
5934         {2}%
5935         {toc}%
5936     \fi
5937   \else
5938     \Hy@GlobalStepCount\Hy@linkcounter
5939     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
5940     \Hy@writebookmark
5941       {\theslidesubsection}%
5942       {\Hy@slidetitle}%
5943       {slideheading.\the\Hy@linkcounter}%
5944       {1}%
5945       {toc}%
5946   \fi
5947 }%
5948 \providecommand*\listslidenamename{List of Slides}%
5949 \def\listofslides{%
5950   \section*{%
5951     \listslidenamename
5952     \@mkboth{%
5953       \expandafter\MakeUppercase\listslidenamename

```

```

5954     }{%
5955     \expandafter\MakeUppercase\listslidenam
5956     }%
5957 }%
5958 \def\l@slide##1##2##3##4{%
5959     \slide@undottedcline{%
5960     \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
5961     }{%}%
5962 }%
5963 \let\l@subslide\l@slide
5964 \@startlos
5965 }%
5966 \def\slide@contents{%
5967     \def\l@slide##1##2##3##4{%
5968     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
5969     }%
5970     \let\l@subslide\@gobblefour
5971     \@startlos
5972 }%
5973 \def\Slide@contents{%
5974     \def\l@slide##1##2##3##4{%
5975     \ifcase\lslide@flag
5976     \message{##1 ** \the\c@slidesection}%
5977     \ifnum##1>\c@slidesection
5978     \def\lslide@flag{1}%
5979     {%
5980     \large
5981     \slide@cline{%
5982     \slidenumberline{$\Rightarrow\bullet$}%
5983     {\hyperlink{##4}{##2}}}%
5984     }{##3}%
5985     }%
5986     \else
5987     {%
5988     \large
5989     \slide@cline{%
5990     \slidenumberline{$\surd\;\bullet$}%
5991     {\hyperlink{##4}{##2}}}%
5992     }{##3}%
5993     }%
5994     \fi
5995     \or
5996     \def\lslide@flag{2}%
5997     {%
5998     \large
5999     \slide@cline{%
6000     \slidenumberline{$\bullet$}%
6001     {\hyperlink{##4}{##2}}}%
6002     }{##3}%
6003     }%
6004     \or
6005     {%
6006     \large
6007     \slide@cline{%
6008     \slidenumberline{$\bullet$}%
6009     {\hyperlink{##4}{##2}}}%
6010     }{##3}%

```

```

6011     }%
6012     \fi
6013 }%
6014 \def\l@subslide##1##2##3##4{%
6015     \ifnum\l@slide@flag=1 %
6016         \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6017     \fi
6018 }%
6019 \def\l@slide@flag{0}%
6020 \@startlos
6021 }%
6022 }{}

```

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.)

```

6023 \ifHy@texht
6024     \expandafter\endinput
6025 \fi
6026 \let\real@setref\@setref
6027 \def\@setref#1#2#3{% csname, extract group, refname
6028     \ifx#1\relax
6029         \protect\G@refundefinedtrue
6030         \nfss@text{\reset@font\bfseries ??}%
6031         \@latex@warning{%
6032             Reference ‘#3’ on page \thepage \space undefined%
6033         }%
6034     \else
6035         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6036     \fi
6037 }

```

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

```

6038 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6039     \begingroup
6040     \toks0={\hyper@@link{#5}{#4}}%
6041     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6042     \edef\x{\endgroup
6043         \the\toks0 {\the\toks1 }%
6044     }%
6045     \x
6046 }
6047 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6048     \ifx#1\relax
6049         \protect\G@refundefinedtrue
6050         \nfss@text{\reset@font\bfseries ??}%
6051         \@latex@warning{%
6052             Reference ‘#3’ on page \thepage \space undefined%
6053         }%
6054     \else
6055         \protect\hyper@@link
6056         {\expandafter\@fifthoffive#1}%
6057         {page.\expandafter\@secondoffive#1}%
6058         {\expandafter\@secondoffive#1}%
6059     \fi
6060 }
6061 </package>

```

```

6062 <*check>
6063 \checklatex
6064 \checkcommand\def\@setref#1#2#3{%
6065   \ifx#1\relax
6066     \protect\G@refundefinedtrue
6067     \nfss@text{\reset@font\bfseries ??}%
6068     \@latex@warning{%
6069       Reference ‘#3’ on page \thepage\space undefined%
6070     }%
6071   \else
6072     \expandafter#2#1\null
6073   \fi
6074 }
6075 </check>
6076 <*package>

```

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

```

6077 \def\HyRef@StarSetRef#1{%
6078   \begingroup
6079   \Hy@safe@activetrue
6080   \edef\x{#1}%
6081   \@onelevel@sanitize\x
6082   \edef\x{\endgroup
6083     \noexpand\HyRef@@StarSetRef
6084     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6085   }%
6086   \x
6087 }
6088 \def\HyRef@@StarSetRef#1#2#3{%
6089   \ifx#1\@undefined
6090     \let#1\relax
6091   \fi
6092   \real@setref#1#3{#2}%
6093 }
6094 \def\@refstar#1{%
6095   \HyRef@StarSetRef{#1}\@firstoffive
6096 }
6097 \def\@pagerefstar#1{%
6098   \HyRef@StarSetRef{#1}\@secondoffive
6099 }
6100 \AtBeginDocument{%
6101   \ifpackageloaded{varioref}{%
6102     \def\@Refstar#1{%
6103       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6104     }%
6105     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6106       \MakeUppercase#1%
6107     }%
6108     \DeclareRobustCommand*\Ref*{%
6109       \@ifstar\@Refstar\HyRef@Ref
6110     }%
6111     \def\HyRef@Ref#1{%
6112       \hyperref[#{1}]{\Ref*{#1}}%
6113     }%
6114     \def\Vr@f#1{%
6115       \leavevmode\unskip\vref@space
6116       \hyperref[#{1}]{}%

```



```

6117         \Ref*{#1}%
6118         \let\vref@space\nobreakspace
6119         \@vpageref[\unskip]{#1}%
6120     }%
6121 }%
6122 \def\vr@f#1{%
6123     \leavevmode\unskip\vref@space
6124     \begingroup
6125         \let\T@pageref\@pagerefstar
6126         \hyperref[{#1}]{%
6127             \ref*{#1}%
6128             \vpageref[\unskip]{#1}%
6129         }%
6130     \endgroup
6131 }%
6132 }{}%
6133 }
6134 \DeclareRobustCommand*\autopageref{%
6135     \@ifstar{%
6136         \HyRef@autopagerefname\pageref*%
6137     }\HyRef@autopageref
6138 }
6139 \def\HyRef@autopageref#1{%
6140     \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
6141 }
6142 \def\HyRef@autopagerefname{%
6143     \@ifundefined{pageautorefname}{%
6144         \@ifundefined{pagename}{%
6145             \Hy@Warning{No autoref name for 'page'}%
6146         }{%
6147             \pagename\nobreakspace
6148         }%
6149     }{%
6150         \pageautorefname\nobreakspace
6151     }%
6152 }
6153 \DeclareRobustCommand*\autoref{%
6154     \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@{link}}%
6155 }
6156 \def\HyRef@autoref#1#2{%
6157     \begingroup
6158         \Hy@safe@activetrue
6159         \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6160     \endgroup
6161 }
6162 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6163     \HyRef@ShowKeysRef{#2}%
6164     \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6165         \edef\HyRef@thisref{%
6166             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6167         }%
6168         \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6169         \Hy@safe@activesfalse
6170         #3{%
6171             \expandafter\@fifthoffive#1\@empty\@empty\@empty
6172         }{%
6173             \expandafter\@fourthoffive#1\@empty\@empty\@empty

```

```

6174 }{%
6175   \HyRef@currentHtag
6176   \expandafter\@firstoffive#1\@empty\@empty\@empty
6177   \null
6178 }%
6179 \else
6180   \protect\G@refundefinedtrue
6181   \nfss@text{\reset@font\bfseries ??}%
6182   \@latex@warning{%
6183     Reference ‘#2’ on page \thepage\space undefined%
6184   }%
6185 \fi
6186 }
6187 \def\HyRef@testreftype#1.#2\{%
6188   \@ifundefined{#1autorefname}{%
6189     \@ifundefined{#1name}{%
6190       \HyRef@StripStar#1\*\@nil{#1}%
6191       \@ifundefined{\HyRef@name autorefname}{%
6192         \@ifundefined{\HyRef@name name}{%
6193           \def\HyRef@currentHtag{%
6194             \Hy@Warning{No autoref name for ‘#1’}%
6195           }{%
6196             \edef\HyRef@currentHtag{%
6197               \expandafter\noexpand\csname\HyRef@name name\endcsname
6198               \noexpand~%
6199             }%
6200           }%
6201         }{%
6202           \edef\HyRef@currentHtag{%
6203             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6204             \noexpand~%
6205           }%
6206         }%
6207       }{%
6208         \edef\HyRef@currentHtag{%
6209           \expandafter\noexpand\csname#1name\endcsname
6210           \noexpand~%
6211         }%
6212       }%
6213     }{%
6214       \edef\HyRef@currentHtag{%
6215         \expandafter\noexpand\csname#1autorefname\endcsname
6216         \noexpand~%
6217       }%
6218     }%
6219 }
6220 \def\HyRef@StripStar#1*\@#2\@nil#3{%
6221   \def\HyRef@name{#2}%
6222   \ifx\HyRef@name\HyRef@CaseStar
6223     \def\HyRef@name{#1}%
6224   \else
6225     \def\HyRef@name{#3}%
6226   \fi
6227 }
6228 \def\HyRef@CaseStar{*\\}
6229 \def\HyRef@currentHtag{}

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```

6230 \let\HyRef@ShowKeysRef\@gobble
6231 \def\HyRef@ShowKeysInit{%
6232   \begingroup\expandafter\expandafter\expandafter\endgroup
6233   \expandafter\ifx\csname SK@@label\endcsname\relax
6234   \else
6235     \ifx\SK@ref\@empty
6236     \else
6237       \def\HyRef@ShowKeysRef{%
6238         \SK@\SK@@ref
6239       }%
6240     \fi
6241   \fi
6242 }
6243 \@ifpackageloaded{showkeys}{%
6244   \HyRef@ShowKeysInit
6245 }{%
6246   \AtBeginDocument{%
6247     \@ifpackageloaded{showkeys}{%
6248       \HyRef@ShowKeysInit
6249     }{}%
6250   }%
6251 }

```

Defaults for the names that `\autoref` uses.

```

6252 \providecommand*{\AMSautorefname}{\equationautorefname}
6253 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6254 \providecommand*{\Itemautorefname}{\itemautorefname}
6255 \providecommand*{\itemautorefname}{item}
6256 \providecommand*{\equationautorefname}{Equation}
6257 \providecommand*{\footnoteautorefname}{footnote}
6258 \providecommand*{\itemautorefname}{item}
6259 \providecommand*{\figureautorefname}{Figure}
6260 \providecommand*{\tableautorefname}{Table}
6261 \providecommand*{\partautorefname}{Part}
6262 \providecommand*{\appendixautorefname}{Appendix}
6263 \providecommand*{\chapterautorefname}{chapter}
6264 \providecommand*{\sectionautorefname}{section}
6265 \providecommand*{\subsectionautorefname}{subsection}
6266 \providecommand*{\subsubsectionautorefname}{subsubsection}
6267 \providecommand*{\paragraphautorefname}{paragraph}
6268 \providecommand*{\subparagraphautorefname}{subparagraph}
6269 \providecommand*{\FancyVerbLineautorefname}{line}
6270 \providecommand*{\theoremautorefname}{Theorem}
6271 \providecommand*{\pageautorefname}{page}
6272 \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_T_EX offers `\pdfescapestring`.

```

6273 <*pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>
6274 \RequirePackage{pdfTeXcmds}[2007/11/11]
6275 \begingroup\expandafter\expandafter\expandafter\endgroup
6276 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6277   \begingroup
6278     \catcode'\| =0 %
6279     \@makeother\| %
6280     |@firstofone{|endgroup
6281     |def|Hy@pstringdef#1#2{%
6282       |begingroup
6283         |edef~{|string~}%
6284         |xdef|Hy@gtemp{#2}%
6285       |endgroup
6286       |let#1|Hy@gtemp
6287       |@onelevel@sanitize#1%
6288       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6289       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6290       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6291     }%
6292     |def|Hy@ExchangeBackslash#1\#2|@nil{%
6293       #1%
6294       |ifx|\#2\| %
6295       |else
6296         \| %
6297         |Hy@ReturnAfterFi{%
6298           |Hy@ExchangeBackslash#2|@nil
6299         }%
6300       |fi
6301     }%
6302   }%
6303   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6304     #1%
6305     \ifx\#2\| %
6306     \else
6307       \@backslashchar(%
6308       \Hy@ReturnAfterFi{%
6309         \Hy@ExchangeLeftParenthesis#2\@nil
6310       }%
6311     \fi
6312   }%
6313   \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6314     #1%
6315     \ifx\#2\| %
6316     \else
6317       \@backslashchar)%
6318       \Hy@ReturnAfterFi{%
6319         \Hy@ExchangeRightParenthesis#2\@nil
6320       }%
6321     \fi
6322   }%
6323 \else
6324 \def\Hy@pstringdef#1#2{%
6325   \begingroup
6326   \edef~{\string~}%

```

```

6327      \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6328      \endgroup
6329      \let#1\Hy@gtemp
6330  }%
6331 \fi
6332 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

6333 <*pdfTeX>

```

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

```

6334 \let\Hy@pdfminorversion\relax
6335 \begingroup\expandafter\expandafter\expandafter\endgroup
6336 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6337   \begingroup\expandafter\expandafter\expandafter\endgroup
6338   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6339     \else
6340       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6341     \fi
6342   \else
6343     \def\Hy@pdfminorversion{\pdfminorversion}%
6344   \fi
6345 \ifundefined{Hy@pdfminorversion}{%
6346   \PackageInfo{hyperref}{%
6347     PDF version is not set, because pdfTeX is too old (<1.10a)%
6348   }%
6349 }{%
6350   \ifHy@setpdfversion
6351     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6352   \else
6353     \Hy@pdfminorversion=\Hy@pdfversion\relax
6354   \fi
6355   \PackageInfo{hyperref}{%
6356     \expandafter\string\Hy@pdfminorversion
6357     :=\number\Hy@pdfversion\space
6358   }%
6359 \fi
6360 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6361 \Hy@DisableOption{pdfversion}%
6362 }

```

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

```

6363 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6364 \ifx\pdfstartlink\@undefined% less than version 14
6365   \let\pdfstartlink\pdfannotlink
6366   \let\pdflinkmargin\@tempdima
6367   \let\pdfxform\pdfform
6368   \let\pdflastxform\pdflastform
6369   \let\pdfrefxform\pdfrefform
6370 \else

```

```
6371 \pdflinkmargin1pt %
6372 \fi
```

First set up the default linking

```
6373 \providecommand*\pdfview{XYZ}
```

First define the anchors:

```
6374 \def\new@pdflink#1{%
6375   \ifHy@verbose
6376     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6377   \fi
6378   \Hy@SaveLastskip
6379   \Hy@pstringdef\Hy@pstringDest{#1}%
6380   \Hy@DestName\Hy@pstringDest\pdfview
6381   \Hy@RestoreLastskip
6382 }
6383 \let\pdf@endanchor\@empty
```

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

```
6384 \def\Hy@DestName#1#2{%
6385   \pdfdest name{#1}#2\relax
6386 }
```

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.

```
6387 \providecommand*\pdfborder{0 0 1}
6388 \providecommand*\pdfborderstyle{}
6389 \def\Hy@undefinedname{UNDEFINED}
6390 \def\find@pdflink#1#2{%
6391   \leavevmode
6392   \protected@edef\Hy@testname{#2}%
6393   \ifx\Hy@testname\@empty
6394     \let\Hy@testname\Hy@undefinedname
6395   \else
6396     \Hy@pstringdef\Hy@testname\Hy@testname
6397   \fi
6398   \Hy@StartlinkName{%
6399     \Hy@setpdfborder
6400     \ifx\@pdfhighlight\@empty
6401       \else
6402         /H\@pdfhighlight
6403       \fi
6404     \ifx\CurrentBorderColor\relax
6405       \else
6406         /C[\CurrentBorderColor]%
6407       \fi
6408   }\Hy@testname
6409   \expandafter\Hy@colorlink\csname @#1color\endcsname
6410 }
6411 \def\Hy@StartlinkName#1#2{%
6412   \pdfstartlink attr{#1}goto name{#2}\relax
6413 }
6414 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
6415 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
6416 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
```

```

6417 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
6418 \def\hyper@linkstart#1#2{%
6419   \@ifundefined{#@1bordercolor}{%
6420     \let\CurrentBorderColor\relax
6421   }{%
6422     \edef\CurrentBorderColor{\csname @1bordercolor\endcsname}%
6423   }%
6424   \find@pdflink{#1}{#2}%
6425 }
6426 \def\hyper@linkend{\close@pdflink}
6427 \def\hyper@link#1#2#3{%
6428   \@ifundefined{#@1bordercolor}{%
6429     \let\CurrentBorderColor\relax
6430   }{%
6431     \edef\CurrentBorderColor{\csname @1bordercolor\endcsname}%
6432   }%
6433   \find@pdflink{#1}{#2}#3\close@pdflink
6434 }
6435 \let\CurrentBorderColor\@linkbordercolor
6436 \def\hyper@linkurl#1#2{%
6437   \begin{group}
6438     \Hy@pstringdef\Hy@pstringURI{#2}%
6439     \hyper@chars
6440     \leavevmode
6441     \pdfstartlink
6442       attr{%
6443         \Hy@setpdfborder
6444         \ifx\@pdfhighlight\@empty
6445         \else
6446           /H\@pdfhighlight
6447         \fi
6448         \ifx\@urlbordercolor\relax
6449         \else
6450           /C[\@urlbordercolor]%
6451         \fi
6452       }%
6453     user{%
6454       /Subtype/Link%
6455       /A<<%
6456         /Type/Action%
6457         /S/URI%
6458         /URI(\Hy@pstringURI)%
6459       >>%
6460     }%
6461     \relax
6462     \Hy@colorlink\@urlcolor#1%
6463     \close@pdflink
6464   \end{group}
6465 }
6466 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
6467   \begin{group}
6468     \Hy@pstringdef\Hy@pstringF{#2}%
6469     \Hy@pstringdef\Hy@pstringD{#3}%
6470     \leavevmode
6471     \pdfstartlink
6472       attr{%
6473         \Hy@setpdfborder

```

```

6474      \ifx\@pdfhighlight\@empty
6475      \else
6476      /H\@pdfhighlight
6477      \fi
6478      \ifx\@filebordercolor\relax
6479      \else
6480      /C[\@filebordercolor]%
6481      \fi
6482  }%
6483  user {%
6484      /Subtype/Link%
6485      /A<%
6486      /F(\Hy@pstringF)%
6487      /S/GoToR%
6488      \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}

```

```

6489      \ifx\#3\%
6490      /D[0 \@pdfstartview]%
6491      \else
6492      /D(\Hy@pstringD)%
6493      \fi
6494      >>%
6495  }%
6496  \relax
6497  \Hy@colorlink\@filecolor#1%
6498  \close@pdflink
6499  \endgroup
6500 }
6501 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6502   \begingroup
6503   \Hy@pstringdef\Hy@pstringF{#1}%
6504   \Hy@pstringdef\Hy@pstringP{#3}%
6505   \leavevmode
6506   \pdfstartlink
6507   attr{%
6508     \Hy@setpdfborder
6509     \ifx\@pdfhighlight\@empty
6510     \else
6511     /H\@pdfhighlight
6512     \fi
6513     \ifx\@runbordercolor\relax
6514     \else
6515     /C[\@runbordercolor]%
6516     \fi
6517   }%
6518   user {%
6519     /Subtype/Link%

```



```

6520      /A<<%
6521      /F(\Hy@pstringF)%
6522      /S/Launch%
6523      \Hy@SetNewWindow
6524      \ifx\\#3\\%
6525      \else
6526      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6527      \fi
6528      >>%
6529      }%
6530      \relax
6531      \Hy@colorlink\@runcolor#2%
6532      \close@pdflink
6533 \endgroup
6534 }

```

\@pdfproducer

```

6535 \ifx\@pdfproducer\relax
6536 \begingroup\expandafter\expandafter\expandafter\endgroup
6537 \expandafter\ifx\csname luatexversion\endcsname\relax
6538 \def\@pdfproducer{pdfTeX}%
6539 \ifx\eTeXversion\@undefined
6540 \else
6541 \ifx\eTeXversion\relax
6542 \else
6543 \ifnum\eTeXversion>0 %
6544 \def\@pdfproducer{pdfTeX}%
6545 \fi
6546 \fi
6547 \fi
6548 \ifx\pdftexversion\@undefined
6549 \else
6550 \ifnum\pdftexversion<100 %
6551 \edef\@pdfproducer{%
6552 \@pdfproducer
6553 \the\pdftexversion.\pdftexrevision
6554 }%
6555 \else
6556 \ifnum\pdftexversion<130 %
6557 \edef\@pdfproducer{%
6558 \@pdfproducer-%
6559 \expandafter\@car\the\pdftexversion\@empty\@nil.%
6560 \expandafter\@cdr\the\pdftexversion\@empty\@nil
6561 \pdftexrevision
6562 }%
6563 \else
6564 \ifnum\pdftexversion<140 %
6565 \else
6566 \def\@pdfproducer{pdfTeX}%
6567 \fi
6568 \edef\@pdfproducer{%
6569 \@pdfproducer-%
6570 \expandafter\@car\the\pdftexversion\@empty\@nil.%
6571 \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
6572 \pdftexrevision
6573 }%
6574 \fi

```

```

6575     \fi
6576     \fi
6577   \else
6578     \begingroup
6579     \count@=\luatexversion
6580     \divide\count@ by 100 %
6581     \edef\x{\the\count@}%
6582     \count@=-\x\relax
6583     \multiply\count@ by 100 %
6584     \advance\count@ by \luatexversion
6585     \edef\x{\endgroup
6586       \def\noexpand\pdfproducer{%
6587         LuaTeX-x.\the\count@.\luatexrevision
6588       }%
6589     }%
6590     \x
6591   \fi
6592 \fi

```

\PDF@SetupDox

```

6593 \def\PDF@SetupDoc{%
6594   \ifx\pdfpagescrop\empty
6595   \else
6596     \edef\process@me{%
6597       \pdfpagesattr={%
6598         /CropBox[\pdfpagescrop]%
6599         \expandafter\ifx\expandafter\the\pdfpagesattr\%
6600         \else
6601           ^^J\the\pdfpagesattr
6602         \fi
6603       }%
6604     }%
6605     \process@me
6606   \fi
6607   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
6608   \pdfcatalog{%
6609     /PageMode/\pdfpagemode
6610     \ifx\@baseurl\empty
6611     \else
6612       /URI<</Base(\Hy@pstringB)>>%
6613     \fi
6614   }%
6615   \ifx\pdfstartpage\empty
6616   \else
6617     \ifx\pdfstartview\empty
6618     \else
6619       openaction goto page\pdfstartpage{\pdfstartview}%
6620     \fi
6621   \fi
6622   \edef\Hy@temp{%
6623     \ifHy@toolbar\else /HideToolbar true\fi
6624     \ifHy@menubar\else /HideMenubar true\fi
6625     \ifHy>windowui\else /HideWindowUI true\fi
6626     \ifHy@fitwindow /FitWindow true\fi
6627     \ifHy@centerwindow /CenterWindow true\fi
6628     \ifHy@displaydoctitle /DisplayDocTitle true\fi
6629     \Hy@UseNameKey{NonFullScreenPageMode}\pdfnonfullscreenpagemode

```

```

6630 \Hy@UseNameKey{Direction}\@pdfdirection
6631 \Hy@UseNameKey{ViewArea}\@pdfviewarea
6632 \Hy@UseNameKey{ViewClip}\@pdfviewclip
6633 \Hy@UseNameKey{PrintArea}\@pdfprintarea
6634 \Hy@UseNameKey{PrintClip}\@pdfprintclip
6635 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
6636 \Hy@UseNameKey{Duplex}\@pdfduplex
6637 \ifx\@pdfpicktraybypdfsize\@empty
6638 \else
6639 /PickTrayByPDFSize \@pdfpicktraybypdfsize
6640 \fi
6641 \ifx\@pdfprintpagerange\@empty
6642 \else
6643 /PrintPageRange[\@pdfprintpagerange]%
6644 \fi
6645 \ifx\@pdfnumcopies\@empty
6646 \else
6647 /NumCopies \@pdfnumcopies
6648 \fi
6649 }%
6650 \pdfcatalog{%
6651 \ifx\Hy@temp\@empty
6652 \else
6653 /ViewerPreferences<<\Hy@temp>>%
6654 \fi
6655 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
6656 \ifx\@pdflang\@empty
6657 \else
6658 /Lang(\@pdflang)%
6659 \fi
6660 }%
6661 }

```

\PDF@FinishDoc

```

6662 \def\PDF@FinishDoc{%
6663 \Hy@UseMaketitleInfos
6664 \pdfinfo{%
6665 /Author(\@pdfauthor)%
6666 /Title(\@pdftitle)%
6667 /Subject(\@pdfsubject)%
6668 /Creator(\@pdfcreator)%
6669 \ifx\@pdfcreationdate\@empty
6670 \else
6671 /CreationDate(\@pdfcreationdate)%
6672 \fi
6673 \ifx\@pdfmoddate\@empty
6674 \else
6675 /ModDate(\@pdfmoddate)%
6676 \fi
6677 \ifx\@pdfproducer\relax
6678 \else
6679 /Producer(\@pdfproducer)%
6680 \fi
6681 /Keywords(\@pdfkeywords)%
6682 }%
6683 \Hy@DisableOption{pdfauthor}%
6684 \Hy@DisableOption{pdftitle}%

```

```

6685 \Hy@DisableOption{pdfsubject}%
6686 \Hy@DisableOption{pdfcreator}%
6687 \Hy@DisableOption{pdfcreationdate}%
6688 \Hy@DisableOption{pdfmoddate}%
6689 \Hy@DisableOption{pdfproducer}%
6690 \Hy@DisableOption{pdfkeywords}%
6691 }

```

`\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`.

```

6692 \def\hyper@pagetransition{%
6693   \ifx\@pdfpagetransition\relax
6694   \else
6695     \expandafter\Hy@RemoveTransPageAttr
6696     \the\pdfpageattr^^J/Trans{>>\END
6697     \ifx\@pdfpagetransition\@empty
6698     \else
6699       \edef\@processme{%
6700         \global\pdfpageattr{%
6701           \the\pdfpageattr
6702           ^^J/Trans << /S /\@pdfpagetransition\space >>%
6703         }%
6704       }%
6705       \@processme
6706     \fi
6707   \fi
6708 }

```

`\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.

```

6709 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
6710   \ifx\#2\%
6711     \global\pdfpageattr{#1}%
6712   \else
6713     \Hy@RemoveTransPageAttr#1#4\END
6714   \fi
6715 }

```

`\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`.

```

6716 \def\hyper@pageduration{%
6717   \ifx\@pdfpageduration\relax
6718   \else
6719     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
6720     \ifx\@pdfpageduration\@empty
6721     \else
6722       \edef\@processme{%
6723         \global\pdfpageattr{%
6724           \the\pdfpageattr
6725           ^^J/Dur \@pdfpageduration\space
6726         }%
6727       }%
6728       \@processme

```

```

6729 \fi
6730 \fi
6731 }

```

`\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.

```

6732 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
6733 \ifx\#2\%
6734 \global\pdfpageattr{#1}%
6735 \else
6736 \Hy@RemoveDurPageAttr#1#4\END
6737 \fi
6738 }

```

`\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).

```

6739 \def\hyper@pagehidden{%
6740 \ifHy@useHidKey
6741 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
6742 \ifHy@pdfpagehidden
6743 \edef\@processme{%
6744 \global\pdfpageattr{%
6745 \the\pdfpageattr
6746 ^^J/Hid true % SPACE
6747 }%
6748 }%
6749 \@processme
6750 \fi
6751 \fi
6752 }

```

`\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.

```

6753 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
6754 \ifx\#2\%
6755 \global\pdfpageattr{#1}%
6756 \else
6757 \Hy@RemoveHidPageAttr#1#4\END
6758 \fi
6759 }

```

```

6760 \g@addto@macro\Hy@EveryPageHook{%
6761 \hyper@pagetransition
6762 \hyper@pageduration
6763 \hyper@pagehidden
6764 }

```

Let us explicitly turn on PDF generation; they can reverse this decision in the document, but since we are emitting PDF links anyway, we *must* be in PDF mode.

```

6765 \pdfoutput=1
6766 \pdfcompresslevel=9
6767 \AtBeginDocument{%

```

```

6768 \ifHy@setpagesize
6769   \expandafter\@firstofone
6770 \else
6771   \expandafter\@gobble
6772 \fi
6773 {%
6774   \@ifclassloaded{seminar}{%
6775     \setlength{\pdfhorigin}{1truein}%
6776     \setlength{\pdfvorigin}{1truein}%
6777     \ifportrait
6778       \ifdim\paperwidth=\z@
6779       \else
6780         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
6781       \fi
6782       \ifdim\paperheight=\z@
6783       \else
6784         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
6785       \fi
6786     \else
6787       \ifdim\paperheight=\z@
6788       \else
6789         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
6790       \fi
6791       \ifdim\paperwidth=\z@
6792       \else
6793         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
6794       \fi
6795     \fi
6796   }{%
6797     \@ifundefined{stockwidth}{%
6798       \ifdim\paperwidth=\z@
6799       \else
6800         \setlength{\pdfpagewidth}{\paperwidth}%
6801       \fi
6802       \ifdim\paperheight=\z@
6803       \else
6804         \setlength{\pdfpageheight}{\paperheight}%
6805       \fi
6806     }{%
6807       \ifdim\stockwidth=\z@
6808       \else
6809         \setlength{\pdfpagewidth}{\stockwidth}%
6810       \fi
6811       \ifdim\stockheight=\z@
6812       \else
6813         \setlength{\pdfpageheight}{\stockheight}%
6814       \fi
6815     }%
6816   }%
6817 }%
6818 \Hy@DisableOption{setpagesize}%
6819 }
6820 \def\Acrobatmenu#1#2{%
6821   \leavevmode
6822   \pdfstartlink
6823   attr{%
6824     \Hy@setpdfborder

```

```

6825     \ifx\@pdfhighlight\@empty
6826     \else
6827     /H\@pdfhighlight
6828     \fi
6829     \ifx\@menubordercolor\relax
6830     \else
6831     /C[\@menubordercolor]%
6832     \fi
6833   }%
6834   user{%
6835     /Subtype/Link%
6836     /A<<%
6837     /S/Named/N/#1%
6838     >>%
6839   }%
6840   \relax
6841   \Hy@colorlink\@menucolor#2\close@pdflink
6842 }
6843 \</pdfTeX>
6844 \<*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.

```

6845 \def\PDF@FinishDoc{}
6846 \def\PDF@SetupDoc{%

```

```

6847 \ifx\@baseurl\@empty
6848 \else
6849 \special{html:<base href="\@baseurl">}%
6850 \fi
6851 }
6852 \def\hyper@anchor#1{%
6853 \Hy@SaveLastskip
6854 \begingroup
6855 \let\protect=\string
6856 \hyper@chars
6857 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
6858 \endgroup
6859 \Hy@activeanchortrue
6860 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
6861 \special{html:</a>}%
6862 \Hy@activeanchorfalse
6863 \Hy@RestoreLastskip
6864 }
6865 \def\hyper@anchorstart#1{%
6866 \Hy@SaveLastskip
6867 \begingroup
6868 \hyper@chars
6869 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
6870 \endgroup
6871 \Hy@activeanchortrue
6872 }
6873 \def\hyper@anchorend{%
6874 \special{html:</a>}%
6875 \Hy@activeanchorfalse
6876 \Hy@RestoreLastskip
6877 }
6878 \def\@urltype{url}
6879 \def\hyper@linkstart#1#2{%
6880 \expandafter\Hy@colorlink\csname @#1color\endcsname
6881 \def\Hy@tempa{#1}%
6882 \ifx\Hy@tempa\@urltype
6883 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
6884 \else
6885 \begingroup
6886 \hyper@chars
6887 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
6888 \endgroup
6889 \fi
6890 }
6891 \def\hyper@linkend{%
6892 \special{html:</a>}%
6893 \Hy@endcolorlink
6894 }
6895 \def\hyper@linkfile#1#2#3{%
6896 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
6897 }
6898 \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.

```

6899 \leavevmode
6900 \ifHy@raiselinks

```



```

6901 \setbox\@tempboxa=\color@hbox #1\color@endbox
6902 \@linkdim\dp\@tempboxa
6903 \lower\@linkdim\hbox{%
6904   \hyper@chars
6905   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
6906 }%
6907 \Hy@colorlink\@urlcolor#1%
6908 \@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).

```

6909 \advance\@linkdim by -6.5\p@
6910 \raise\@linkdim\hbox{\special{html:</a>}}%
6911 \Hy@endcolorlink
6912 \else
6913 \begingroup
6914 \hyper@chars
6915 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
6916 \Hy@colorlink\@urlcolor#1%
6917 \special{html:</a>}}%
6918 \Hy@endcolorlink
6919 \endgroup
6920 \fi
6921 }
6922 \def\hyper@link#1#2#3{%
6923 \hyper@linkurl{#3}{\##2}%
6924 }
6925 \def\hyper@image#1#2{%
6926 \begingroup
6927 \hyper@chars
6928 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
6929 \endgroup
6930 }
6931 </hypertex>
6932 <*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.

```

6933 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
6934 \def\hyper@anchor#1{%
6935 \Hy@SaveLastskip
6936 \begingroup
6937 \let\protect=\string
6938 \special{mark: #1}%
6939 \endgroup

```

```

6940 \Hy@activeanchortrue
6941 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
6942 \Hy@activeanchorfalse
6943 \Hy@RestoreLastskip
6944 }
6945 \def\hyper@anchorstart#1{%
6946 \Hy@SaveLastskip
6947 \special{mark: #1}%
6948 \Hy@activeanchortrue
6949 }
6950 \def\hyper@anchorend{%
6951 \Hy@activeanchorfalse
6952 \Hy@RestoreLastskip
6953 }
6954 \def\hyper@linkstart#1#2{%
6955 \expandafter\Hy@colorlink\csname @#1color\endcsname
6956 \special{button: %
6957 10000000 %
6958 \number\baselineskip\space
6959 #2%
6960 }%
6961 }
6962 \def\hyper@linkend{%
6963 \Hy@endcolorlink
6964 }
6965 \def\hyper@link#1#2#3{%
6966 \setbox\@tempboxa=\color@hbox #3\color@endbox
6967 \leavevmode
6968 \ifHy@raiselinks
6969 \@linkdim\dp\@tempboxa
6970 \lower\@linkdim\hbox{%
6971 \special{button: %
6972 \number\wd\@tempboxa\space
6973 \number\ht\@tempboxa\space
6974 #2%
6975 }%
6976 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
6977 \Hy@endcolorlink
6978 }%
6979 \@linkdim\ht\@tempboxa
6980 \advance\@linkdim by -6.5\p@
6981 \raise\@linkdim\hbox{}}%
6982 \else
6983 \special{button: %
6984 \number\wd\@tempboxa\space
6985 \number\ht\@tempboxa\space
6986 #2%
6987 }%
6988 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
6989 \Hy@endcolorlink
6990 \fi
6991 }
6992 \def\hyper@linkurl#1#2{%
6993 \begingroup
6994 \hyper@chars
6995 \leavevmode
6996 \setbox\@tempboxa=\color@hbox #1\color@endbox

```

```

6997 \ifHy@raiselinks
6998 \@linkdim\dp\@tempboxa
6999 \lower\@linkdim\hbox{%
7000 \special{button: %
7001 \number\wd\@tempboxa\space
7002 \number\ht\@tempboxa\space
7003 launch: \wwwbrowser\space
7004 #2%
7005 }%
7006 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7007 }%
7008 \@linkdim\ht\@tempboxa
7009 \advance\@linkdim by -6.5\p@
7010 \raise\@linkdim\hbox{}%
7011 \else
7012 \special{button: %
7013 \number\wd\@tempboxa\space
7014 \number\ht\@tempboxa\space
7015 launch: \wwwbrowser\space
7016 #2%
7017 }%
7018 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7019 \fi
7020 \endgroup
7021 }
7022 \def\hyper@linkfile#1#2#3{%
7023 \beginingroup
7024 \hyper@chars
7025 \leavevmode
7026 \setbox\@tempboxa=\color@hbox #1\color@endbox
7027 \ifHy@raiselinks
7028 \@linkdim\dp\@tempboxa
7029 \lower\@linkdim\hbox{%
7030 \special{button: %
7031 \number\wd\@tempboxa\space
7032 \number\ht\@tempboxa\space
7033 #3,%
7034 file: #2%
7035 }%
7036 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7037 }%
7038 \@linkdim\ht\@tempboxa
7039 \advance\@linkdim by -6.5\p@
7040 \raise\@linkdim\hbox{}%
7041 \else
7042 \special{button: %
7043 \number\wd\@tempboxa\space
7044 \number\ht\@tempboxa\space
7045 #3,%
7046 file: #2%
7047 }%
7048 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7049 \fi
7050 \endgroup
7051 }
7052 \ifx\@pdfproducer\relax
7053 \def\@pdfproducer{dviwindo + Distiller}%

```

```

7054 \fi
7055 \def\PDF@FinishDoc{%
7056   \Hy@UseMaketitleInfos
7057   \special{PDF: Keywords \@pdfkeywords}%
7058   \special{PDF: Title \@pdftitle}%
7059   \special{PDF: Creator \@pdfcreator}%
7060   \ifx\@pdfcreationdate\@empty
7061   \else
7062     \special{PDF: CreationDate \@pdfcreationdate}%
7063   \fi
7064   \ifx\@pdfmoddate\@empty
7065   \else
7066     \special{PDF: ModDate \@pdfmoddate}%
7067   \fi
7068   \special{PDF: Author \@pdfauthor}%
7069   \ifx\@pdfproducer\relax
7070   \else
7071     \special{PDF: Producer \@pdfproducer}%
7072   \fi
7073   \special{PDF: Subject \@pdfsubject}%
7074   \Hy@DisableOption{pdfauthor}%
7075   \Hy@DisableOption{pdftitle}%
7076   \Hy@DisableOption{pdfsubject}%
7077   \Hy@DisableOption{pdfcreator}%
7078   \Hy@DisableOption{pdfcreationdate}%
7079   \Hy@DisableOption{pdfmoddate}%
7080   \Hy@DisableOption{pdfproducer}%
7081   \Hy@DisableOption{pdfkeywords}%
7082 }
7083 \def\PDF@SetupDoc{%
7084   \ifx\@baseurl\@empty
7085   \else
7086     \special{PDF: Base \@baseurl}%
7087   \fi
7088   \ifx\@pdfpagescrop\@empty\else
7089     \special{PDF: BBox \@pdfpagescrop}%
7090   \fi
7091   \def\Hy@temp{%
7092     \ifx\@pdfstartpage\@empty
7093     \else
7094       \ifx\@pdfstartview\@empty
7095       \else
7096         \edef\Hy@temp{%
7097           ,Page=\@pdfstartpage
7098           ,View=\@pdfstartview
7099         }%
7100       \fi
7101     \fi
7102     \edef\Hy@temp{%
7103       \noexpand\pdfmark{%
7104         pdfmark=/DOCVIEW,%
7105         PageMode=/\@pdfpagemode
7106       }\Hy@temp
7107     }%
7108   }%
7109   \Hy@temp
7110   \ifx\@pdfpagescrop\@empty

```

```

7111 \else
7112   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7113 \fi
7114 \edef\Hy@temp{%
7115   \ifHy@toolbar\else /HideToolbar true\fi
7116   \ifHy@menubar\else /HideMenubar true\fi
7117   \ifHy@windowui\else /HideWindowUI true\fi
7118   \ifHy@fitwindow /FitWindow true\fi
7119   \ifHy@centerwindow /CenterWindow true\fi
7120   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7121   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7122   \Hy@UseNameKey{Direction}\@pdfdirection
7123   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7124   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7125   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7126   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7127   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7128   \Hy@UseNameKey{Duplex}\@pdfduplex
7129   \ifx\@pdfpicktraybypdfsize\@empty
7130   \else
7131     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7132   \fi
7133   \ifx\@pdfprintpagerange\@empty
7134   \else
7135     /PrintPageRange[\@pdfprintpagerange]%
7136   \fi
7137   \ifx\@pdfnumcopies\@empty
7138   \else
7139     /NumCopies \@pdfnumcopies
7140   \fi
7141 }%
7142 \pdfmark{pdfmark=/PUT,%
7143   Raw={%
7144     \string{Catalog}\string}<<%
7145     \ifx\Hy@temp\@empty
7146     \else
7147       /ViewerPreferences<<\Hy@temp>>%
7148     \fi
7149     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7150     \ifx\@pdflang\@empty
7151     \else
7152       /Lang(\@pdflang)%
7153     \fi
7154   >>%
7155 }%
7156 }%
7157 }
7158 </dviwindo>
7159 <*dvi pdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7160 \newsavebox{\pdfm@box}
7161 \def\@pdfm@mark#1{\special{pdf:#1}}
7162 \def\@pdfm@dest#1{%
7163   \Hy@SaveLastskip

```

```

7164 \begingroup
7165   \Hy@pstringdef\Hy@pstringDest{#1}%
7166   \def\x{XYZ}%
7167   \ifx\x\@pdfview
7168     \def\x{XYZ @xpos @ypos null}%
7169   \else
7170     \def\x{FitH}%
7171     \ifx\x\@pdfview
7172       \def\x{FitH @ypos}%
7173     \else
7174       \def\x{FitBH}%
7175       \ifx\x\@pdfview
7176         \def\x{FitBH @ypos}%
7177       \else
7178         \def\x{FitV}%
7179         \ifx\x\@pdfview
7180           \def\x{FitV @xpos}%
7181         \else
7182           \def\x{FitBV}%
7183           \ifx\x\@pdfview
7184             \def\x{FitBV @xpos}%
7185           \else
7186             \def\x{Fit}%
7187             \ifx\x\@pdfview
7188               \let\x\@pdfview
7189             \else
7190               \def\x{FitB}%
7191               \ifx\x\@pdfview
7192                 \let\x\@pdfview
7193               \else
7194                 \def\x{FitR}%
7195                 \ifx\x\@pdfview
7196                   \Hy@Warning{'pdfview=FitR' is not supported}%
7197                   \def\x{XYZ @xpos @ypos null}%
7198                 \else
7199                   \@onelevel@sanitize\@pdfview
7200                   \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7201                   \def\x{XYZ @xpos @ypos null}%
7202                 \fi
7203               \fi
7204             \fi
7205           \fi
7206         \fi
7207       \fi
7208     \fi
7209   \fi
7210   \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7211 \endgroup
7212 \Hy@RestoreLastskip
7213 }
7214 \providecommand*\@pdfview{XYZ}
7215 \providecommand*\@pdfborder{0 0 1}
7216 \providecommand*\@pdfborderstyle{}
7217 \def\hyper@anchor#1{%
7218   \@pdfm@dest{#1}%
7219 }
7220 \def\hyper@anchorstart#1{%

```

```

7221 \Hy@activeanchortrue
7222 \@pdfm@dest{#1}%
7223 }
7224 \def\hyper@anchorend{%
7225 \Hy@activeanchorfalse
7226 }
7227 \def\Hy@undefinedname{UNDEFINED}
7228 \def\hyper@linkstart#1#2{%
7229 \protected@edef\Hy@testname{#2}%
7230 \ifx\Hy@testname\@empty
7231 \let\Hy@testname\Hy@undefinedname
7232 \else
7233 \Hy@pstringdef\Hy@testname\Hy@testname
7234 \fi
7235 \@pdfm@mark{%
7236 bann<<%
7237 /Type/Annot%
7238 /Subtype/Link%
7239 \Hy@setpdfborder
7240 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7241 \else
7242 /C[\csname @#1bordercolor\endcsname]%
7243 \fi
7244 /A<<%
7245 /S/GoTo%
7246 /D(\Hy@testname)%
7247 >>%
7248 >>%
7249 }%
7250 \expandafter\Hy@colorlink\csname @#1color\endcsname
7251 }
7252 \def\hyper@linkend{%
7253 \Hy@endcolorlink
7254 \@pdfm@mark{eann}%
7255 }
7256 \def\hyper@link#1#2#3{%
7257 \hyper@linkstart{#1}{#2}#3\hyper@linkend
7258 }
7259 \def\hyper@linkfile#1#2#3{%
7260 \Hy@pstringdef\Hy@pstringF{#2}%
7261 \Hy@pstringdef\Hy@pstringD{#3}%
7262 \leavevmode
7263 \@pdfm@mark{%
7264 bann<<%
7265 /Type/Annot%
7266 /Subtype/Link%
7267 \Hy@setpdfborder
7268 \ifx\@filebordercolor\relax
7269 \else
7270 /C[\@filebordercolor]%
7271 \fi
7272 /A<<%
7273 /S/GoToR%
7274 /F(\Hy@pstringF)%
7275 /D\ifx\@#3\@0 \pdfstartview\else(\Hy@pstringD)\fi
7276 \Hy@SetNewWindow
7277 >>%

```

```

7278     >>%
7279 }%
7280 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7281 \@pdfm@mark{eann}%
7282 }
7283 \def\hyper@launch run:#1\#2#3{% filename, anchor text linkname
7284 \Hy@pstringdef\Hy@pstringF{#1}%
7285 \Hy@pstringdef\Hy@pstringP{#3}%
7286 \leavevmode
7287 \@pdfm@mark{%
7288     bann<<%
7289     /Type/Annot%
7290     /Subtype/Link%
7291     \Hy@setpdfborder
7292     \ifx\@runbordercolor\relax
7293     \else
7294         /C[\@runbordercolor]%
7295     \fi
7296     /A<<%
7297     /S/Launch%
7298     /F(\Hy@pstringF)%
7299     \Hy@SetNewWindow
7300     \ifx\#3\%
7301     \else
7302         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7303     \fi
7304     >>%
7305 >>%
7306 }%
7307 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
7308 \@pdfm@mark{eann}%
7309 }
7310 \def\hyper@linkurl#1#2{%
7311 \Hy@pstringdef\Hy@pstringURI{#2}%
7312 \leavevmode
7313 \@pdfm@mark{%
7314     bann<<%
7315     /Type/Annot%
7316     /Subtype/Link%
7317     \Hy@setpdfborder
7318     \ifx\@urlbordercolor\relax
7319     \else
7320         /C[\@urlbordercolor]%
7321     \fi
7322     /A<<%
7323     /S/URI%
7324     /URI(\Hy@pstringURI)%
7325     >>%
7326 >>%
7327 }%
7328 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7329 \@pdfm@mark{eann}%
7330 }
7331 \def\Acrobatmenu#1#2{%
7332 \leavevmode
7333 \@pdfm@mark{%
7334     bann<<%

```



```

7335      /Type/Annot%
7336      /Subtype/Link%
7337      /A<<%
7338          /S/Named%
7339          /N/#1%
7340      >>%
7341      \Hy@setpdfborder
7342      \ifx\@menubordercolor\relax
7343      \relax
7344      /C[\@menubordercolor]%
7345      \fi
7346      >>%
7347  }%
7348  \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7349  \@pdfm@mark{eann}%
7350 }
7351 \ifx\@pdfproducer\relax
7352 \def\@pdfproducer{dvipdfm}%

```

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

```

7353 \begingroup\expandafter\expandafter\expandafter\endgroup
7354 \expandafter\ifx\csname XeTeXversion\endcsname\relax
7355 \else
7356 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
7357 \fi
7358 \fi
7359 \def\PDF@FinishDoc{%
7360 \Hy@UseMaketitleInfos
7361 \@pdfm@mark{%
7362   docinfo<<%
7363     /Title(\@pdftitle)%
7364     /Subject(\@pdfsubject)%
7365     /Creator(\@pdfcreator)%
7366     \ifx\@pdfcreationdate\@empty
7367     \else
7368       /CreationDate(\@pdfcreationdate)%
7369     \fi
7370     \ifx\@pdfmoddate\@empty
7371     \else
7372       /ModDate(\@pdfmoddate)%
7373     \fi
7374     /Author(\@pdfauthor)%
7375     \ifx\@pdfproducer\relax
7376     \else
7377       /Producer(\@pdfproducer)%
7378     \fi
7379     /Keywords(\@pdfkeywords)%
7380   >>%
7381 }%
7382 \Hy@DisableOption{pdfauthor}%
7383 \Hy@DisableOption{pdftitle}%
7384 \Hy@DisableOption{pdfsubject}%
7385 \Hy@DisableOption{pdfcreator}%
7386 \Hy@DisableOption{pdfcreationdate}%
7387 \Hy@DisableOption{pdfmoddate}%
7388 \Hy@DisableOption{pdfproducer}%
7389 \Hy@DisableOption{pdfkeywords}%
7390 }

```

```

7391 \def\PDF@SetupDoc{%
7392   \edef\Hy@temp{%
7393     \ifHy@toolbar\else /HideToolbar true\fi
7394     \ifHy@menubar\else /HideMenubar true\fi
7395     \ifHy@windowui\else /HideWindowUI true\fi
7396     \ifHy@fitwindow /FitWindow true\fi
7397     \ifHy@centerwindow /CenterWindow true\fi
7398     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7399     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7400     \Hy@UseNameKey{Direction}\@pdfdirection
7401     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7402     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7403     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7404     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7405     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7406     \Hy@UseNameKey{Duplex}\@pdfduplex
7407     \ifx\@pdfpicktraybypdfsize\@empty
7408     \else
7409       /PickTrayByPDFSize \@pdfpicktraybypdfsize
7410     \fi
7411     \ifx\@pdfprintpagerange\@empty
7412     \else
7413       /PrintPageRange[\@pdfprintpagerange]%
7414     \fi
7415     \ifx\@pdfnumcopies\@empty
7416     \else
7417       /NumCopies \@pdfnumcopies
7418     \fi
7419   }%
7420   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7421   \@pdfm@mark{%
7422     docview<<%
7423       \ifx\@pdfstartpage\@empty
7424       \else
7425         \ifx\@pdfstartview\@empty
7426         \else
7427           /OpenAction[@page\@pdfstartpage\@pdfstartview]%
7428         \fi
7429       \fi
7430       \ifx\@baseurl\@empty
7431       \else
7432         /URI<</Base(\Hy@pstringB)>>%
7433       \fi
7434       /PageMode/\@pdfpagemode
7435       \ifx\Hy@temp\@empty
7436       \else
7437         /ViewerPreferences<<\Hy@temp>>%
7438       \fi
7439       \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7440       \ifx\@pdflang\@empty
7441       \else
7442         /Lang(\@pdflang)%
7443       \fi
7444     >>%
7445   }%
7446   \ifx\@pdfpagescrop\@empty
7447   \else

```

```

7448 \pdfmark{put @pages <</CropBox[\pdfpagescrop]>>}%
7449 \fi
7450 }
7451 </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.

```

7452 <*vtexhtml>
7453 \RequirePackage{vtexhtml}
7454 \newif\if@Localurl
7455 \def\PDF@FinishDoc{}
7456 \def\PDF@SetupDoc{%
7457   \ifx\@baseurl\@empty
7458   \else
7459     \special{!direct <base href="\@baseurl">}%
7460   \fi
7461 }
7462 \def\@urltype{url}
7463 \def\hyper@link#1#2#3{%
7464   \leavevmode
7465   \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}%
7466   #3%
7467   \special{!direct </a>}%
7468 }
7469 \def\hyper@linkurl#1#2{%
7470   \begingroup
7471     \hyper@chars
7472     \leavevmode
7473     \MathBSuppress=1\relax
7474     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
7475     #1%
7476     \MathBSuppress=0\relax
7477     \special{!direct </a>}%
7478   \endgroup
7479 }
7480 \def\hyper@linkfile#1#2#3{%
7481   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7482 }
7483 \def\hyper@linkstart#1#2{%
7484   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
7485     \@Localurltrue
7486     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
7487   \else
7488     \@Localurlfalse
7489     \begingroup
7490       \hyper@chars
7491       \special{!aref #2}%
7492     \endgroup
7493   \fi
7494 }
7495 \def\hyper@linkend{%
7496   \if@Localurl
7497     \special{!endaref}%
7498   \else
7499     \special{!direct </a>}%

```

```

7500 \fi
7501 }
7502 \def\hyper@anchorstart#1{%
7503   \Hy@SaveLastskip
7504   \begingroup
7505     \hyper@chars
7506     \special{!aname #1}%
7507     \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
7508   \endgroup
7509   \Hy@activeanchortrue
7510 }
7511 \def\hyper@anchorend{%
7512   \special{!direct </a>}%
7513   \Hy@activeanchorfalse
7514   \Hy@RestoreLastskip
7515 }
7516 \def\hyper@anchor#1{%
7517   \Hy@SaveLastskip
7518   \begingroup
7519     \let\protect=\string
7520     \hyper@chars
7521     \leavevmode
7522     \special{!aname #1}%
7523     \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
7524   \endgroup
7525   \Hy@activeanchortrue
7526   \bgroup\anchor@spot\egroup
7527   \special{!direct </a>}%
7528   \Hy@activeanchorfalse
7529   \Hy@RestoreLastskip
7530 }
7531 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
7532 \def\@endForm{}
7533 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
7534   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
7535 }
7536 \def\@TextField[#1]#2{% parameters, label
7537   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
7538 }
7539 \def\@CheckBox[#1]#2{% parameters, label
7540   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
7541 }
7542 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
7543   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
7544 }
7545 \def\@PushButton[#1]#2{% parameters, label
7546   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
7547 }
7548 \def\@Reset[#1]#2{%
7549   \typeout{Sorry, TeXpider does not yet support FORMs}%
7550 }
7551 \def\@Submit[#1]#2{%
7552   \typeout{Sorry, TeXpider does not yet support FORMs}%
7553 }
7554 \end{vtexhtml}
7555 \end{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.

```

7556 \ifx\mediaheight\@undefined
7557 \else
7558   \ifx\mediaheight\relax
7559   \else
7560     \ifHy@setpagesize
7561       \providecommand*\VTexInitMediaSize{%
7562         \ifundefined{stockwidth}{%
7563           \ifdim\paperheight>0pt %
7564             \setlength\mediaheight\paperheight
7565           \fi
7566           \ifdim\paperheight>0pt %
7567             \setlength\mediawidth\paperwidth
7568           \fi
7569         }{%
7570           \ifdim\stockheight>0pt %
7571             \setlength\mediaheight\stockheight
7572           \fi
7573           \ifdim\stockwidth>0pt %
7574             \setlength\mediawidth\stockwidth
7575           \fi
7576         }%
7577       }%
7578     \AtBeginDocument{\VTexInitMediaSize}%
7579   \fi
7580   \Hy@DisableOption{setpagesize}%
7581 \fi
7582 \fi

```

Older versions of VTeX require xyz in lower case.

```

7583 \providecommand*\@pdfview{xyz}
7584 \providecommand*\@pdfborder{0 0 1}
7585 \providecommand*\@pdfborderstyle{}
7586 \let\CurrentBorderColor\@linkbordercolor
7587 \def\hyper@anchor#1{%
7588   \Hy@SaveLastskip
7589   \begingroup
7590     \let\protect=\string
7591     \hyper@chars
7592     \special{!aname #1;\@pdfview}%
7593   \endgroup
7594   \Hy@activeanchortrue
7595   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7596   \Hy@activeanchorfalse
7597   \Hy@RestoreLastskip
7598 }
7599 \def\hyper@anchorstart#1{%
7600   \Hy@SaveLastskip
7601   \begingroup
7602     \hyper@chars
7603     \special{!aname #1;\@pdfview}%
7604   \endgroup
7605   \Hy@activeanchortrue
7606 }
7607 \def\hyper@anchorend{%
7608   \Hy@activeanchorfalse

```

```

7609 \Hy@RestoreLastskip
7610 }
7611 \def\@urltype{url}
7612 \def\Hy@undefinedname{UNDEFINED}
7613 \def\hyper@linkstart#1#2{%
7614 \Hy@pstringdef\Hy@pstringURI{#2}%
7615 \expandafter\Hy@colorlink\csname @#1color\endcsname
7616 \@ifundefined{#@#1bordercolor}{%
7617 \let\CurrentBorderColor\relax
7618 }{%
7619 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7620 }%
7621 \def\Hy@tempa{#1}%
7622 \ifx\Hy@tempa\@urltype
7623 \special{!%
7624 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
7625 a=<%
7626 \Hy@setpdfborder
7627 \ifx\CurrentBorderColor\relax
7628 \else
7629 /C [\CurrentBorderColor]%
7630 \fi
7631 >%
7632 }%
7633 \else
7634 \protected@edef\Hy@testname{#2}%
7635 \ifx\Hy@testname\@empty
7636 \let\Hy@testname\Hy@undefinedname
7637 \fi
7638 \special{!%
7639 aref \Hy@testname;%
7640 a=<%
7641 \Hy@setpdfborder
7642 \ifx\CurrentBorderColor\relax
7643 \else
7644 /C [\CurrentBorderColor]%
7645 \fi
7646 >%
7647 }%
7648 \fi
7649 }
7650 \def\hyper@linkend{%
7651 \special{!endaref}%
7652 \Hy@endcolorlink
7653 }
7654 \def\hyper@linkfile#1#2#3{%
7655 \leavevmode
7656 \special{!%
7657 aref <%
7658 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
7659 f=#2>#3;%
7660 a=<%
7661 \Hy@setpdfborder
7662 \ifx\@filebordercolor\relax
7663 \else
7664 /C [\@filebordercolor]%
7665 \fi

```

```

7666 >%
7667 }%
7668 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7669 \special{!endaref}%
7670 }
7671 \def\hyper@linkurl#1#2{%
7672 \begingroup
7673 \Hy@pstringdef\Hy@pstringURI{#2}%
7674 \hyper@chars
7675 \leavevmode
7676 \special{!%
7677   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
7678   a=<%
7679     \Hy@setpdfborder
7680     \ifx\@urlbordercolor\relax
7681     \else
7682       /C [\@urlbordercolor]%
7683     \fi
7684   >%
7685   }%
7686   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7687   \special{!endaref}%
7688 \endgroup
7689 }
7690 \def\hyper@link#1#2#3{%
7691 \@ifundefined{#@1bordercolor}{%
7692 \let\CurrentBorderColor\relax
7693 }{%
7694 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7695 }%
7696 \leavevmode
7697 \protected@edef\Hy@testname{#2}%
7698 \ifx\Hy@testname\@empty
7699 \let\Hy@testname\Hy@undefinedname
7700 \fi
7701 \special{!%
7702   aref \Hy@testname;%
7703   a=<%
7704     \Hy@setpdfborder
7705     \ifx\CurrentBorderColor\relax
7706     \else
7707       /C [\CurrentBorderColor]%
7708     \fi
7709   >%
7710   }%
7711 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
7712 \special{!endaref}%
7713 }
7714 \def\hyper@image#1#2{%
7715 \hyper@linkurl{#2}{#1}%
7716 }
7717 \def\@hyper@launch run:#1\#2#3{%
7718 \Hy@pstringdef\Hy@pstringF{#1}%
7719 \Hy@pstringdef\Hy@pstringP{#3}%
7720 \leavevmode
7721 \special{!aref %
7722   <u=%

```

```

7723      /Type/Action%
7724      /S/Launch%
7725      /F(\Hy@pstringF)%
7726      \Hy@SetNewWindow
7727      \ifx\#3\\\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
7728    >%
7729    a=<%
7730      \Hy@setpdfborder
7731      \ifx\@runbordercolor\relax
7732      \else
7733        /C[\@runbordercolor]%
7734      \fi
7735    >%
7736  }%
7737  \Hy@colorlink\@runcolor#2\Hy@endcolorlink
7738  \special{!endaref}%
7739 }
7740 \def\Acrobatmenu#1#2{%
7741   \leavevmode
7742   \special{!%
7743     aref <u=/S /Named /N /#1>;%
7744     a=<%
7745       \Hy@setpdfborder
7746       \ifx\@menubordercolor\relax
7747       \else
7748         /C[\@menubordercolor]%
7749       \fi
7750     >%
7751   }%
7752   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7753   \special{!endaref}%
7754 }

```

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

The code below makes sense for V_TE_X 7.02 or later.

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

```

7755 \ifnum\Hy@VTeXversion<702 %
7756 \else
7757   \def\hyper@pagetransition{%
7758     \ifx\@pdfpagetransition\relax
7759     \else
7760       \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

7761     \else
7762       \hvtex@parse@trans\@pdfpagetransition
7763     \fi
7764   \fi
7765 }%

```

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

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

```

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

```



```

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

```

Transition codes:

```

7766 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
7767 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
7768 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
7769 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
7770 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
7771 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
7772 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

7773 \def\hvtex@par@dimension{/Dm}%
7774 \def\hvtex@par@direction{/Di}%
7775 \def\hvtex@par@duration{/D}%
7776 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

7777 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

7778 \def\hvtex@gettoken@#1 #2\@nil{%
7779   \edef\hvtex@token{#1}%
7780   \edef\hvtex@buffer{#2}%
7781 }%
7782 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

7783 \let\hvtex@trans@code\@empty
7784 \let\hvtex@param@dimension\@empty
7785 \let\hvtex@param@direction\@empty
7786 \let\hvtex@param@duration\@empty
7787 \let\hvtex@param@motion\@empty
7788 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

7789 \hvtex@gettoken
7790 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

7791   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

7792   \else
7793     \hvtex@gettoken
7794   \fi
7795 \fi
7796 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```
7797 \hvtex@trans@params
7798 }%
```

Reentrant macro to parse optional parameters.

```
7799 \def\hvtex@trans@params{%
7800 \ifx\hvtex@buffer\@empty
7801 \else
7802 \hvtex@gettoken
7803 \let\hvtex@trans@par\hvtex@token
7804 \ifx\hvtex@buffer\@empty
7805 \else
7806 \hvtex@gettoken
7807 \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
7808 \let\hvtex@param@duration\hvtex@token
7809 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
7810 \expandafter\edef\expandafter\hvtex@param@motion
7811 \expandafter{\expandafter\@gobble\hvtex@token}%
7812 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
7813 \expandafter\edef\expandafter\hvtex@param@dimension
7814 \expandafter{\expandafter\@gobble\hvtex@token}%
7815 \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).

```
7816 \let\hvtex@param@direction\hvtex@token
7817 \fi\fi\fi\fi
7818 \fi
7819 \fi
7820 \ifx\hvtex@buffer\@empty
7821 \let\next\hvtex@produce@trans
7822 \else
7823 \let\next\hvtex@trans@params
7824 \fi
7825 \next
7826 }%
```

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

```
7827 \def\hvtex@produce@trans{%
7828 \let\vtex@trans@special\@empty
7829 \if S\hvtex@trans@code
7830 \edef\vtex@trans@special{\hvtex@trans@code
7831 \hvtex@param@dimension\hvtex@param@motion}%
7832 \else\if B\hvtex@trans@code
7833 \edef\vtex@trans@special{%
7834 \hvtex@trans@code\hvtex@param@dimension
7835 }%
7836 \else\if X\hvtex@trans@code
7837 \edef\vtex@trans@special{%
7838 \hvtex@trans@code\hvtex@param@motion
7839 }%
7840 \else\if W\hvtex@trans@code
```

```

7841     \edef\vtex@trans@special{%
7842       \hvtex@trans@code\hvtex@param@direction
7843     }%
7844     \else\if D\hvtex@trans@code
7845       \let\vtex@trans@special\hvtex@trans@code
7846     \else\if R\hvtex@trans@code
7847       \let\vtex@trans@special\hvtex@trans@code
7848     \else\if G\hvtex@trans@code
7849       \edef\vtex@trans@special{%
7850         \hvtex@trans@code\hvtex@param@direction
7851       }%
7852     \fi\fi\fi\fi\fi\fi
7853     \ifx\vtex@trans@special\@empty
7854     \else
7855       \ifx\hvtex@param@duration\@empty
7856       \else
7857         \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

7858       \multiply\dimen@\@m
7859       \edef\vtex@trans@special{%
7860         \vtex@trans@special,\strip@pt\dimen@
7861       }%
7862     \fi

```

And all the mess is just for this.

```

7863     \special{!trans \vtex@trans@special}%
7864     \fi
7865   }%
7866   \def\hyper@pageduration{%
7867     \ifx\@pdfpageduration\relax
7868     \else
7869       \ifx\@pdfpageduration\@empty
7870       \special{!duration-}%
7871     \else
7872       \special{!duration \@pdfpageduration}%
7873     \fi
7874   \fi
7875 }%
7876 \def\hyper@pagehidden{%
7877   \ifHy@useHidKey
7878   \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
7879   \fi
7880 }%
7881 \g@addto@macro\Hy@EveryPageBoxHook{%
7882   \hyper@pagetransition
7883   \hyper@pageduration
7884   \hyper@pagehidden
7885 }%
7886 \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

```

7887 \ifx\@pdfproducer\relax
7888   \def\@pdfproducer{VTeX}%
7889   \ifnum\Hy@VTeXversion>\z@
7890     \count@\VTeXversion
7891     \divide\count@ 100 %
7892     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
7893     \multiply\count@ -100 %
7894     \advance\count@\VTeXversion
7895     \edef\@pdfproducer{%
7896       \@pdfproducer
7897       .\ifnum\count@<10 0\fi\the\count@
7898       \ifx\VTeXOS\@undefined\else
7899         \ifnum\VTeXOS>0 %
7900           \ifnum\VTeXOS<6 %
7901             \space(
7902             \ifcase\VTeXOS
7903               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
7904             \fi
7905             )%
7906           \fi
7907         \fi
7908       \fi
7909       ,\space
7910       \ifnum\OpMode=\@ne PDF\else PS\fi
7911       \space backend%
7912       \ifx\gexmode\@undefined\else
7913         \ifnum\gexmode>\z@\space with GeX\fi
7914       \fi
7915     }%
7916   \fi
7917 \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).

```

7918 \def\PDF@SetupDoc{%
7919   \ifx\@pdfpagescrop\@empty
7920   \else
7921     \special{!pdfinfo b=<\@pdfpagescrop>}%
7922   \fi

```

```

7923 \ifx\@pdfstartpage\@empty
7924 \else
7925 \ifx\@pdfstartview\@empty
7926 \else
7927 \special{!onopen Page\@pdfstartpage}%
7928 \fi
7929 \fi
7930 \special{!pdfinfo p=</\@pdfpagemode>}%
7931 \ifx\@baseurl\@empty
7932 \else
7933 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
7934 \fi
7935 \special{!pdfinfo v=<<<%
7936 \ifHy@toolbar\else /HideToolbar true\fi
7937 \ifHy@menubar\else /HideMenubar true\fi
7938 \ifHy@windowui\else /HideWindowUI true\fi
7939 \ifHy@fitwindow /FitWindow true\fi
7940 \ifHy@centerwindow /CenterWindow true\fi
7941 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7942 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7943 \Hy@UseNameKey{Direction}\@pdfdirection
7944 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7945 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7946 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7947 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7948 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7949 \Hy@UseNameKey{Duplex}\@pdfduplex
7950 \ifx\@pdfpicktraybypdfsize\@empty
7951 \else
7952 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7953 \fi
7954 \ifx\@pdfprintpagerange\@empty
7955 \else
7956 /PrintPageRange[\@pdfprintpagerange]%
7957 \fi
7958 \ifx\@pdfnumcopies\@empty
7959 \else
7960 /NumCopies \@pdfnumcopies
7961 \fi
7962 >>>}%
7963 \ifx\@pdfpagelayout\@empty
7964 \else
7965 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
7966 \fi
7967 }%
7968 \def\PDF@FinishDoc{%
7969 \Hy@UseMaketitleInfos
7970 \special{!pdfinfo a=<\@pdfauthor>}%
7971 \special{!pdfinfo t=<\@pdftitle>}%
7972 \special{!pdfinfo s=<\@pdfsubject>}%
7973 \special{!pdfinfo c=<\@pdfcreator>}%
7974 \ifx\@pdfproducer\relax
7975 \else
7976 \special{!pdfinfo r=<\@pdfproducer>}%
7977 \fi
7978 \special{!pdfinfo k=<\@pdfkeywords>}%
7979 \Hy@DisableOption{pdfauthor}%

```

```

7980 \Hy@DisableOption{pdftitle}%
7981 \Hy@DisableOption{pdfsubject}%
7982 \Hy@DisableOption{pdfcreator}%
7983 \Hy@DisableOption{pdfcreationdate}%
7984 \Hy@DisableOption{pdfmoddate}%
7985 \Hy@DisableOption{pdfproducer}%
7986 \Hy@DisableOption{pdfkeywords}%
7987 }
7988 </vtex>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

7989 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
7990 <package>\providecommand*\Hy@DistillerDestFix{}%
7991 <*pdfmark | dviwindo>
7992 \def\Hy@DistillerDestFix{%
7993   \begingroup
7994     \let\x\literalps@out

```

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

```

7995   \ifnum \@ifundefined{OpMode}{0}{}%
7996     \@ifundefined{gexmode}{0}{%
7997       \ifnum\gexmode>0 \OpMode\else 0\fi
7998     }>1 %
7999   \def\x##1{%
8000     \immediate\special{!=##1}%
8001   }%
8002 \fi
8003 \x{%
8004   /product where{%
8005     pop %
8006     product(Distiller)search{%
8007       pop pop pop %
8008       version(.)search{%
8009         exch pop exch pop%
8010         (3011)eq{%
8011           gsave %
8012           newpath 0 0 moveto closepath clip%
8013           /Courier findfont 10 scalefont setfont %
8014           72 72 moveto(.)show %
8015           grestore%
8016         }if%
8017       }{pop}ifelse%
8018     }{pop}ifelse%
8019   }if%
8020 }%
8021 \endgroup

```

```

8022 }
8023 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support (dvipdf and pdfmark)

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

```

```

8024 <*pdfmark | dvipdf>
8025 \def\hyper@anchor#1{%
8026   \Hy@SaveLastskip
8027   \begingroup
8028     \pdfmark[\anchor@spot]{%
8029       pdfmark=/DEST,%
8030       linktype=anchor,%
8031       View=/\pdfview \pdfviewparams,%
8032       DestAnchor={#1}%
8033     }%
8034   \endgroup
8035   \Hy@RestoreLastskip
8036 }
8037 <*dvipdf>
8038 \def\hyper@anchorstart#1{\Hy@activeanchortrue}
8039 \def\hyper@anchorend{\Hy@activeanchorfalse}
8040 \def\hyper@linkstart#1#2{%
8041   \expandafter\Hy@colorlink\csname @#1color\endcsname
8042   \xdef\hyper@currentanchor{#2}%
8043 }
8044 \def\hyper@linkend{%
8045   \Hy@endcolorlink
8046 }
8047 </dvipdf>
8048 <*pdfmark>
8049 \ifundefined{hyper@anchorstart}{\endinput}
8050 \def\hyper@anchorstart#1{%
8051   \Hy@SaveLastskip
8052   \literalps@out{H.S}%
8053   \xdef\hyper@currentanchor{#1}%
8054   \Hy@activeanchortrue
8055 }
8056 \def\hyper@anchorend{%
8057   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8058   \pdfmark{%
8059     pdfmark=/DEST,%
8060     linktype=anchor,%
8061     View=/\pdfview \pdfviewparams,%
8062     DestAnchor=\hyper@currentanchor,%

```

```

8063 }%
8064 \Hy@activeanchorfalse
8065 \Hy@RestoreLastskip
8066 }
8067 \def\hyper@linkstart#1#2{%
8068   \ifHy@breaklinks
8069   \else
8070     \leavevmode\hbox\bgroup
8071     \fi
8072     \expandafter\Hy@colorlink\csname @#1color\endcsname
8073     \literalps@out{H.S}%
8074     \xdef\hyper@currentanchor{#2}%
8075     \gdef\hyper@currentlinktype{#1}%
8076 }
8077 \def\hyper@linkend{%
8078   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8079   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8080     \let\Hy@tempcolor\relax
8081   }{%
8082     \edef\Hy@tempcolor{%
8083       \csname @\hyper@currentlinktype bordercolor\endcsname
8084     }%
8085   }%
8086   \pdfmark{%
8087     pdfmark=/ANN,%
8088     linktype=link,%
8089     Subtype=/Link,%
8090     Dest=\hyper@currentanchor,%
8091     AcroHighlight=\@pdfhighlight,%
8092     Border=\@pdfborder,%
8093     BorderStyle=\@pdfborderstyle,%
8094     Color=\Hy@tempcolor,%
8095     Raw=H.B%
8096   }%
8097   \Hy@endcolorlink
8098   \ifHy@breaklinks
8099   \else
8100     \egroup
8101   \fi
8102 }
8103 \langle*pdfmark\rangle

```

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.

```

8104 \beginpgroup
8105   \catcode'P=12 %
8106   \catcode'T=12 %
8107   \lowercase{\endpgroup}
8108   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8109 }
8110 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
8111 \langle/pdfmark\rangle

```

\hyper@pagetransition

```

8112 \def\hyper@pagetransition{%
8113   \ifx\@pdfpagetransition\relax

```



```

8114 \else
8115 \ifx\@pdfpagetransition\@empty
8116 % 1. Does an old entry have to be deleted?
8117 % 2. If 1=yes, how to delete?
8118 \else
8119 \pdfmark{%
8120 pdfmark=/PUT,%
8121 Raw={%
8122 \string{ThisPage\string}%
8123 <</Trans << /S /\@pdfpagetransition\space >> >>%
8124 }%
8125 }%
8126 \fi
8127 \fi
8128 }

```

\hyper@pageduration

```

8129 \def\hyper@pageduration{%
8130 \ifx\@pdfpageduration\relax
8131 \else
8132 \ifx\@pdfpageduration\@empty
8133 % 1. Does an old entry have to be deleted?
8134 % 2. If 1=yes, how to delete?
8135 \else
8136 \pdfmark{%
8137 pdfmark=/PUT,%
8138 Raw={%
8139 \string{ThisPage\string}%
8140 <</Dur \@pdfpageduration>>%
8141 }%
8142 }%
8143 \fi
8144 \fi
8145 }

```

\hyper@pagehidden

```

8146 \def\hyper@pagehidden{%
8147 \ifHy@useHidKey
8148 \pdfmark{%
8149 pdfmark=/PUT,%
8150 Raw={%
8151 \string{ThisPage\string}%
8152 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8153 }%
8154 }%
8155 \fi
8156 }

8157 \g@addto@macro\Hy@EveryPageBoxHook{%
8158 \hyper@pagetransition
8159 \hyper@pageduration
8160 \hyper@pagehidden
8161 }

8162 \pdfmark{
8163 \def\hyper@image#1#2{%
8164 \hyper@linkurl{#2}{#1}%
8165 }

```

```

8166 \def\Hy@undefinedname{UNDEFINED}
8167 \def\hyper@link#1#2#3{%
8168   \@ifundefined{#1bordercolor}{%
8169     \let\Hy@tempcolor\relax
8170   }{%
8171     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
8172   }%
8173   \begingroup
8174     \protected@edef\Hy@testname{#2}%
8175     \ifx\Hy@testname\@empty
8176       \let\Hy@testname\Hy@undefinedname
8177     \fi
8178   \<dvipdf>
8179     \pdfmark[#{3}]{%
8180       pdfmark=/LNK,%
8181       {},{%
8182         linktype={#1},%
8183         AcroHighlight=\@pdfhighlight,%
8184         Border=\@pdfborder,%
8185         BorderStyle=\@pdfborderstyle,%
8186         Color=\Hy@tempcolor,%
8187         Dest=\Hy@testname
8188       }%
8189   \</dvipdf>
8190   \<pdfmarkbase>
8191     \pdfmark[#{3}]{%
8192       Color=\Hy@tempcolor,%
8193       linktype={#1},%
8194       AcroHighlight=\@pdfhighlight,%
8195       Border=\@pdfborder,%
8196       BorderStyle=\@pdfborderstyle,%
8197       pdfmark=/ANN,%
8198       Subtype=/Link,%
8199       Dest=\Hy@testname
8200     }%
8201   \</pdfmarkbase>
8202   \endgroup
8203 }
8204 \newtoks\pdf@docset
8205 \def\PDF@FinishDoc{%
8206   \Hy@UseMaketitleInfos
8207   \let\Hy@temp\@empty
8208   \ifx\@pdfcreationdate\@empty
8209     \else
8210       \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8211     \fi
8212   \ifx\@pdfmoddate\@empty
8213     \else
8214       \expandafter\def\expandafter\Hy@temp\expandafter{%
8215         \Hy@temp
8216         ModDate=\@pdfmoddate,%
8217       }%
8218     \fi
8219   \ifx\@pdfproducer\relax
8220     \else
8221       \expandafter\def\expandafter\Hy@temp\expandafter{%
8222         \Hy@temp

```

```

8223     Producer=\@pdfproducer,%
8224 }%
8225 \fi
8226 \expandafter
8227 \pdfmark\expandafter{%
8228   \Hy@temp
8229   pdfmark=/DOCINFO,%
8230   Title=\@pdftitle,%
8231   Subject=\@pdfsubject,%
8232   Creator=\@pdfcreator,%
8233   Author=\@pdfauthor,%
8234   Keywords=\@pdfkeywords
8235 }%
8236 \Hy@DisableOption{pdfauthor}%
8237 \Hy@DisableOption{pdftitle}%
8238 \Hy@DisableOption{pdfsubject}%
8239 \Hy@DisableOption{pdfcreator}%
8240 \Hy@DisableOption{pdfcreationdate}%
8241 \Hy@DisableOption{pdfmoddate}%
8242 \Hy@DisableOption{pdfproducer}%
8243 \Hy@DisableOption{pdfkeywords}%
8244 }
8245 \def\PDF@SetupDoc{%
8246   \def\Hy@temp{%
8247     \ifx\@pdfstartpage\@empty
8248     \else
8249       \ifx\@pdfstartview\@empty
8250       \else
8251         \edef\Hy@temp{%
8252           ,Page=\@pdfstartpage
8253           ,View=\@pdfstartview
8254         }%
8255       \fi
8256     \fi
8257     \edef\Hy@temp{%
8258       \noexpand\pdfmark{%
8259         pdfmark=/DOCVIEW,%
8260         PageMode=/\@pdfpagemode
8261       }\Hy@temp
8262     }%
8263   }%
8264   \Hy@temp
8265   \ifx\@pdfpagescrop\@empty
8266   \else
8267     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8268   \fi
8269   \edef\Hy@temp{%
8270     \ifHy@toolbar\else /HideToolbar true\fi
8271     \ifHy@menubar\else /HideMenubar true\fi
8272     \ifHy>windowui\else /HideWindowUI true\fi
8273     \ifHy@fitwindow /FitWindow true\fi
8274     \ifHy@centerwindow /CenterWindow true\fi
8275     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8276     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8277     \Hy@UseNameKey{Direction}\@pdfdirection
8278     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8279     \Hy@UseNameKey{ViewClip}\@pdfviewclip

```

```

8280 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8281 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8282 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8283 \Hy@UseNameKey{Duplex}\@pdfduplex
8284 \ifx\@pdfpicktraybypdfsize\@empty
8285 \else
8286 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8287 \fi
8288 \ifx\@pdfprintpagerange\@empty
8289 \else
8290 /PrintPageRange[\@pdfprintpagerange]%
8291 \fi
8292 \ifx\@pdfnumcopies\@empty
8293 \else
8294 /NumCopies \@pdfnumcopies
8295 \fi
8296 }%
8297 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8298 \pdfmark{%
8299 pdfmark=/PUT,%
8300 Raw={%
8301 \string{Catalog\string}<<%
8302 \ifx\Hy@temp\@empty
8303 \else
8304 /ViewerPreferences<<\Hy@temp>>%
8305 \fi
8306 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8307 \ifx\@pdflang\@empty
8308 \else
8309 /Lang(\@pdflang)%
8310 \fi
8311 \ifx\@baseurl\@empty
8312 \else
8313 /URI<</Base(\Hy@pstringB)>>%
8314 \fi
8315 >>%
8316 }%
8317 }%
8318 }
8319 </pdfmark | dvipdf>
8320 <*pdfmarkbase | dvipdf>

```

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.

```

8321 \newif\ifHy@pdfmarkerror
8322 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
8323 \def\pdfmark@[#1]#2{%
8324 \Hy@pdfmarkerrorfalse
8325 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
8326 \@processme
8327 \let\pdf@type\relax
8328 \setkeys{PDF}{#2}%
8329 \ifHy@pdfmarkerror
8330 \else

```

```

8331 \ifx\pdf@type\relax
8332 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
8333 \ifx\#1\%
8334 \else
8335 \pdf@rect{#1}%
8336 \fi
8337 \else
8338 \ifx\#1\%
8339 <*pdfmarkbase>
8340 \literalps@out{%
8341 [\the\pdf@toks\space\pdf@type\space pdfmark%
8342 ]%
8343 </pdfmarkbase>
8344 <dvipdf> \literalps@out{/ANN >>}%
8345 \else
8346 \ifundefined{@\pdf@linktype color}{%
8347 \Hy@colorlink\@linkcolor
8348 }{%
8349 \expandafter\Hy@colorlink
8350 \csname @\pdf@linktype color\endcsname
8351 }%
8352 \pdf@rect{#1}%
8353 <*pdfmarkbase>
8354 \literalps@out{%
8355 [\the\pdf@toks\space\pdf@type\space pdfmark%
8356 ]%
8357 </pdfmarkbase>
8358 <dvipdf> \literalps@out{/ANN >>}%
8359 \Hy@endcolorlink
8360 \fi
8361 \fi
8362 \fi
8363 }

```

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}

```

```

8364 \newsavebox{\pdf@box}
8365 \providecommand*{\Hy@setouterhbox}{\sbox}
8366 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
8367 \def\Hy@DEST{/DEST}
8368 \def\pdf@rect#1{%
8369 <dvipdf> \literalps@out{/ANN \pdf@type\space\the\pdf@toks\space <<#1%
8370 \leavevmode
8371 \ifHy@breaklinks
8372 \Hy@setouterhbox\pdf@box{#1}%
8373 \else
8374 \sbox\pdf@box{#1}%
8375 \fi
8376 \dimen@\ht\pdf@box

```

```

8377 \ifdim\dp\pdf@box=\z@
8378   \literalps@out{H.S}%
8379 \else
8380   \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
8381 \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...).

```

8382 \ifHy@breaklinks
8383   \expandafter\Hy@breaklinksunhbox
8384 \else
8385   \expandafter\box
8386 \fi
8387 \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

8388 \ifdim\dimen@=\z@
8389   \literalps@out{H.R}%
8390 \else
8391   \raise\dimen@\hbox{\literalps@out{H.R}}%
8392 \fi
8393 \ifx\pdf@type\Hy@DEST
8394 \else
8395   \pdf@addtoksx{H.B}%
8396 \fi
8397 }

```

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.

```

8398 \newtoks\pdf@toks
8399 \newtoks\pdf@defaulttoks
8400 \pdf@defaulttoks={}
8401 \def\pdf@addtoks#1#2{%
8402   \edef\@processme{\pdf@toks{\the\pdf@toks\space /#2 #1}}%
8403   \@processme
8404 }
8405 \def\pdf@addtoksx#1{%
8406   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
8407   \@processme
8408 }
8409 \def\PDFdefaults#1{%
8410   \pdf@defaulttoks={#1}%
8411 }

```

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

```

8412 % what is the type of pdfmark?
8413 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
8414 % what is the link type?
8415 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
8416 \def\pdf@linktype{link}
8417 % parameter is a stream of PDF
8418 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
8419 % parameter is a name
8420 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}

```

```

8421 % parameter is a array
8422 \define@key{PDF}{Border}{%
8423   \edef\Hy@temp{#1}%
8424   \ifx\Hy@temp\@empty
8425   \else
8426     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
8427   \fi
8428 }
8429 \let\Hy@BorderArrayPatch\@empty
8430 % parameter is a dictionary
8431 \define@key{PDF}{BorderStyle}{%
8432   \edef\Hy@temp{#1}%
8433   \ifx\Hy@temp\@empty
8434   \else
8435     \pdf@addtoks{<<#1>>}{BS}%
8436   \fi
8437 }
8438 % parameter is a array
8439 \define@key{PDF}{Color}{%
8440   \ifx\relax#1\relax
8441   \else
8442     \pdf@addtoks{[#1]}{Color}% hash-ok
8443   \fi
8444 }
8445 % parameter is a string
8446 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
8447 % parameter is a integer
8448 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
8449 % parameter is a array
8450 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
8451 % parameter is a string
8452 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
8453 % parameter is a string or file
8454 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
8455 % parameter is a destination
8456 \define@key{PDF}{Dest}{%
8457   \Hy@pstringdef\Hy@pstringDest{#1}%
8458   \ifx\Hy@pstringDest\@empty
8459     \Hy@pdfmarkerrortrue
8460     \Hy@Warning{Destination with empty name ignored}%
8461   \else
8462     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8463   \fi
8464 }
8465 \define@key{PDF}{DestAnchor}{%
8466   \Hy@pstringdef\Hy@pstringDest{#1}%
8467   \ifx\Hy@pstringDest\@empty
8468     \Hy@pdfmarkerrortrue
8469     \Hy@Warning{Destination with empty name ignored}%
8470   \else
8471     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8472   \fi
8473 }
8474 % parameter is a string
8475 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
8476 % parameter is a string
8477 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}

```

```

8478 % parameter is a int
8479 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
8480 % parameter is a name
8481 \define@key{PDF}{AcroHighlight}{%
8482   \beginingroup
8483     \edef\x{#1}%
8484     \expandafter\endgroup\ifx\x\@empty
8485     \else
8486       \pdf@addtoks{#1}{H}%
8487     \fi
8488 }
8489 % parameter is a string
8490 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
8491 % parameter is a string
8492 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
8493 % parameter is a string
8494 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
8495 % parameter is a string
8496 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
8497 % parameter is a Boolean
8498 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
8499 % parameter is a integer or name
8500 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
8501 % parameter is a name
8502 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
8503 % parameter is a string
8504 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
8505 % parameter is a array
8506 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
8507 % parameter is a integer
8508 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
8509 % parameter is a name
8510 \pdfmarkbase\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
8511 \dvipdf\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{}}
8512 % parameter is a string
8513 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
8514 % parameter is a string
8515 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
8516 % parameter is a string
8517 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
8518 % parameter is an array
8519 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
8520 % parameter is a string
8521 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

8522 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
8523 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
8524 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
8525 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
8526 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
8527 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
8528 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
8529 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
8530 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
8531 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
8532 </pdfmarkbase | dvipdf>
8533 <*pdfmark | dvipdf>

```



```

8534 \def\Acrobatmenu#1#2{%
8535   \pdfmark[{#2}] {%
8536     linktype=menu,%
8537     pdfmark=/ANN,%
8538     AcroHighlight=\pdfhighlight,%
8539     Border=\pdfborder,%
8540     BorderStyle=\pdfborderstyle,%
8541     Action={<< /Subtype /Named /N /#1 >>},%
8542     Subtype=/Link%
8543   }%
8544 }

```

And now for some useful examples:

```

8545 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
8546 \def\PDFNextPage@[#1]#2{%
8547   \pdfmark[{#2}] {%
8548     #1,%
8549     Border=\pdfborder,%
8550     BorderStyle=\pdfborderstyle,%
8551     Color=.2 .1 .5,%
8552     pdfmark=/ANN,%
8553     Subtype=/Link,%
8554     Page=/Next%
8555   }%
8556 }
8557 \def\PDFPreviousPage{%
8558   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%
8559 }
8560 \def\PDFPreviousPage@[#1]#2{%
8561   \pdfmark[{#2}] {%
8562     #1,%
8563     Border=\pdfborder,%
8564     BorderStyle=\pdfborderstyle,%
8565     Color=.4 .4 .1,%
8566     pdfmark=/ANN,%
8567     Subtype=/Link,%
8568     Page=/Prev%
8569   }%
8570 }
8571 \def\PDFOpen#1{%
8572   \pdfmark{#1,pdfmark=/DOCVIEW}%
8573 }

```

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

```

8574 \def\hyper@linkurl#1#2{%
8575   \begingroup
8576     \Hy@pstringdef\Hy@pstringURI{#2}%
8577     \hyper@chars
8578     \leavevmode
8579   (*pdfmarkbase)
8580     \pdfmark[{#1}] {%
8581       pdfmark=/ANN,%
8582       linktype=url,%
8583       AcroHighlight=\pdfhighlight,%
8584       Border=\pdfborder,%
8585       BorderStyle=\pdfborderstyle,%
8586       Color=\urlbordercolor,%
8587       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%

```

```

8588     Subtype=/Link%
8589   }%
8590 </pdfmarkbase>
8591 <*dvipdf>
8592   \pdfmark[{#1}]{%
8593     pdfmark=/LNK,%
8594     linktype=url,%
8595     AcroHighlight=\@pdfhighlight,%
8596     Border=\@pdfborder,%
8597     BorderStyle=\@pdfborderstyle,%
8598     Color=\@urlbordercolor,%
8599     Action={URI /URI <\Hy@hstringURI>}%
8600   }%
8601 </dvipdf>
8602   \endgroup
8603 }
8604 \def\hyper@linkfile#1#2#3{%
8605   \begingroup
8606     \Hy@pstringdef\Hy@pstringF{#2}%
8607     \Hy@pstringdef\Hy@pstringD{#3}%
8608     \leavevmode
8609 <*pdfmark>
8610   \pdfmark[{#1}]{%
8611     pdfmark=/ANN,%
8612     Subtype=/Link,%
8613     AcroHighlight=\@pdfhighlight,%
8614     Border=\@pdfborder,%
8615     BorderStyle=\@pdfborderstyle,%
8616     linktype=file,%
8617     Color=\@filebordercolor,%
8618     Action={%
8619       <<%
8620         /S/GoToR%
8621         \Hy@SetNewWindow
8622         /F(\Hy@pstringF)%
8623         /D\ifx\#3\[0 \@pdfstartview]\else(\Hy@pstringD)cvn\fi
8624       >>%
8625     }%
8626   }%
8627 </pdfmark>
8628 <*dvipdf>
8629   \pdfmark[{#1}]{%
8630     pdfmark=/LNK,%
8631     linktype=file,%
8632     AcroHighlight=\@pdfhighlight,%
8633     Border=\@pdfborder,%
8634     BorderStyle=\@pdfborderstyle,%
8635     Color=\@filebordercolor,%
8636     Action={%
8637       <<%
8638         /S/GoToR%
8639         \Hy@SetNewWindow
8640         /F(\Hy@pstringF)%
8641         /D\ifx\#3\[0 \@pdfstartview]\else(\Hy@pstringD)cvn\fi
8642       >>%
8643     }%
8644   }%

```

```

8645 </dvipdf>
8646   \endgroup
8647 }
8648 \def\@hyper@launch run:#1\|#2#3{%
8649   \begingroup
8650     \Hy@pstringdef\Hy@pstringF{#1}%
8651     \Hy@pstringdef\Hy@pstringP{#3}%
8652     \leavevmode
8653 <*pdfmark>
8654   \pdfmark[#{#2}]{%
8655     pdfmark=/ANN,%
8656     Subtype=/Link,%
8657     AcroHighlight=\@pdfhighlight,%
8658     Border=\@pdfborder,%
8659     BorderStyle=\@pdfborderstyle,%
8660     linktype=run,%
8661     Color=\@runbordercolor,%
8662     Action={%
8663       <<%
8664         /S/Launch%
8665         \Hy@SetNewWindow
8666         /F(\Hy@pstringF)%
8667         \ifx\|#3\|%
8668         \else
8669           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8670         \fi
8671       >>%
8672     }%
8673   }%
8674 </pdfmark>
8675 <*dvipdf>
8676   \pdfmark[#{#2}]{%
8677     pdfmark=/LNK,%
8678     linktype=file,%
8679     AcroHighlight=\@pdfhighlight,%
8680     Border=\@pdfborder,%
8681     BorderStyle=\@pdfborderstyle,%
8682     Color=\@filebordercolor,%
8683     Action={%
8684       <<%
8685         /S/GoToR%
8686         \Hy@SetNewWindow
8687         /F(\Hy@pstringF)%
8688         \ifx\|#3\|%
8689         \else
8690           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8691         \fi
8692       >>%
8693     }%
8694   }%
8695 </dvipdf>
8696   \endgroup
8697 }
8698 </pdfmark | dvipdf>

```

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.

```
8699 <*dvips>
8700 \input{pdfmark.def}%
8701 \ifx\@pdfproducer\relax
8702   \def\@pdfproducer{dvips + Distiller}%
8703 \fi
8704 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
8705 \def\headerps@out#1{\special{! #1}}%
8706 \providecommand*\@pdfborder{0 0 1}
8707 \providecommand*\@pdfborderstyle{}
8708 \providecommand*\@pdfview{XYZ}
8709 \providecommand*\@pdfviewparams{ H.V}
8710 \def\Hy@BorderArrayPatch{BorderArrayPatch}

8711 \AtBeginShipoutFirst{%
8712   \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.

```
8713   /DvipsToPDF{72.27 mul Resolution div} def%
8714   /PDFToDvips{72.27 div Resolution mul} def%
8715   /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.

```
8716   /BorderArrayPatch{%
8717     [exch%
8718       dup dup type/integertype eq exch type/realtype eq or%
8719       {BPToDvips}if%
8720     ]forall}%
8721   }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.

```
8722   /HyperBorder {1 PDFToDvips} def%
8723   /H.V {pdf@hoff pdf@voff null} def%
8724   /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

```
8725   /H.S {%
8726     currentpoint %
8727     HyperBorder add /pdf@lly exch def %
```

```

8728      dup DvipsToPDF 72 add /pdf@hoff exch def %
8729      HyperBorder sub /pdf@llx exch def%
8730  } 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`

```

8731  /H.L {%
8732    2 sub dup%
8733    /HyperBasePt exch def %
8734    PDFToDvips /HyperBaseDvips exch def %
8735    currentpoint %
8736    HyperBaseDvips sub /pdf@ury exch def%
8737    /pdf@urx exch def%
8738  } def%
8739  /H.A {%
8740    H.L %
8741  % |pdf@voff| = the distance from the top of the page to a point
8742  % |\baselineskip| above the current point in PDF coordinates
8743    currentpoint exch pop %
8744    vsize 72 sub exch DvipsToPDF %
8745    HyperBasePt sub % baseline skip
8746    sub /pdf@voff exch def%
8747  } def%
8748  /H.R {%
8749    currentpoint %
8750    HyperBorder sub /pdf@ury exch def %
8751    HyperBorder add /pdf@urx exch def %
8752  % |pdf@voff| = the distance from the top of the page to the current point, in
8753  % PDF coordinates
8754    currentpoint exch pop vsize 72 sub %
8755    exch DvipsToPDF sub /pdf@voff exch def%
8756  } def %
8757  systemdict /pdfmark known%
8758  {%
8759    userdict /?pdfmark systemdict /exec get put%
8760  }{%
8761    userdict /?pdfmark systemdict /pop get put %
8762    userdict /pdfmark systemdict /cleartomark get put%
8763  }%
8764  ifelse%
8765 }%
8766 }
8767 \AfterBeginDocument{%
8768   \ifx\special@paper\@empty\else
8769     \ifHy@setpagesize
8770       \special{papersize=\special@paper}%
8771     \fi
8772     \Hy@DisableOption{setpagesize}%
8773   \fi
8774 }
8775 </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.

```

8776 <*vtexpdfmark>
8777 \input{pdfmark.def}%
8778 \ifx\@pdfproducer\relax
8779   \ifnum\OpMode=\@ne
8780     \def\@pdfproducer{VTeX}%
8781   \else
8782     \def\@pdfproducer{VTeX + Distiller}%
8783   \fi
8784 \fi
8785 \def\literalps@out#1{\special{pS:#1}}%
8786 \def\headerps@out#1{\immediate\special{pS:#1}}%
8787 \providecommand*\@pdfborder{0 0 1}
8788 \providecommand*\@pdfborderstyle{}
8789 \providecommand*\@pdfview{XYZ}
8790 \providecommand*\@pdfviewparams{ H.V}

8791 \AtBeginShipoutFirst{%
8792   \headerps@out{%
8793     /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.

```

8794   /HyperBorder {1} def%
8795   /H.V {pdf@hoff pdf@voff null} def%
8796   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

8797   /H.S {%
8798     currentpoint %
8799     HyperBorder sub%
8800     /pdf@lly exch def %
8801     dup 72 add /pdf@hoff exch def %
8802     HyperBorder sub%
8803     /pdf@llx exch def%
8804   } def%

```

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

```

8805   /H.L {%
8806     2 sub%
8807     /HyperBasePt exch def %
8808     currentpoint %
8809     HyperBasePt add HyperBorder add%
8810     /pdf@ury exch def %
8811     HyperBorder add%
8812     /pdf@urx exch def%
8813   } def%
8814   /H.A {%
8815     H.L %
8816     currentpoint exch pop %

```

```

8817      vsize 72 sub exch %
8818      HyperBasePt add add%
8819      /pdf@voff exch def%
8820    } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
8821    /H.R {%
8822      currentpoint %
8823      HyperBorder add%
8824      /pdf@ury exch def %
8825      HyperBorder add%
8826      /pdf@urx exch def %
8827      currentpoint exch pop vsize 72 sub add%
8828      /pdf@voff exch def%
8829    } def %
8830    systemdict /pdfmark known%
8831    {%
8832      userdict /?pdfmark systemdict /exec get put%
8833    }{%
8834      userdict /?pdfmark systemdict /pop get put %
8835      userdict /pdfmark systemdict /cleartomark get put%
8836    }%
8837    ifelse%
8838  }%
8839 }
8840 </vtxpdfmark>

```

46.11 Textures

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.

```

8841 <*textures>
8842 \begingroup
8843   \obeylines %
8844   \gdef\Hy@ps@CR{\noexpand
8845     }%
8846 \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`.

```

8847 \def\literalps@out#1{%
8848   \special{postscript 0 0 transform}%

```

```

8849 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
8850 }%
8851 %

```

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.

```

8852 \def\headerps@out#1{%
8853   \special{%
8854     prepostscript TeXdict begin\Hy@ps@CR
8855       #1\Hy@ps@CR
8856     end%
8857   }%
8858 }%
8859 %

```

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.

```

8860 \AtBeginShipoutFirst{%
8861   \headerps@out{%
8862     /betterpdfmark {%
8863       systemdict begin %
8864         dup /BP eq%
8865         {cleartomark gsave nulldevice []}%
8866         {dup /EP eq%
8867           {cleartomark cleartomark grestore}%
8868           {cleartomark}%
8869         }ifelse%
8870       }ifelse %
8871     end%
8872   }def\Hy@ps@CR
8873   __pdfmark__ not{/pdfmark /betterpdfmark load def}if %
8874   systemdict /pdfmark known%
8875   {%
8876     userdict /?pdfmark systemdict /load get put%
8877   }{%
8878     userdict /?pdfmark systemdict /pop get put%
8879   }%
8880   ifelse%
8881 }% end of \headerps@out
8882 }% end of \AtBeginShipoutFirst
8883 %
8884 \input{pdfmark.def}%
8885 %
8886 \ifx\@pdfproducer\relax
8887   \def\@pdfproducer{Textures + Distiller}%
8888 \fi
8889 \providecommand*\@pdfborder{0 0 1}
8890 \providecommand*\@pdfborderstyle{}
8891 \providecommand*\@pdfview{XYZ}
8892 \providecommand*\@pdfviewparams{ H.V}
8893 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

8894 \headerps@out{%

```


Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

8895 /vsize {\Hy@pageheight} def%
8896 /DvipsToPDF {} def%
8897 /PDFToDvips {} def%
8898 /BPToDvips {} def%
8899 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
8900 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
8901 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
8902 /H.S {%
8903   currentpoint %
8904   HyperBorder add /pdf@lly exch def %
8905   dup DvipsToPDF 72 add /pdf@hoff exch def %
8906   HyperBorder sub /pdf@llx exch def%
8907 } def\Hy@ps@CR
8908 /H.L {%
8909   2 sub %
8910   PDFToDvips /HyperBase exch def %
8911   currentpoint %
8912   HyperBase sub /pdf@ury exch def%
8913   /pdf@urx exch def%
8914 } def\Hy@ps@CR
8915 /H.A {%
8916   H.L %
8917   currentpoint exch pop %
8918   vsize 72 sub exch DvipsToPDF %
8919   HyperBase sub % baseline skip
8920   sub /pdf@voff exch def%
8921 } def\Hy@ps@CR
8922 /H.R {%
8923   currentpoint %
8924   HyperBorder sub /pdf@ury exch def %
8925   HyperBorder add /pdf@urx exch def %
8926   currentpoint exch pop vsize 72 sub %
8927   exch DvipsToPDF sub /pdf@voff exch def%
8928 } def\Hy@ps@CR
8929 }

8930 \AfterBeginDocument{%
8931   \ifHy@colorlinks
8932     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
8933   \fi
8934 }

```

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.

```

8935 \expandafter\let\expandafter\keepPDF@SetupDoc
8936 \csname PDF@SetupDoc\endcsname
8937 \def\PDF@SetupDoc{%
8938   \ifx\@baseurl\@empty
8939   \else
8940     \special{html:<base href="\@baseurl">}%
8941   \fi
8942   \keepPDF@SetupDoc
8943 }
8944 \def\hyper@anchor#1{%
8945   \Hy@SaveLastskip
8946   \begingroup

```

```

8947 \let\protect=\string
8948 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
8949 \endgroup
8950 \Hy@activeanchortrue
8951 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8952 \special{html:</a>}%
8953 \Hy@activeanchorfalse
8954 \Hy@RestoreLastskip
8955 }
8956 \def\hyper@anchorstart#1{%
8957 \Hy@SaveLastskip
8958 \begingroup
8959 \hyper@chars
8960 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
8961 \endgroup
8962 \Hy@activeanchortrue
8963 }
8964 \def\hyper@anchorend{%
8965 \special{html:</a>}%
8966 \Hy@activeanchorfalse
8967 \Hy@RestoreLastskip
8968 }
8969 \def\@urltype{url}
8970 \def\hyper@linkstart#1#2{%
8971 \expandafter\Hy@colorlink\csname @#1color\endcsname
8972 \def\Hy@tempa{#1}%
8973 \ifx\Hy@tempa\@urltype
8974 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8975 \else
8976 \begingroup
8977 \hyper@chars
8978 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
8979 \endgroup
8980 \fi
8981 }
8982 \def\hyper@linkend{%
8983 \special{html:</a>}%
8984 \Hy@endcolorlink
8985 }
8986 \def\hyper@linkfile#1#2#3{%
8987 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
8988 }
8989 \def\hyper@linkurl#1#2{%
8990 \leavevmode
8991 \ifHy@raiselinks
8992 \setbox\@tempboxa=\color@hbox #1\color@endbox
8993 \@linkdim\dp\@tempboxa
8994 \lower\@linkdim\hbox{%
8995 \hyper@chars
8996 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
8997 }%
8998 \Hy@colorlink\@urlcolor#1%
8999 \@linkdim\ht\@tempboxa
9000 \advance\@linkdim by -6.5\p@
9001 \raise\@linkdim\hbox{\special{html:</a>}}%
9002 \Hy@endcolorlink
9003 \else

```

```

9004     \begingroup
9005     \hyper@chars
9006     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9007     \Hy@colorlink\@urlcolor#1%
9008     \special{html:</a>}%
9009     \Hy@endcolorlink
9010     \endgroup
9011     \fi
9012 }
9013 \def\hyper@link#1#2#3{%
9014     \hyper@linkurl{#3}{\##2}%
9015 }
9016 \def\hyper@image#1#2{%
9017     \begingroup
9018     \hyper@chars
9019     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9020     \endgroup
9021 }
9022 </textures>

```

46.12 dvipsone

```

9023 % \subsection{dvipsone driver}
9024 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9025 % |\special| commands.
9026 <*dvipsone>
9027 \providecommand*\@pdfborder{0 0 1}
9028 \providecommand*\@pdfborderstyle{}
9029 \input{pdfmark.def}%
9030 \ifx\@pdfproducer\relax
9031     \def\@pdfproducer{dvipsone + Distiller}%
9032 \fi
9033 \def\literalps@out#1{\special{ps:#1}}%
9034 \def\headerps@out#1{\special{! #1}}%
9035 \def\PDF@FinishDoc{%
9036     \Hy@UseMaketitleInfos
9037     \special{PDF: Keywords \@pdfkeywords}%
9038     \special{PDF: Title \@pdftitle}%
9039     \special{PDF: Creator \@pdfcreator}%
9040     \ifx\@pdfcreationdate\@empty
9041     \else
9042         \special{PDF: CreationDate \@pdfcreationdate}%
9043     \fi
9044     \ifx\@pdfmoddate\@empty
9045     \else
9046         \special{PDF: ModDate \@pdfmoddate}%
9047     \fi
9048     \special{PDF: Author \@pdfauthor}%
9049     \ifx\@pdfproducer\relax
9050     \else
9051         \special{PDF: Producer \@pdfproducer}%
9052     \fi
9053     \special{PDF: Subject \@pdfsubject}%
9054     \Hy@DisableOption{pdfauthor}%
9055     \Hy@DisableOption{pdftitle}%
9056     \Hy@DisableOption{pdfsubject}%
9057     \Hy@DisableOption{pdfcreator}%

```

```

9058 \Hy@DisableOption{pdfcreationdate}%
9059 \Hy@DisableOption{pdfmoddate}%
9060 \Hy@DisableOption{pdfproducer}%
9061 \Hy@DisableOption{pdfkeywords}%
9062 }
9063 \def\PDF@SetupDoc{%
9064   \def\Hy@temp{%
9065     \ifx\@pdfstartpage\@empty
9066     \else
9067       \ifx\@pdfstartview\@empty
9068       \else
9069         \edef\Hy@temp{%
9070           ,Page=\@pdfstartpage
9071           ,View=\@pdfstartview
9072         }%
9073       \fi
9074     \fi
9075     \edef\Hy@temp{%
9076       \noexpand\pdfmark{%
9077         pdfmark=/DOCVIEW,%
9078         PageMode=/\@pdfpagemode
9079       }\Hy@temp
9080     }%
9081   }%
9082   \Hy@temp
9083   \ifx\@pdfpagescrop\@empty
9084   \else
9085     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9086   \fi
9087   \edef\Hy@temp{%
9088     \ifHy@toolbar\else /HideToolbar true\fi
9089     \ifHy@menubar\else /HideMenubar true\fi
9090     \ifHy>windowui\else /HideWindowUI true\fi
9091     \ifHy@fitwindow /FitWindow true\fi
9092     \ifHy@centerwindow /CenterWindow true\fi
9093     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9094     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9095     \Hy@UseNameKey{Direction}\@pdfdirection
9096     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9097     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9098     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9099     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9100     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9101     \Hy@UseNameKey{Duplex}\@pdfduplex
9102     \ifx\@pdfpicktraybypdfsize\@empty
9103     \else
9104       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9105     \fi
9106     \ifx\@pdfprintpagerange\@empty
9107     \else
9108       /PrintPageRange[\@pdfprintpagerange]%
9109     \fi
9110     \ifx\@pdfnumcopies\@empty
9111     \else
9112       /NumCopies \@pdfnumcopies
9113     \fi
9114   }%

```

```

9115 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9116 \pdfmark{%
9117   pdfmark=/PUT,%
9118   Raw={%
9119     \string{Catalog\string}<<%
9120     \ifx\Hy@temp\@empty
9121     \else
9122       /ViewerPreferences<<\Hy@temp>>%
9123     \fi
9124     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9125     \ifx\@pdflang\@empty
9126     \else
9127       /Lang(\@pdflang)%
9128     \fi
9129     \ifx\@baseurl\@empty
9130     \else
9131       /URI<</Base(\Hy@pstringB)>>%
9132     \fi
9133   >>%
9134 }%
9135 }%
9136 }
9137 \providecommand*\@pdfview{XYZ}
9138 \providecommand*\@pdfviewparams{ %
9139   gsave revscl currentpoint grestore %
9140   72 add exch pop null exch null%
9141 }
9142 \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.

```

9143 \special{headertext=%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9144 /DvipsToPDF { 65781 div } def%
9145 /PDFToDvips { 65781 mul } def%
9146 /BPToDvips{65781 mul}def%
9147 /HyperBorder { 1 PDFToDvips } def%
9148 /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.

```

9149 /BorderArrayPatch{%
9150   [exch{%
9151     dup dup type/integertype eq exch type/realtype eq or%
9152     {BPToDvips}if%
9153   }forall]%
9154 }def%
9155 /H.S {%
9156   currentpoint %
9157   HyperBorder add /pdf@lly exch def %
9158   dup DvipsToPDF 72 add /pdf@hoff exch def %
9159   HyperBorder sub /pdf@llx exch def%
9160 } def%
9161 /H.L {%

```

```

9162 2 sub %
9163 PDFToDvips /HyperBase exch def %
9164 currentpoint %
9165 HyperBase sub /pdf@ury exch def%
9166 /pdf@urx exch def%
9167 } def%
9168 /H.A {%
9169 H.L %
9170 currentpoint exch pop %
9171 HyperBase sub % baseline skip
9172 DvipsToPDF /pdf@voff exch def%
9173 } def%
9174 /H.R {%
9175 currentpoint %
9176 HyperBorder sub /pdf@ury exch def %
9177 HyperBorder add /pdf@urx exch def %
9178 currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9179 } def %
9180 systemdict%
9181 /pdfmark known%
9182 {%
9183 userdict /?pdfmark /exec load put%
9184 }{%
9185 userdict /?pdfmark /pop load put %
9186 userdict /pdfmark systemdict /cleartomark get put%
9187 }%
9188 ifelse%
9189 }
9190 </dvipsone>
9191 <*dvipdf>
9192 \def\literalps@out#1{\special{pdf: #1}}%
9193 \providecommand*\@pdfborder{0 0 1}
9194 \providecommand*\@pdfborderstyle{}
9195 </dvipdf>

```

46.13 TeX4ht

```

9196 <*tex4ht>
9197 \@ifpackageloaded{tex4ht}{%
9198 \typeout{hyperref tex4ht: tex4ht already loaded}%
9199 }{%
9200 \RequirePackage[htex4ht]{tex4ht}%
9201 }
9202 \hyperlinkfileprefix{}
9203 \def\PDF@FinishDoc{}
9204 \def\PDF@SetupDoc{%
9205 \ifx\@baseurl\@empty
9206 \else
9207 \special{t4ht=<base href="\@baseurl">}%
9208 \fi
9209 }
9210 \def\hyper@anchor#1{%
9211 \Hy@SaveLastskip
9212 \begingroup
9213 \let\protect=\string
9214 \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
9215 \endgroup
9216 \Hy@activeanchortrue

```

```

9217 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9218 \special{t4ht=</a>}%
9219 \Hy@activeanchorfalse
9220 \Hy@RestoreLastskip
9221 }
9222 \def\hyper@anchorstart#1{%
9223 \Hy@SaveLastskip
9224 \begingroup
9225 \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}%
9226 \endgroup
9227 \Hy@activeanchortrue
9228 }
9229 \def\hyper@anchorend{%
9230 \special{t4ht=</a>}%
9231 \Hy@activeanchorfalse
9232 \Hy@RestoreLastskip
9233 }
9234 \def\@urltype{url}
9235 \def\hyper@linkstart#1#2{%
9236 \expandafter\Hy@colorlink\csname @#1color\endcsname
9237 \def\Hy@tempa{#1}%
9238 \ifx\Hy@tempa\@urltype
9239 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9240 \else
9241 \begingroup
9242 \hyper@chars
9243 \special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}%
9244 \endgroup
9245 \fi
9246 }
9247 \def\hyper@linkend{%
9248 \special{t4ht=</a>}%
9249 \Hy@endcolorlink
9250 }
9251 \def\hyper@linkfile#1#2#3{%
9252 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\#3\\\else\##3\fi}%
9253 }
9254 \def\hyper@linkurl#1#2{%
9255 \leavevmode
9256 \ifHy@raiselinks
9257 \setbox\@tempboxa=\color@hbox #1\color@endbox
9258 \@linkdim\dp\@tempboxa
9259 \lower\@linkdim\hbox{%
9260 \begingroup
9261 \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9262 \endgroup
9263 }%
9264 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9265 \@linkdim\ht\@tempboxa
9266 \advance\@linkdim by -6.5\p@
9267 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9268 \else
9269 \begingroup
9270 \hyper@chars
9271 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9272 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9273 \special{t4ht=</a>}%

```

```

9274 \endgroup
9275 \fi
9276 }
9277 \def\hyper@link#1#2#3{%
9278 \hyper@linkurl{#3}{\##2}%
9279 }
9280 \def\hyper@image#1#2{%
9281 \beginingroup
9282 \hyper@chars
9283 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
9284 \endgroup
9285 }
9286 \let\autoref\ref
9287 \ifx \rEfLiNK \UnDef
9288 \def\rEfLiNK #1#2{#2}%
9289 \fi
9290 \def\backref#1{}
9291 </tex4ht>
9292 <*tex4htcfg>
9293 \IfFileExists{\jobname.cfg}{\endinput}{}
9294 \Preamble{html}
9295 \begin{document}%
9296 \EndPreamble
9297 \def\TeX{TeX}
9298 \def\OMEGA{\Omega}
9299 \def\LaTeX{LaTeX}
9300 \def\LaTeXe{\LaTeX2e}
9301 \def\eTeX{e-TeX}
9302 \def\MF{Metafont}
9303 \def\MP{Metapost}
9304 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

9305 <*pdfmark>
9306 \long\def\@Form[#1]{%
9307 \AtBeginShipoutFirst{%
9308 \headerps@out{%
9309 [%
9310 /_objdef{pdfDocEncoding}%
9311 /type/dict%
9312 /OBJ pdfmark%
9313 [%
9314 {pdfDocEncoding}%
9315 <<%
9316 /Type/Encoding%
9317 /Differences[%
9318 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9319 /tilde %
9320 39/quotesingle %
9321 96/grave %
9322 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9323 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9324 /quotedblbase/quotedblleft/quotedblright/quoteleft%
9325 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9326 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %

```



```

9327     164/currency %
9328     166/brokenbar %
9329     168/dieresis/copyright/ordfeminine %
9330     172/logicalnot/.notdef/registered/macron/degree/plusminus%
9331         /twosuperior/threesuperior/acute/mu %
9332     183/periodcentered/cedilla/onesuperior/ordmasculine %
9333     188/onequarter/onehalf/threequarters %
9334     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9335         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9336         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9337         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
9338         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9339         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
9340         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9341         /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
9342         /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9343         /ucircumflex/udieresis/yacute/thorn/ydieresis%
9344 ]%
9345 >>%
9346 /PUT pdfmark%
9347 [%
9348     /_objdef{ZaDb}%
9349     /type/dict%
9350 /OBJ pdfmark%
9351 [%
9352     {ZaDb}%
9353 <<%
9354     /Type/Font%
9355     /Subtype/Type1%
9356     /Name/ZaDb%
9357     /BaseFont/ZapfDingbats%
9358 >>%
9359 /PUT pdfmark%
9360 [%
9361     /_objdef{Helv}%
9362     /type/dict%
9363 /OBJ pdfmark%
9364 [%
9365     {Helv}%
9366 <<%
9367     /Type/Font%
9368     /Subtype/Type1%
9369     /Name/Helv%
9370     /BaseFont/Helvetica%
9371     /Encoding{pdfDocEncoding}%
9372 >>%
9373 /PUT pdfmark%
9374 [%
9375     /_objdef{aform}%
9376     /type/dict%
9377 /OBJ pdfmark%
9378 [%
9379     /_objdef{afields}%
9380     /type/array%
9381 /OBJ pdfmark%
9382 {%
9383 [%

```

```

9384    /BBox[0 0 100 100]%
9385    /_objdef{Check}%
9386    /BP pdfmark %
9387    1 0 0 setrgbcolor%
9388    /ZapfDingbats 80 selectfont %
9389    20 20 moveto%
9390    (4)show%
9391    [/EP pdfmark%
9392    [%
9393    /BBox[0 0 100 100]%
9394    /_objdef{Cross}%
9395    /BP pdfmark %
9396    1 0 0 setrgbcolor%
9397    /ZapfDingbats 80 selectfont %
9398    20 20 moveto%
9399    (8)show%
9400    [/EP pdfmark%
9401    [%
9402    /BBox[0 0 250 100]%
9403    /_objdef{Submit}%
9404    /BP pdfmark %
9405    0.6 setgray %
9406    0 0 250 100 rectfill %
9407    1 setgray %
9408    2 2 moveto %
9409    2 98 lineto %
9410    248 98 lineto %
9411    246 96 lineto %
9412    4 96 lineto %
9413    4 4 lineto %
9414    fill %
9415    0.34 setgray %
9416    248 98 moveto %
9417    248 2 lineto %
9418    2 2 lineto %
9419    4 4 lineto %
9420    246 4 lineto %
9421    246 96 lineto %
9422    fill%
9423    /Helvetica 76 selectfont %
9424    0 setgray %
9425    8 22.5 moveto%
9426    (Submit)show%
9427    [/EP pdfmark%
9428    [%
9429    /BBox[0 0 250 100]%
9430    /_objdef{SubmitP}%
9431    /BP pdfmark %
9432    0.6 setgray %
9433    0 0 250 100 rectfill %
9434    0.34 setgray %
9435    2 2 moveto %
9436    2 98 lineto %
9437    248 98 lineto %
9438    246 96 lineto %
9439    4 96 lineto %
9440    4 4 lineto %

```

```

9441 fill %
9442 1 setgray %
9443 248 98 moveto %
9444 248 2 lineto %
9445 2 2 lineto %
9446 4 4 lineto %
9447 246 4 lineto %
9448 246 96 lineto %
9449 fill%
9450 /Helvetica 76 selectfont %
9451 0 setgray %
9452 10 20.5 moveto%
9453 (Submit)show%
9454 [/EP pdfmark%
9455 } ?pdfmark%
9456 [%
9457 {aform}%
9458 <<%
9459 /Fields{afields}%
9460 /DR<<%
9461 /Font<<%
9462 /ZaDb{ZaDb}%
9463 /Helv{Helv}%
9464 >>%
9465 >>%
9466 /DA(/Helv 10 Tf 0 g)%
9467 /CO{corder}%
9468 /NeedAppearances true%
9469 >>%
9470 /PUT pdfmark%
9471 [%
9472 {Catalog}%
9473 <<%
9474 /AcroForm{aform}%
9475 >>%
9476 /PUT pdfmark%
9477 [%
9478 /_objdef{corder}%
9479 /type/array%
9480 /OBJ pdfmark% dps
9481 }}%
9482 \setkeys{Form}{#1}%
9483 }
9484 \def\@endForm{}
9485 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9486 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
9487 }
9488 \def\@TextField[#1]#2{% parameters, label
9489 \def\Fld@name{#2}%
9490 \def\Fld@default{}%
9491 \let\Fld@value\@empty
9492 \def\Fld@width{\DefaultWidthofText}%
9493 \def\Fld@height{%
9494 \ifFld@multiline
9495 \DefaultHeightofTextMultiline
9496 \else
9497 \DefaultHeightofText

```

```

9498     \fi
9499 }%
9500 \begingroup
9501   \Field@toks={ }%
9502   \expandafter\HyField@SetKeys\expandafter{%
9503     \DefaultOptionsofText,#1%
9504   }%
9505   \HyField@FlagsText
9506   \ifFld@hidden\def\Fld@width{1sp}\fi
9507   \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
9508   \LayoutTextField{#2}{%
9509     \Hy@escapeform\PDFForm@Text
9510     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
9511       pdfmark=/ANN,Raw={\PDFForm@Text}%
9512     }%
9513   }%
9514 \endgroup
9515 }
9516 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9517   \def\Fld@name{#2}%
9518   \let\Fld@default\relax
9519   \let\Fld@value\relax
9520   \def\Fld@width{\DefaultWidthofChoiceMenu}%
9521   \def\Fld@height{\DefaultHeightofChoiceMenu}%
9522   \begingroup
9523     \Fld@menulength=0 %
9524     \@tempdima\z@
9525     \@for\@curropt:=#3\do{%
9526       \expandafter\Fld@checkequals\@curropt==\%
9527       \Hy@StepCount\Fld@menulength
9528       \settowidth{\@tempdimb}{\@currDisplay}%
9529       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
9530     }%
9531     \advance\@tempdima by 15\p@
9532     \Field@toks={ }%
9533     \begingroup
9534       \HyField@SetKeys{#1}%
9535     \edef\x{\endgroup
9536       \noexpand\expandafter
9537       \noexpand\HyField@SetKeys
9538       \noexpand\expandafter{%
9539         \expandafter\noexpand\cename DefaultOptionsof%
9540         \ifFld@radio
9541           Radio%
9542         \else
9543           \ifFld@combo
9544             \ifFld@popdown
9545               PopdownBox%
9546             \else
9547               ComboBox%
9548             \fi
9549           \else
9550             ListBox%
9551           \fi
9552         \fi
9553       \endcename
9554     }%

```

```

9555 } \x
9556 \HyField@SetKeys{#1}%
9557 \ifFld@hidden\def\Fld@width{1sp}\fi
9558 \ifx\Fld@value\relax
9559 \let\Fld@value\Fld@default
9560 \fi
9561 \LayoutChoiceField{#2}{%
9562 \ifFld@radio
9563 \HyField@FlagsRadioButton
9564 \@@Radio{#3}%
9565 \else
9566 \beginngroup
9567 \HyField@FlagsChoice
9568 \ifdim\Fld@width<\@tempdima
9569 \ifdim\@tempdima<1cm\@tempdima1cm\fi
9570 \edef\Fld@width{\the\@tempdima}%
9571 \fi
9572 \ifFld@combo
9573 \else
9574 \@tempdima=\the\Fld@menulength\Fld@charsize
9575 \advance\@tempdima by \Fld@borderwidth bp %
9576 \advance\@tempdima by \Fld@borderwidth bp %
9577 \edef\Fld@height{\the\@tempdima}%
9578 \fi
9579 \@@ListBox{#3}%
9580 \endgroup
9581 \fi
9582 }%
9583 \endgroup
9584 }
9585 \def\@@Radio#1{%
9586 \Fld@listcount=0 %
9587 \@for\@curropt:=#1\do{%
9588 \expandafter\Fld@checkequals\@curropt==\%
9589 \Hy@StepCount\Fld@listcount
9590 \@currDisplay\space
9591 \Hy@escapeform\PDFForm@Radio
9592 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
9593 pdfmark=/ANN,%
9594 Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
9595 } % deliberate space between radio buttons
9596 }%
9597 }
9598 \newcount\Fld@listcount
9599 \def\@@ListBox#1{%
9600 \HyField@PDFChoices{#1}%
9601 \Hy@escapeform\PDFForm@List
9602 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
9603 pdfmark=/ANN,Raw={\PDFForm@List}%
9604 }%
9605 }
9606 \def\@PushButton[#1]#2{% parameters, label
9607 \def\Fld@name{#2}%
9608 \beginngroup
9609 \Field@toks={}%
9610 \expandafter\HyField@SetKeys\expandafter{%
9611 \DefaultOptionsofPushButton,#1%

```

```

9612     }%
9613     \HyField@FlagsPushButton
9614     \ifFld@hidden\def\Fld@width{1sp}\fi
9615     \LayoutPushButtonField{%
9616         \Hy@escapeform\PDFForm@Push
9617         \pdfmark[\MakeButtonField{#2}]{%
9618             pdfmark=/ANN,Raw={\PDFForm@Push}%
9619         }%
9620     }%
9621 \endgroup
9622 }
9623 \def\@Submit[#1]#2{%
9624     \Field@toks={ }%
9625     \def\Fld@width{\DefaultWidthofSubmit}%
9626     \def\Fld@height{\DefaultHeightofSubmit}%
9627     \beginingroup
9628         \expandafter\HyField@SetKeys\expandafter{%
9629             \DefaultOptionsofSubmit,#1%
9630         }%
9631         \HyField@FlagsPushButton
9632         \HyField@FlagsSubmit
9633         \ifFld@hidden\def\Fld@width{1sp}\fi
9634         \Hy@escapeform\PDFForm@Submit
9635         \pdfmark[\MakeButtonField{#2}]{%
9636             pdfmark=/ANN,%
9637             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
9638         }%
9639     \endgroup
9640 }
9641 \def\@Reset[#1]#2{%
9642     \Field@toks={ }%
9643     \def\Fld@width{\DefaultWidthofReset}%
9644     \def\Fld@height{\DefaultHeightofReset}%
9645     \beginingroup
9646         \expandafter\HyField@SetKeys\expandafter{%
9647             \DefaultOptionsofReset,#1%
9648         }%
9649         \HyField@FlagsPushButton
9650         \ifFld@hidden\def\Fld@width{1sp}\fi
9651         \Hy@escapeform\PDFForm@Reset
9652         \pdfmark[\MakeButtonField{#2}]{%
9653             pdfmark=/ANN,Raw={\PDFForm@Reset}%
9654         }%
9655     \endgroup
9656 }
9657 \def\@CheckBox[#1]#2{% parameters, label
9658     \def\Fld@name{#2}%
9659     \def\Fld@default{0}%
9660     \beginingroup
9661         \def\Fld@width{\DefaultWidthofCheckBox}%
9662         \def\Fld@height{\DefaultHeightofCheckBox}%
9663         \Field@toks={ }%
9664         \expandafter\HyField@SetKeys\expandafter{%
9665             \DefaultOptionsofCheckBox,#1%
9666         }%
9667         \HyField@FlagsCheckBox
9668         \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

9669 \LayoutCheckField{#2}{%
9670 \Hy@escapeform\PDFForm@Check
9671 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
9672 pdfmark=/ANN,Raw={\PDFForm@Check}%
9673 }%
9674 }%
9675 \endgroup
9676 }
9677 </pdfmark>

```

47.2 dvipdf

```

9678 <*dvipdf>
9679 \def\@Form[#1]{\typeout{Sorry, I do not support FORMs}}
9680 \def\@endForm{}
9681 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9682 \typeout{Sorry, dvipdf does not support FORM gauges}%
9683 }
9684 \def\@TextField[#1]#2{% parameters, label
9685 \typeout{Sorry, dvipdf does not support FORM text fields}%
9686 }
9687 \def\@CheckBox[#1]#2{% parameters, label
9688 \typeout{Sorry, dvipdf does not support FORM checkboxes}%
9689 }
9690 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9691 \typeout{Sorry, dvipdf does not support FORM choice menus}%
9692 }
9693 \def\@PushButton[#1]#2{% parameters, label
9694 \typeout{Sorry, dvipdf does not support FORM pushbuttons}%
9695 }
9696 \def\@Reset[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
9697 \def\@Submit[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
9698 </dvipdf>

```

47.3 HyperTeX

```

9699 <*hypertex>
9700 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
9701 \def\@endForm{}
9702 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9703 \typeout{Sorry, HyperTeX does not support FORM gauges}%
9704 }
9705 \def\@TextField[#1]#2{% parameters, label
9706 \typeout{Sorry, HyperTeX does not support FORM text fields}%
9707 }
9708 \def\@CheckBox[#1]#2{% parameters, label
9709 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
9710 }
9711 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9712 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
9713 }
9714 \def\@PushButton[#1]#2{% parameters, label
9715 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
9716 }
9717 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
9718 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
9719 </hypertex>

```

47.4 TeX4ht

```

9720 <*tex4ht>
9721 \def\@Form[#1]{%
9722   \setkeys{Form}{#1}%
9723   \HCode{<form action="\Form@action" method="\Form@method">%}
9724 }
9725 \def\@endForm{\HCode{</form>}}
9726 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9727   \typeout{Sorry, TeX4ht does not support gauges}%
9728 }
9729 \def\@TextField[#1]#2{% parameters, label
9730   \let\Hy@reserved@a\@empty
9731   \def\Fld@name{#2}%
9732   \def\Fld@default{}%
9733   \bgroup
9734     \Field@toks={ }%
9735     \setkeys{Field}{#1}%
9736     \HCode{<label for="\Fld@name">#2</label>%}
9737     \ifFld@password
9738       \@@PasswordField
9739     \else
9740       \@@TextField
9741     \fi
9742   \egroup
9743 }
9744 \def\@@PasswordField{%
9745   \HCode{%
9746     <input type="password" %
9747       id="\Fld@name" %
9748       name="\Fld@name" %
9749       \ifFld@hidden type="hidden" \fi
9750       value="\Fld@default" %
9751       \the\Field@toks
9752     >%
9753   }%
9754 }
9755 \def\@@TextField{%
9756   \ifFld@multiline
9757     \HCode{<textarea %
9758       \ifFld@readonly readonly \fi
9759       id="\Fld@name" %
9760       name="\Fld@name" %
9761       \ifFld@hidden type="hidden" \fi
9762       \the\Field@toks>%
9763     }%
9764     \Fld@default
9765     \HCode{</textarea>%}
9766   \else
9767     \HCode{<input type="text" %
9768       \ifFld@readonly readonly \fi
9769       id="\Fld@name" %
9770       name="\Fld@name" %
9771       \ifFld@hidden type="hidden" \fi
9772       value="\Fld@default" %
9773       \the\Field@toks>%
9774     }%
9775   \fi
9776 }

```



```

9777 \def \@ChoiceMenu[#1]#2#3{% parameters, label, choices
9778   \def \Fld@name{#2}%
9779   \def \Fld@default{ }%
9780   \let \Hy@reserved@a\relax
9781   \begingroup
9782     \expandafter \Fld@findlength#3\\%
9783     \Fld@toks={ }%
9784     \setkeys{Fld}{#1}%
9785     #2%
9786     \ifFld@radio
9787       \expandafter \@Radio#3\\%
9788     \else
9789       \expandafter \@Menu#3\\%
9790     \fi
9791   \endgroup
9792 }
9793 \def \Fld@findlength#1\\{%
9794   \Fld@menulength=0 %
9795   \@for \@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
9796 }
9797 \def \@Menu#1\\{%
9798   \HCode{<select size="\the\Fld@menulength" %
9799     name="\Fld@name" %
9800     \the\Fld@toks>%
9801   }%
9802   \@for \@curropt:=#1\do{%
9803     \expandafter \Fld@checkequals \@curropt==\\%
9804     \HCode{<option %
9805       \ifx \@curropt\Fld@default selected \fi
9806       value="\@currValue">\@currDisplay</option>%
9807     }%
9808   }%
9809   \HCode{</select>}%
9810 }
9811 \def \@Radio#1\\{%
9812   \@for \@curropt:=#1\do{%
9813     \expandafter \Fld@checkequals \@curropt==\\%
9814     \HCode{<input type="radio" %
9815       \ifx \@curropt\Fld@default checked \fi
9816       name="\Fld@name" %
9817       value="\@currValue" %
9818       \the\Fld@toks>%
9819     }%
9820     \@currDisplay
9821   }%
9822 }
9823 \def \@PushButton[#1]#2{% parameters, label
9824   \def \Fld@name{#2}%
9825   \bgroup
9826     \Fld@toks={ }%
9827     \setkeys{Fld}{#1}%
9828     \HCode{<input type="button" %
9829       name="\Fld@name" %
9830       value="#2" %
9831       \the\Fld@toks>%
9832     }%
9833     \HCode{</button>}%

```

```

9834 \egroup
9835 }
9836 \def\@Submit[#1]#2{%
9837   \HCode{<button type="submit">#2</button>}%
9838 }
9839 \def\@Reset[#1]#2{%
9840   \HCode{<button type="reset">#2</button>}%
9841 }
9842 \def\@CheckBox[#1]#2{% parameters, label
9843   \let\Hy@reserved@a\@empty
9844   \def\Fld@name{#2}%
9845   \def\Fld@default{0}%
9846   \bgroup
9847     \Field@toks={ }%
9848     \setkeys{Field}{#1}%
9849     \HCode{<input type="checkbox" %
9850       \ifFld@checked checked \fi
9851       \ifFld@disabled disabled \fi
9852       \ifFld@readonly readonly \fi
9853       name="\Fld@name" %
9854       \ifFld@hidden type="hidden" \fi
9855       value="\Fld@default" %
9856       \the\Field@toks>%
9857     #2%
9858   }%
9859 \egroup
9860 }
9861 </tex4ht>

```

47.5 pdfTeX

```

9862 <*pdftex>
9863 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9864   \typeout{Sorry, pdftex does not support FORM gauges}%
9865 }
9866 \def\MakeFieldObject#1#2{\sbox0{#1}%
9867   \immediate\pdfxform0 %
9868   \expandafter\edef\csname #2Object\endcsname{%
9869     \the\pdflastxform\space 0 R%
9870   }%
9871   % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
9872 }%
9873 \def\@Form[#1]{%
9874   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
9875   \setkeys{Form}{#1}%
9876   \ifnum\pdftexversion>13 %
9877     \pdfrefobj\OBJ@pdfdocencoding
9878     \pdfrefobj\OBJ@ZaDb
9879     \pdfrefobj\OBJ@Helv
9880     \pdfrefobj\OBJ@acroform
9881   \fi
9882   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
9883   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

9884   \begingroup
9885     \fontfamily{pzd}%
9886     \fontencoding{U}%
9887     \fontseries{m}%

```

```

9888     \fontshape{n}%
9889     \selectfont
9890     \char123 %
9891   \endgroup
9892 }{Ding}%
9893 \MakeFieldObject{%
9894   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
9895 }{Submit}%
9896 \MakeFieldObject{%
9897   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
9898 }{SubmitP}%
9899 }
9900 \def\@endForm{}
9901 \def\@TextField[#1]#2{% parameters, label
9902   \def\Fld@name{#2}%
9903   \def\Fld@default{}%
9904   \let\Fld@value\@empty
9905   \def\Fld@width{\DefaultWidthofText}%
9906   \def\Fld@height{%
9907     \ifFld@multiline
9908       \DefaultHeightofTextMultiline
9909     \else
9910       \DefaultHeightofText
9911     \fi
9912   }%
9913   \begingroup
9914     \Field@toks={ }%
9915     \expandafter\HyField@SetKeys\expandafter{%
9916       \DefaultOptionsofText,#1%
9917     }%
9918     \PDFForm@Name
9919     \HyField@FlagsText
9920     \ifFld@hidden\def\Fld@width{1sp}\fi
9921     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
9922     \LayoutTextField{#2}{%
9923       \Hy@escapeform\PDFForm@Text
9924       \pdfstartlink user {\PDFForm@Text}\relax
9925       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
9926     }%
9927   \endgroup
9928 }
9929 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9930   \def\Fld@name{#2}%
9931   \let\Fld@default\relax
9932   \let\Fld@value\relax
9933   \def\Fld@width{\DefaultWidthofChoiceMenu}%
9934   \def\Fld@height{\DefaultHeightofChoiceMenu}%
9935   \begingroup
9936     \Fld@menulength=0 %
9937     \@tempdima\z@
9938     \@for\@curropt:=#3\do{%
9939       \expandafter\Fld@checkequals\@curropt==\%
9940       \Hy@StepCount\Fld@menulength
9941       \settowidth{\@tempdimb}{\@currDisplay}%
9942       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
9943     }%
9944     \advance\@tempdima by 15\p@

```

```

9945 \Field@toks={ }%
9946 \begingroup
9947 \HyField@SetKeys{#1}%
9948 \edef\x{\endgroup
9949 \noexpand\expandafter
9950 \noexpand\HyField@SetKeys
9951 \noexpand\expandafter{%
9952 \expandafter\noexpand\csname DefaultOptionsof%
9953 \ifFld@radio
9954 Radio%
9955 \else
9956 \ifFld@combo
9957 \ifFld@popdown
9958 PopdownBox%
9959 \else
9960 ComboBox%
9961 \fi
9962 \else
9963 ListBox%
9964 \fi
9965 \fi
9966 \endcsname
9967 }%
9968 }\x
9969 \HyField@SetKeys{#1}%
9970 \PDFForm@Name
9971 \ifFld@hidden\def\Fld@width{1sp}\fi
9972 \ifx\Fld@value\relax
9973 \let\Fld@value\Fld@default
9974 \fi
9975 \LayoutChoiceField{#2}{%
9976 \ifFld@radio
9977 \HyField@FlagsRadioButton
9978 \@@Radio{#3}%
9979 \else
9980 \begingroup
9981 \HyField@FlagsChoice
9982 \ifdim\Fld@width<\@tempdima
9983 \ifdim\@tempdima<1cm\@tempdima1cm\fi
9984 \edef\Fld@width{\the\@tempdima}%
9985 \fi
9986 \ifFld@combo
9987 \else
9988 \@tempdima=\the\Fld@menulength\Fld@charsize
9989 \advance\@tempdima by \Fld@borderwidth bp %
9990 \advance\@tempdima by \Fld@borderwidth bp %
9991 \edef\Fld@height{\the\@tempdima}%
9992 \fi
9993 \@@ListBox{#3}%
9994 \endgroup
9995 \fi
9996 }%
9997 \endgroup
9998 }
9999 \def\@@Radio#1{%
10000 \Fld@listcount=0 %
10001 \@for\@curropt:=#1\do{%

```

```

10002 \expandafter\Fld@checkequals\@curropt==\%
10003 \Hy@StepCount\Fld@listcount
10004 \@currDisplay\space
10005 \leavevmode
10006 \Hy@escapeform\PDFForm@Radio
10007 \pdfstartlink user {%
10008 \PDFForm@Radio
10009 /AP<<%
10010 /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.

```

10011 /\@currValue\space \DingObject
10012 >>%
10013 >>%
10014 }%
10015 \relax
10016 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10017 \space % deliberate space between radio buttons
10018 }%
10019 }
10020 \newcount\Fld@listcount
10021 \def\@@ListBox#1{%
10022 \HyField@PDFChoices{#1}%
10023 \leavevmode
10024 \Hy@escapeform\PDFForm@List
10025 \pdfstartlink user {\PDFForm@List}\relax
10026 \MakeChoiceField{\Fld@width}{\Fld@height}%
10027 \pdfendlink
10028 }
10029 \def\@PushButton[#1]#2{% parameters, label
10030 \def\Fld@name{#2}%
10031 \begingroup
10032 \Field@toks={}%
10033 \expandafter\HyField@SetKeys\expandafter{%
10034 \DefaultOptionsofPushButton,#1%
10035 }%
10036 \PDFForm@Name
10037 \HyField@FlagsPushButton
10038 \ifFld@hidden\def\Fld@width{1sp}\fi
10039 \LayoutPushButtonField{%
10040 \leavevmode
10041 \Hy@escapeform\PDFForm@Push
10042 \pdfstartlink user {\PDFForm@Push}\relax
10043 \MakeButtonField{#2}%
10044 \pdfendlink
10045 }%
10046 \endgroup
10047 }
10048 \def\@Submit[#1]#2{%
10049 \Field@toks={}%
10050 \def\Fld@width{\DefaultWidthofSubmit}%
10051 \def\Fld@height{\DefaultHeightofSubmit}%
10052 \begingroup
10053 \expandafter\HyField@SetKeys\expandafter{%
10054 \DefaultOptionsofSubmit,#1%
10055 }%

```

```

10056 \HyField@FlagsPushButton
10057 \HyField@FlagsSubmit
10058 \ifFld@hidden\def\Fld@width{1sp}\fi
10059 \leavevmode
10060 \Hy@escapeform\PDFForm@Submit
10061 \pdfstartlink user {%
10062 \PDFForm@Submit
10063 /AP<</N \SubmitObject/D \SubmitPObject>>%
10064 }%
10065 \relax
10066 \MakeButtonField{#2}%
10067 \pdfendlink
10068 \endgroup
10069 }
10070 \def\@Reset[#1]#2{%
10071 \Field@toks={ }%
10072 \def\Fld@width{\DefaultWidthofReset}%
10073 \def\Fld@height{\DefaultHeightofReset}%
10074 \beginngroup
10075 \expandafter\HyField@SetKeys\expandafter{%
10076 \DefaultOptionsofReset,#1%
10077 }%
10078 \HyField@FlagsPushButton
10079 \ifFld@hidden\def\Fld@width{1sp}\fi
10080 \leavevmode
10081 \Hy@escapeform\PDFForm@Reset
10082 \pdfstartlink user {\PDFForm@Reset}\relax
10083 \MakeButtonField{#2}%
10084 \pdfendlink
10085 \endgroup
10086 }
10087 \def\@CheckBox[#1]#2{% parameters, label
10088 \def\Fld@name{#2}%
10089 \def\Fld@default{0}%
10090 \beginngroup
10091 \def\Fld@width{\DefaultWidthofCheckBox}%
10092 \def\Fld@height{\DefaultHeightofCheckBox}%
10093 \Field@toks={ }%
10094 \expandafter\HyField@SetKeys\expandafter{%
10095 \DefaultOptionsofCheckBox,#1%
10096 }%
10097 \PDFForm@Name
10098 \HyField@FlagsCheckBox
10099 \ifFld@hidden\def\Fld@width{1sp}\fi
10100 \LayoutCheckField{#2}{%
10101 \Hy@escapeform\PDFForm@Check
10102 \pdfstartlink user {\PDFForm@Check}\relax
10103 \MakeCheckField{\Fld@width}{\Fld@height}%
10104 \pdfendlink
10105 }%
10106 \endgroup
10107 }
10108 \pdfobj {%
10109 <<%
10110 /Type/Encoding%
10111 /Differences[%
10112 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%

```

```

10113      /ring/tilde %
10114      39/quotesingle %
10115      96/grave %
10116      128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10117      /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10118      /quotedblbase/quotedblleft/quotedblright/quoteleft%
10119      /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10120      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10121      164/currency %
10122      166/brokenbar %
10123      168/dieresis/copyright/ordfeminine %
10124      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10125      /twosuperior/threesuperior/acute/mu %
10126      183/periodcentered/cedilla/onesuperior/ordmasculine %
10127      188/onequarter/onehalf/threequarters %
10128      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10129      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10130      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10131      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10132      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10133      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10134      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10135      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10136      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10137      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10138      ]%
10139      >>%
10140 }
10141 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10142 \pdfobj{%
10143   <<%
10144     /Type/Font%
10145     /Subtype/Type1%
10146     /Name/ZaDb%
10147     /BaseFont/ZapfDingbats%
10148   >>%
10149 }
10150 \edef\OBJ@ZaDb{\the\pdflastobj}
10151 \pdfobj{%
10152   <<%
10153     /Type/Font%
10154     /Subtype/Type1%
10155     /Name/Helv%
10156     /BaseFont/Helvetica%
10157     /Encoding \OBJ@pdfdocencoding\space 0 R%
10158   >>%
10159 }
10160 \edef\OBJ@Helv{\the\pdflastobj}
10161 \pdfobj{%
10162   <<%
10163     /Fields[]%
10164     /DR<<%
10165       /Font<<%
10166         /ZaDb \OBJ@ZaDb\space 0 R%
10167         /Helv \OBJ@Helv\space 0 R%
10168       >>%
10169     >>%

```

```

10170 /DA(/Helv 10 Tf 0 g)%
10171 /NeedAppearances true%
10172 >>%
10173 }
10174 \edef\OBJ@acroform{\the\pdflastobj}
10175 </pdfTeX>

```

47.6 dvipdfm

D. P. Story adapted the pdf_T_EX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

10176 < *dvipdfm>

```

\@Gauge

```

10177 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10178 \typeout{Sorry, dvipdfm does not support FORM gauges}%
10179 }

```

\@Form

```

10180 \def\@Form[#1]{%
10181 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10182 \setkeys{Form}{#1}%
10183 \pdfmark{obj @afields []}%
10184 \pdfmark{obj @corder []}%
10185 \pdfmark{%
10186 obj @aform <<%
10187 /Fields @afields%
10188 /DR<<%
10189 /Font<<%
10190 /ZaDb @OBJZaDb%
10191 /Helv @OBJHelv%
10192 >>%
10193 >>%
10194 /DA(/Helv 10 Tf 0 g)%
10195 /CO @corder%
10196 /NeedAppearances true%
10197 >>%
10198 }%
10199 \pdfmark{put @catalog <</AcroForm @aform>>}%
10200 }

```

\@endForm

```

10201 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

10202 \def\dvipdfm@setdim{%
10203 height \the\ht\pdfm@box\space
10204 width \the\wd\pdfm@box\space
10205 depth \the\dp\pdfm@box\space
10206 }

```

\HyField@AnnotCount

```

10207 \newcount\HyField@AnnotCount
10208 \HyField@AnnotCount=\z@

```


\HyField@AdvanceAnnotCount

```
10209 \def\HyField@AdvanceAnnotCount{%
10210   \global\advance\HyField@AnnotCount\@ne
10211 }
```

\HyField@TheAnnotCount

```
10212 \def\HyField@TheAnnotCount{%
10213   \the\HyField@AnnotCount
10214 }
```

\@TextField

```
10215 \def\@TextField[#1]#2{% parameters, label
10216   \def\Fld@name{#2}%
10217   \def\Fld@default{}%
10218   \let\Fld@value\@empty
10219   \def\Fld@width{\DefaultWidthofText}%
10220   \def\Fld@height{%
10221     \ifFld@multiline
10222       \DefaultHeightofTextMultiline
10223     \else
10224       \DefaultHeightofText
10225     \fi
10226   }%
10227   \begingroup
10228     \Field@toks={ }%
10229     \expandafter\HyField@SetKeys\expandafter{%
10230       \DefaultOptionsofText,#1%
10231     }%
10232     \PDFForm@Name
10233     \HyField@FlagsText
10234     \ifFld@hidden\def\Fld@width{1sp}\fi
10235     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10236     \setbox\pdfm@box=\hbox{%
10237       \MakeTextField{\Fld@width}{\Fld@height}%
10238     }%
10239     \HyField@AdvanceAnnotCount
10240     \LayoutTextField{#2}{%
10241       \Hy@escapeform\PDFForm@Text
10242       \@pdfm@mark{%
10243         ann @text\HyField@TheAnnotCount\space
10244         \dvipdfm@setdim << \PDFForm@Text >>%
10245       }%
10246     }%
10247     \unhbox\pdfm@box
10248     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10249     % record in @afields array
10250   \endgroup
10251 }
```

\@ChoiceMenu

```
10252 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10253   \def\Fld@name{#2}%
10254   \let\Fld@default\relax
10255   \let\Fld@value\relax
10256   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10257   \def\Fld@height{\DefaultHeightofChoiceMenu}%

```

```

10258 \beginngroup
10259   \Fld@menulength=0 %
10260   \@tempdima\z@
10261   \@for\@curropt:=#3\do{%
10262     \expandafter\Fld@checkequals\@curropt==\%
10263     \Hy@StepCount\Fld@menulength
10264     \settowidth{\@tempdimb}{\@currDisplay}%
10265     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10266   }%
10267   \advance\@tempdima by 15\p@
10268   \Field@toks={ }%
10269   \beginngroup
10270     \HyField@SetKeys{#1}%
10271   \edef\x{\endgroup
10272     \noexpand\expandafter
10273     \noexpand\HyField@SetKeys
10274     \noexpand\expandafter{%
10275       \expandafter\noexpand\csname DefaultOptionsof%
10276         \ifFld@radio
10277           Radio%
10278         \else
10279           \ifFld@combo
10280             \ifFld@popdown
10281               PopdownBox%
10282             \else
10283               ComboBox%
10284             \fi
10285           \else
10286             ListBox%
10287           \fi
10288         \fi
10289       \endcsname
10290     }%
10291   }\x
10292   \HyField@SetKeys{#1}%
10293   \PDFForm@Name
10294   \ifFld@hidden\def\Fld@width{1sp}\fi
10295   \ifx\Fld@value\relax
10296     \let\Fld@value\Fld@default
10297   \fi
10298   \LayoutChoiceField{#2}{%
10299     \ifFld@radio
10300       \HyField@FlagsRadioButton
10301       \@@Radio{#3}%
10302     \else
10303       \beginngroup
10304         \HyField@FlagsChoice
10305         \ifdim\Fld@width<\@tempdima
10306           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10307           \edef\Fld@width{\the\@tempdima}%
10308         \fi
10309         \ifFld@combo
10310         \else
10311           \@tempdima=\the\Fld@menulength\Fld@charsize
10312           \advance\@tempdima by \Fld@borderwidth bp %
10313           \advance\@tempdima by \Fld@borderwidth bp %
10314           \edef\Fld@height{\the\@tempdima}%

```

```

10315         \fi
10316         \@@ListBox{#3}%
10317     \endgroup
10318     \fi
10319 }%
10320 \endgroup
10321 }

\@@Radio

10322 \def\@@Radio#1{%
10323     \Fld@listcount=0 %
10324     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
10325     \@for\@curropt:=#1\do{%
10326         \expandafter\Fld@checkequals\@curropt==\%
10327         \Hy@StepCount\Fld@listcount
10328         \@currDisplay\space
10329         \leavevmode
10330         \Hy@escapeform\PDFForm@Radio
10331         \ifnum\Fld@listcount=1 %
10332             \HyField@AdvanceAnnotCount
10333             \fi
10334         \@pdfm@mark{%
10335             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
10336             \dvipdfm@setdim
10337             <<%
10338                 \PDFForm@Radio
10339                 /AP<</N<</\@currValue /null>>>>%
10340             >>%
10341         }%
10342         \unhcopy\pdfm@box\space% deliberate space between radio buttons
10343         \ifnum\Fld@listcount=1 %
10344             \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
10345         \fi
10346     }%
10347 }

\Fld@listcount

10348 \newcount\Fld@listcount

\@@ListBox

10349 \def\@@ListBox#1{%
10350     \HyField@PDFChoices{#1}%
10351     \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
10352     \leavevmode
10353     \Hy@escapeform\PDFForm@List
10354     \HyField@AdvanceAnnotCount
10355     \@pdfm@mark{%
10356         ann @list\HyField@TheAnnotCount\space
10357         \dvipdfm@setdim
10358         <<\PDFForm@List>>%
10359     }%
10360     \unhbox\pdfm@box
10361     \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
10362 }

\@PushButton

```

```

10363 \def\@PushButton[#1]#2{% parameters, label
10364   \def\Fld@name{#2}%
10365   \begingroup
10366     \Field@toks={ }%
10367     \expandafter\HyField@SetKeys\expandafter{%
10368       \DefaultOptionsofPushButton,#1%
10369     }%
10370     \PDFForm@Name
10371     \HyField@FlagsPushButton
10372     \ifFld@hidden\def\Fld@width{1sp}\fi
10373     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10374     \HyField@AdvanceAnnotCount
10375     \LayoutPushButtonField{%
10376       \leavevmode
10377       \Hy@escapeform\PDFForm@Push
10378       \@pdfm@mark{%
10379         ann @push\HyField@TheAnnotCount\space
10380         \dvipdfm@setdim
10381         <<\PDFForm@Push>>%
10382       }%
10383     }%
10384     \unhbox\pdfm@box
10385     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
10386   \endgroup
10387 }

\@Submit

10388 \def\@Submit[#1]#2{%
10389   \Field@toks={ }%
10390   \def\Fld@width{\DefaultWidthofSubmit}%
10391   \def\Fld@height{\DefaultHeightofSubmit}%
10392   \begingroup
10393     \expandafter\HyField@SetKeys\expandafter{%
10394       \DefaultOptionsofSubmit,#1%
10395     }%
10396     \HyField@FlagsPushButton
10397     \HyField@FlagsSubmit
10398     \ifFld@hidden\def\Fld@width{1sp}\fi
10399     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10400     \leavevmode
10401     \Hy@escapeform\PDFForm@Submit
10402     \HyField@AdvanceAnnotCount
10403     \@pdfm@mark{%
10404       ann @submit\HyField@TheAnnotCount\space
10405       \dvipdfm@setdim
10406       <<\PDFForm@Submit>>%
10407     }%
10408     \unhbox\pdfm@box%
10409     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
10410   \endgroup
10411 }

\@Reset

10412 \def\@Reset[#1]#2{%
10413   \Field@toks={ }%
10414   \def\Fld@width{\DefaultWidthofReset}%
10415   \def\Fld@height{\DefaultHeightofReset}%

```

```

10416 \begingroup
10417   \expandafter\HyField@SetKeys\expandafter{%
10418     \DefaultOptionsofReset,#1%
10419   }%
10420   \HyField@FlagsPushButton
10421   \ifFld@hidden\def\Fld@width{1sp}\fi
10422   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10423   \leavevmode
10424   \Hy@escapeform\PDFForm@Reset
10425   \HyField@AdvanceAnnotCount
10426   \@pdfm@mark{%
10427     ann @reset\HyField@TheAnnotCount\space
10428     \dvi pdfm@setdim
10429     <<\PDFForm@Reset>>%
10430   }%
10431   \unhbox\pdfm@box
10432   \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
10433 \endgroup
10434 }

```

\@CheckBox

```

10435 \def\@CheckBox[#1]#2{% parameters, label
10436   \def\Fld@name{#2}%
10437   \def\Fld@default{0}%
10438   \begingroup
10439     \def\Fld@width{\DefaultWidthofCheckBox}%
10440     \def\Fld@height{\DefaultHeightofCheckBox}%
10441     \Field@toks={ }%
10442     \expandafter\HyField@SetKeys\expandafter{%
10443       \DefaultOptionsofCheckBox,#1%
10444     }%
10445     \PDFForm@Name
10446     \HyField@FlagsCheckBox
10447     \ifFld@hidden\def\Fld@width{1sp}\fi
10448     \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
10449     \HyField@AdvanceAnnotCount
10450     \LayoutCheckField{#2}{%
10451       \Hy@escapeform\PDFForm@Check
10452       \@pdfm@mark{%
10453         ann @check\HyField@TheAnnotCount\space
10454         \dvi pdfm@setdim
10455         <<\PDFForm@Check>>%
10456       }%
10457       \unhbox\pdfm@box
10458       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
10459     }%
10460   \endgroup
10461 }

10462 \@pdfm@mark{obj @OBJpdfdocencoding%
10463 <<%
10464   /Type/Encoding%
10465   /Differences[%
10466     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
10467     39/quotesingle %
10468     96/grave %
10469     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10470     /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

```

10471      /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
10472      /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
10473      /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10474      164/currency %
10475      166/brokenbar %
10476      168/dieresis/copyright/ordfeminine %
10477      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10478      /twosuperior/threesuperior/acute/mu %
10479      183/periodcentered/cedilla/onesuperior/ordmasculine %
10480      188/onequarter/onehalf/threequarters %
10481      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10482      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
10483      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
10484      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
10485      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
10486      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
10487      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
10488      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
10489      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
10490      /thorn/ydieresis%
10491      ]%
10492      >>%
10493 }
10494 \pdfmark{obj @OBJZaDb%
10495      <<%
10496      /Type/Font%
10497      /Subtype/Type1%
10498      /Name/ZaDb%
10499      /BaseFont/ZapfDingbats%
10500      >>%
10501 }
10502 \pdfmark{obj @OBJHelv%
10503      <<%
10504      /Type/Font%
10505      /Subtype/Type1%
10506      /Name/Helv%
10507      /BaseFont/Helvetica%
10508      /Encoding @OBJpdfdocencoding%
10509      >>%
10510 }
10511 </dvipdfm>

```

47.7 Common forms part

```

10512 <*pdfform>

```

\Hy@escapestring

```

10513 \begingroup\expandafter\expandafter\expandafter\endgroup
10514 \expandafter\ifx\csname pdfescapestring\endcsname\relax
10515   \let\Hy@escapestring\@firstofone
10516   \def\Hy@escapeform#1{%
10517     \ifHy@escapeform
10518       \def\Hy@escapestring##1{%
10519         \noexpand\Hy@escapestring{\noexpand##1}%
10520       }%
10521     \edef\Hy@temp{#1}%
10522     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil

```

```

10523     \def\Hy@escapestring##1{%
10524         \ifundefined{Hy@esc@\string##1}{%
10525             ##1%
10526             \ThisShouldNotHappen
10527         }{%
10528             \csname Hy@esc@\string##1\endcsname
10529         }%
10530     }%
10531     \else
10532         \let\Hy@escapestring\@firstofone
10533     \fi
10534 }%
10535 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
10536     \ifx\#3\%
10537     \else
10538         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
10539         \Hy@ReturnAfterFi{%
10540             \Hy@@escapeform#3\@nil
10541         }%
10542     \fi
10543 }%
10544 \else
10545     \def\Hy@escapeform#1{%
10546         \ifHy@escapeform
10547             \let\Hy@escapestring\pdfescapestring
10548         \else
10549             \let\Hy@escapestring\@firstofone
10550         \fi
10551     }%
10552     \Hy@escapeform{}%
10553 \fi

```

\PDFForm@Name

```

10554 \def\PDFForm@Name{%
10555     \begingroup
10556     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
10557         \ifHy@unicode
10558             \Hy@unicodedefalse
10559         \fi
10560     \fi
10561     \pdfstringdef\Hy@gtemp\Fld@name
10562 \endgroup
10563 \let\Fld@name\Hy@gtemp
10564 }

```

\PDFForm@Check

```

10565 \def\PDFForm@Check{%
10566     /Subtype/Widget%
10567     \Fld@annotflags
10568     /T(\Fld@name)%
10569     /FT/Btn%
10570     \Fld@flags
10571     /Q \Fld@align
10572     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
10573     /MK<<%
10574         \ifnum\Fld@rotation=\z@
10575         \else

```

```

10576      /R \Fld@rotation
10577      \fi
10578      \ifx\Fld@bordercolor\relax
10579      \else
10580      /BC[\Fld@bordercolor]%
10581      \fi
10582      \ifx\Fld@bcolor\relax
10583      \else
10584      /BG[\Fld@bcolor]%
10585      \fi
10586      /CA(\Hy@escapestring{\Fld@cbsymbol})%
10587      >>%
10588      /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
10589      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
10590      /H/P%
10591      \ifFld@checked /V/Yes\else /V/Off\fi
10592 }

```

\PDFForm@Push

```

10593 \def\PDFForm@Push{%
10594   /Subtype/Widget%
10595   \Fld@annotflags
10596   /T(\Fld@name)%
10597   /FT/Btn%
10598   \Fld@flags
10599   /H/P%
10600   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10601   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
10602       \ifx\Fld@bordercolor\relax\else 1\fi
10603       \space
10604   \else
10605     /MK<<%
10606     \ifnum\Fld@rotation=\z@
10607     \else
10608       /R \Fld@rotation
10609       \fi
10610       \ifx\Fld@bordercolor\relax
10611       \else
10612       /BC[\Fld@bordercolor]%
10613       \fi
10614     >>%
10615   \fi
10616   /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
10617 }

```

\Fld@additionalactions

```

10618 \def\Fld@@additionalactions{%
K input (keystroke) format
10619   \ifx\Fld@keystroke@code\@empty
10620   \else
10621     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
10622   \fi
F display format
10623   \ifx\Fld@format@code\@empty
10624   \else
10625     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%

```



```

10626  \fi
V validation
10627  \ifx\Fld@validate@code\@empty
10628  \else
10629    /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
10630  \fi
C calculation
10631  \ifx\Fld@calculate@code\@empty
10632  \else
10633    /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
10634  \fi
Fo receiving the input focus
10635  \ifx\Fld@onfocus@code\@empty
10636  \else
10637    /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
10638  \fi
Bl loosing the input focus (blurred)
10639  \ifx\Fld@onblur@code\@empty
10640  \else
10641    /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
10642  \fi
D pressing the mouse button (down)
10643  \ifx\Fld@onmousedown@code\@empty
10644  \else
10645    /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
10646  \fi
U releasing the mouse button (up)
10647  \ifx\Fld@onmouseup@code\@empty
10648  \else
10649    /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
10650  \fi
E cursor enters the annotation's active area.
10651  \ifx\Fld@onenter@code\@empty
10652  \else
10653    /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
10654  \fi
X cursor exits the annotation's active area.
10655  \ifx\Fld@onexit@code\@empty
10656  \else
10657    /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
10658  \fi
10659 }
10660 \def\Fld@additionalactions{%
10661  \if-\Fld@@additionalactions-%
10662  \else
10663    /AA<<\Fld@@additionalactions>>%
10664  \fi
10665 }

```

\PDFForm@List

```

10666 \def\PDFForm@List{%
10667  /Subtype/Widget%

```

```

10668 \Fld@annotflags
10669 /T(\Fld@name)%
10670 /FT/Ch%
10671 \Fld@flags
10672 /Q \Fld@align
10673 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10674 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
10675 \ifx\Fld@bordercolor\relax\else 1\fi
10676 \ifx\Fld@bcolor\relax \else 1\fi
10677 \space
10678 \else
10679 /MK<<%
10680 \ifnum\Fld@rotation=\z@
10681 \else
10682 /R \Fld@rotation
10683 \fi
10684 \ifx\Fld@bordercolor\relax
10685 \else
10686 /BC[\Fld@bordercolor]%
10687 \fi
10688 \ifx\Fld@bcolor\relax
10689 \else
10690 /BG[\Fld@bcolor]%
10691 \fi
10692 >>%
10693 \fi
10694 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
10695 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
10696 \Fld@choices
10697 \Fld@additionalactions
10698 }

```

\PDFForm@Radio

```

10699 \def\PDFForm@Radio{%
10700 /Subtype/Widget%
10701 \Fld@annotflags
10702 /T(\Fld@name)%
10703 /FT/Btn%
10704 \Fld@flags
10705 /H/P%
10706 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10707 /MK<<%
10708 \ifnum\Fld@rotation=\z@
10709 \else
10710 /R \Fld@rotation
10711 \fi
10712 \ifx\Fld@bordercolor\relax
10713 \else
10714 /BC[\Fld@bordercolor]%
10715 \fi
10716 \ifx\Fld@bcolor\relax
10717 \else
10718 /BG[\Fld@bcolor]%
10719 \fi
10720 /CA(H)%
10721 >>%
10722 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%

```

```

10723     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
10724     \ifx\@currValue\Fld@default
10725         /V/\Fld@default
10726     \else
10727         /V/Off%
10728     \fi
10729     \Fld@additionalactions
10730 }

```

\PDFForm@Text

```

10731 \def\PDFForm@Text{%
10732     /Subtype/Widget%
10733     \Fld@annotflags
10734     /T(\Fld@name)%
10735     /FT/Tx%
10736     \Fld@flags
10737     /Q \Fld@align
10738     /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
10739     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
10740         \ifx\Fld@bordercolor\relax\else 1\fi
10741         \ifx\Fld@bcolor\relax \else 1\fi
10742         \space
10743     \else
10744         /MK<<%
10745         \ifnum\Fld@rotation=\z@
10746         \else
10747             /R \Fld@rotation
10748         \fi
10749         \ifx\Fld@bordercolor\relax
10750         \else
10751             /BC[\Fld@bordercolor]%
10752         \fi
10753         \ifx\Fld@bcolor\relax
10754         \else
10755             /BG[\Fld@bcolor]%
10756         \fi
10757         >>%
10758     \fi
10759     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
10760         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
10761     /DV(\Hy@escapestring{\Fld@default})%
10762     /V(\Hy@escapestring{\Fld@value})%
10763     \Fld@additionalactions
10764     \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
10765 }

```

\PDFForm@Submit

```

10766 \def\PDFForm@Submit{%
10767     /Subtype/Widget%
10768     \Fld@annotflags
10769     /T(\Fld@name)%
10770     /FT/Btn%
10771     \Fld@flags
10772     /H/P%
10773     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10774     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
10775         \ifx\Fld@bordercolor\relax\else 1\fi

```

```

10776         \space
10777     \else
10778         /MK<<%
10779         \ifnum\Fld@rotation=\z@
10780         \else
10781             /R \Fld@rotation
10782         \fi
10783         \ifx\Fld@bordercolor\relax
10784         \else
10785             /BC[\Fld@bordercolor]%
10786         \fi
10787         >>%
10788     \fi
10789     /A<<%
10790     /S/SubmitForm%
10791     /F<<%
10792     /FS/URL%
10793     /F(\Hy@escapestring{\Form@action})%
10794     >>%
10795     \Fld@submitflags
10796     >>%
10797 }

```

\PDFForm@Reset

```

10798 \def\PDFForm@Reset{%
10799     /Subtype/Widget%
10800     \Fld@annotflags
10801     /T(\Fld@name)%
10802     /FT/Btn%
10803     \Fld@flags
10804     /H/P%
10805     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
10806     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
10807         \ifx\Fld@bordercolor\relax\else 1\fi
10808         \space
10809     \else
10810         /MK<<%
10811         \ifnum\Fld@rotation=\z@
10812         \else
10813             /R \Fld@rotation
10814         \fi
10815         \ifx\Fld@bordercolor\relax
10816         \else
10817             /BC[\Fld@bordercolor]%
10818         \fi
10819     % /CA (Clear)
10820     % /AC (Done)
10821     >>%
10822     \fi
10823     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
10824     /A<</S/ResetForm>>%
10825 }

10826 </pdfform>
10827 <*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`

```
10828 \def\phantomsection{%
10829   \Hy@GlobalStepCount\Hy@linkcounter
10830   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
10831   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
10832 }
10833 \</package>
```

48.1 Bookmarks

```
10834 \<*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`.

```
10835 \def\Hy@writebookmark#1#2#3#4#5{%
10836   % section number, text, label, level, file
10837   \ifx\WriteBookmarks\relax%
10838   \else
10839     \ifnum#4>\Hy@bookmarksdepth\relax
10840     \else
10841       \@writetorep{#1}{#2}{#3}{#4}{#5}%
10842     \fi
10843   \fi
10844 }
10845 \def\Hy@currentbookmarklevel{0}
10846 \def\Hy@numberline#1{#1 }
10847 \def\@writetorep#1#2#3#4#5{%
10848   \begingroup
10849     \edef\Hy@tempa{#5}%
10850     \ifx\Hy@tempa\Hy@bookmarkstype
10851       \edef\Hy@level{#4}%
10852       \ifx\Hy@levelcheck Y%
10853         \@tempcnta\Hy@level\relax
10854         \advance\@tempcnta by -1 %
10855         \ifnum\Hy@currentbookmarklevel<\@tempcnta
10856           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
10857           \advance\@tempcnta by 1 %
10858           \Hy@Warning{%
10859             Difference (\the\@tempcnta) between bookmark levels is %
10860             greater \MessageBreak than one, level fixed%
10861           }%
10862           \@tempcnta\Hy@currentbookmarklevel
10863           \advance\@tempcnta by 1 %
10864           \edef\Hy@level{\the\@tempcnta}%

```

```

10865     \fi
10866   \else
10867     \global\let\Hy@levelcheck Y%
10868   \fi
10869   \global\let\Hy@currentbookmarklevel\Hy@level
10870   \@tempcnta\Hy@level\relax
10871   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
10872   \advance\@tempcnta by -1 %
10873   \edef\Hy@tempa{#3}%
10874   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
10875   \ifx\Hy@tempa\Hy@tempb
10876     \Hy@Warning{%
10877       The anchor of a bookmark and its parent's must not%
10878       \MessageBreak be the same. Added a new anchor%
10879     }%
10880     \phantomsection
10881   \fi
10882   \ifHy@bookmarksnumbered
10883     \let\numberline\Hy@numberline
10884     \let\partnumberline\Hy@numberline
10885     \let\chapternumberline\Hy@numberline
10886   \else
10887     \let\numberline\@gobble
10888     \let\partnumberline\@gobble
10889     \let\chapternumberline\@gobble
10890   \fi
10891   \pdfstringdef\Hy@tempa{#2}%
10892   \if@filesw
10893     \protected@write\@outlinefile{}{%
10894       \protect\BOOKMARK
10895         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
10896         {\Hy@tempa}{\Hy@tempb}%
10897     }%
10898   \fi
10899   \fi
10900 \endgroup
10901 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

10902 \newcommand{\currentpdfbookmark}{%
10903   \pdfbookmark[\Hy@currentbookmarklevel]%
10904 }
10905 \newcommand{\subpdfbookmark}{%
10906   \@tempcnta\Hy@currentbookmarklevel
10907   \Hy@StepCount\@tempcnta
10908   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
10909 }
10910 \newcommand{\belowpdfbookmark}[2]{%
10911   \@tempcnta\Hy@currentbookmarklevel
10912   \Hy@StepCount\@tempcnta
10913   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
10914   \advance\@tempcnta by -1 %
10915   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
10916 }

```

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.

```

10917 \renewcommand\pdfbookmark[3][0]{%
10918   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
10919   \hyper@anchorstart{#3.#1}\hyper@anchorend
10920 }
10921 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
10922 \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.

```

10923 <*vtex>
10924 \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.

```

10925 \begingroup
10926   \catcode'\'=12 %
10927   \ifnum\Hy@VTeXversion<650 %
10928     \catcode'\=12 %
10929     \gdef\hv@pdf@char#1#2#3{%
10930       \char
10931       \ifcase'#1#2#3 %
10932         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
10933         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
10934         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
10935         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
10936         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
10937         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
10938         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
10939         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
10940         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
10941         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
10942         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
10943         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
10944         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
10945         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
10946         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
10947         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
10948         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
10949         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
10950         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
10951         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
10952         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
10953         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
10954         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
10955         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
10956         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
10957         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
10958         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
10959         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
10960         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
10961         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
10962         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

```

```

10963      \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
10964      \fi
10965    }%
10966  \else
10967    \gdef\hv@pdf@char{\char'}%
10968  \fi
10969 \endgroup

```

\@@BOOKMARK

```

10970 \def\@@BOOKMARK[#1][#2]#3#4#5{%
10971   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
10972   \edef\@mycount{\the\@serial@counter}%
10973   \Hy@StepCount\@serial@counter
10974   \edef\@parcount{%
10975     \expandafter\ifx\csname @count@#5\endcsname\relax
10976     0%
10977     \else
10978       \csname @count@#5\endcsname
10979     \fi
10980   }%
10981   \immediate\special{%
10982     !outline #3;p=\@parcount,i=\@mycount,%
10983     s=\ifx#2-c\else o\fi,t=#4%
10984   }%
10985 }%

```

\ReadBookmarks

```

10986 \def\ReadBookmarks{%
10987   \begingroup
10988     \def\0{\hv@pdf@char 0}%
10989     \def\1{\hv@pdf@char 1}%
10990     \def\2{\hv@pdf@char 2}%
10991     \def\3{\hv@pdf@char 3}%
10992     \def\({}%
10993     \def\)}%
10994     \def\do##1{%
10995       \ifnum\the\catcode'##1=\active
10996       \@makeother##1%
10997     \fi
10998   }%
10999   \dospecials
11000   \InputIfFileExists{\jobname.out}{\}{}%
11001 \endgroup
11002 \ifx\WriteBookmarks\relax
11003 \else
11004   \if@filesw
11005     \newwrite\@outlinefile
11006     \immediate\openout\@outlinefile=\jobname.out\relax
11007     \ifHy@typexml
11008       \immediate\write\@outlinefile{<relaxxml>\relax}%
11009     \fi
11010   \fi
11011 \fi
11012 }

11013 </vtex>
11014 <!*vtex>

```



```

11015 \def\ReadBookmarks{%
11016   \begingroup
11017   \escapechar='\'%
11018   \let\escapechar\@gobble %
11019   \def\@@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11020   \InputIfFileExists{\jobname.out}{-}{-}%
11021   \ifx\WriteBookmarks\relax
11022     \global\let\WriteBookmarks\relax
11023   \fi
11024   \def\@@BOOKMARK[##1][##2]##3##4##5{%
11025     \def\Hy@temp{##4}%
11026 \<pdfTex>
11027     \Hy@pstringdef\Hy@pstringName{##3}%
11028     \Hy@OutlineName{}\Hy@pstringName{%
11029       ##2\check@bm@number{##3}%
11030     }%
11031     \expandafter\strip@prefix\meaning\Hy@temp
11032   }%
11033 \</pdfTex>
11034 \<pdfmark>
11035     \Hy@pstringdef\Hy@pstringName{##3}%
11036     \pdfmark{%
11037       pdfmark=/OUT,%
11038       Count={##2\check@bm@number{##3}},%
11039       Dest={\Hy@pstringName},%
11040       Title=\expandafter\strip@prefix\meaning\Hy@temp
11041     }%
11042 \</pdfmark>
11043 \<dvipdfm>
11044     \Hy@pstringdef\Hy@pstringName{##3}%
11045     \@pdfm@mark{%
11046       outline \ifHy@DvipdfmxOutlineOpen
11047         [%
11048           \ifnum##21>\z@
11049           \else
11050             -%
11051           \fi
11052         ] %
11053       \fi
11054       ##1<<%
11055       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11056       /A<<%
11057       /S/GoTo%
11058       /D(\Hy@pstringName)%
11059       >>%
11060     >>%
11061   }%
11062 \</dvipdfm>
11063 }%
11064 {%
11065   \def\WriteBookmarks{0}%
11066   \InputIfFileExists{\jobname.out}{-}{-}%
11067 }%
11068 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11069 \ifx\WriteBookmarks\relax
11070 \else
11071   \if@filesW

```

```

11072      \newwrite\@outlinefile
11073      \immediate\openout\@outlinefile=\jobname.out\relax
11074      \ifHy@typexml
11075          \immediate\write\@outlinefile{<relaxxml>\relax}%
11076      \fi
11077  \fi
11078  \fi
11079  \endgroup
11080 }
11081 <*pdftex>
11082 \def\Hy@OutlineName#1#2#3#4{%
11083   \pdfoutline goto name{#2}count#3{#4}%
11084 }
11085 </pdftex>
11086 \def\check@bm@number#1{%
11087   \expandafter\ifx\csname B_#1\endcsname\relax
11088     0%
11089   \else
11090     \csname B_#1\endcsname
11091   \fi
11092 }
11093 \def\calc@bm@number#1{%
11094   \@tempcnta=\check@bm@number{#1}\relax
11095   \advance\@tempcnta by 1 %
11096   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11097 }
11098 </!vtex>
11099 \ifHy@implicit
11100 \else
11101   \expandafter\endinput
11102 \fi
11103 </outlines>
11104 <*outlines | hypertex>
11105 \let\H@old@ssect\@ssect
11106 \def\@ssect#1#2#3#4#5{%
11107   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11108   \phantomsection
11109 }
11110 \let\H@old@schapter\@schapter
11111 \def\@schapter#1{%
11112   \H@old@schapter{#1}%
11113   \begingroup
11114     \let\@mkboth\@gobbletwo
11115     \Hy@GlobalStepCount\Hy@linkcounter
11116     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11117     \Hy@raisedlink{%
11118       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11119     }%
11120   \endgroup
11121 }

```

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:

```

11122 \@ifundefined{@chapter}{-}{%
11123   \let\Hy@org@chapter\@chapter

```

```

11124 \def\@chapter{%
11125   \def\Hy@next{%
11126     \Hy@GlobalStepCount\Hy@linkcounter
11127     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11128     \Hy@raisedlink{%
11129       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11130     }%
11131   }%
11132   \ifnum\c@secnumdepth>\m@ne
11133     \@ifundefined{if@mainmatter}%
11134     \iftrue{\csname if@mainmatter\endcsname}%
11135     \let\Hy@next\relax
11136   \fi
11137 \fi
11138 \Hy@next
11139 \Hy@org@chapter
11140 }%
11141 }

11142 \let\H@old@part\@part
11143 \begingroup\expandafter\expandafter\expandafter\endgroup
11144 \expandafter\ifx\csname chapter\endcsname\relax
11145   \let\Hy@secnum@part\z@
11146 \else
11147   \let\Hy@secnum@part\m@ne
11148 \fi
11149 \def\@part{%
11150   \ifnum\Hy@secnum@part>\c@secnumdepth
11151     \phantomsection
11152   \fi
11153   \H@old@part
11154 }

11155 \let\H@old@spart\@spart
11156 \def\@spart#1{%
11157   \H@old@spart{#1}%
11158   \Hy@GlobalStepCount\Hy@linkcounter
11159   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11160   \Hy@raisedlink{%
11161     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11162   }%
11163 }

11164 \let\H@old@sect\@sect
11165 \def\@sect#1#2#3#4#5#6[#7]#8{%
11166   \ifnum #2>\c@secnumdepth
11167     \Hy@GlobalStepCount\Hy@linkcounter
11168     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11169   \fi
11170   \H@old@sect{#1}-{#2}-{#3}-{#4}-{#5}-{#6}[#{7}]{#8}%
11171   \ifnum #2>\c@secnumdepth
11172     \Hy@raisedlink{%
11173       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11174     }%
11175   \fi
11176 }

11177 </outlines | hypertex>
11178 <*outlines>

11179 \expandafter\def\csname Parent-4\endcsname{}

```

```

11180 \expandafter\def\csname Parent-3\endcsname{}
11181 \expandafter\def\csname Parent-2\endcsname{}
11182 \expandafter\def\csname Parent-1\endcsname{}
11183 \expandafter\def\csname Parent0\endcsname{}
11184 \expandafter\def\csname Parent1\endcsname{}
11185 \expandafter\def\csname Parent2\endcsname{}
11186 \expandafter\def\csname Parent3\endcsname{}
11187 \expandafter\def\csname Parent4\endcsname{}
11188 </outlines>

```

49 Compatibility with koma-script classes

```
11189 < *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.

```

11190 \def\Hy@tempa{%
11191   \def\@addchap[##1]##2{%
11192     \typeout{##2}%
11193     \if@twoside
11194       \mkboth{##1}{}%
11195     \else
11196       \mkboth{}{##1}%
11197     \fi
11198     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11199     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11200     \Hy@GlobalStepCount\Hy@linkcounter
11201     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11202     \Hy@raisedlink{%
11203       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11204     }%
11205     \if@twocolumn
11206       \topnewpage[\@makeschapterhead{##2}]%
11207     \else
11208       \@makeschapterhead{##2}%
11209       \@afterheading
11210     \fi
11211     \addcontentsline{toc}{chapter}{##1}%
11212   }%
11213 }
11214 \@ifclassloaded{scrbook}{%
11215   \@ifclasslater{scrbook}{2001/01/01}{%
11216     \let\Hy@tempa\@empty
11217   }{%
11218 }%
11219 \@ifclassloaded{scrreprt}{%
11220   \@ifclasslater{scrreprt}{2001/01/01}{%
11221     \let\Hy@tempa\@empty
11222   }{%
11223 }%
11224   \let\Hy@tempa\@empty
11225 }%
11226 }%
11227 \Hy@tempa
11228 </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

```
11229 (*pd1enc)
11230 \DeclareFontEncoding{PD1}{-}{-}
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
11231 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
11232 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
11233 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
11234 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
11235 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed
```

Accents

```
11236 \DeclareTextAccent{\'}{PD1}{\textgrave}
11237 \DeclareTextAccent{\'}{PD1}{\textacute}
11238 \DeclareTextAccent{\~}{PD1}{\textcircumflex}
11239 \DeclareTextAccent{\~}{PD1}{\texttilde}
11240 \DeclareTextAccent{\"}{PD1}{\textdieresis}
11241 \DeclareTextAccent{\r}{PD1}{\textring}
11242 \DeclareTextAccent{\v}{PD1}{\textcaron}
11243 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11244 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11245 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textgrave}
11246 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11247 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textcircumflex}
11248 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11249 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
11250 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11251 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
11252 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11253 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11254 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
```

Accent glyph names

```
11255 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
11256 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
11257 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
11258 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
11259 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut
11260 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
11261 \DeclareTextCommand{\textring}{PD1}{\036} % ring
11262 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde
```

\040: space

\041: exclam

```
11263 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
11264 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
11265 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
11266 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
11267 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand
```

\047: quotesingle

```
11268 \DeclareTextCommand{\textparenleft}{PD1}{\string\({} % parenleft \050
11269 \DeclareTextCommand{\textparenright}{PD1}{\string\)} % parenright \051
```

\052: asterisk

\053: plus

```

\054: comma
\055: hyphen
\056: period
\057: slash
\060...\071: 0...9
\072: colon
\073: semicolon
11270 \DeclareTextCommand{\textless}{PD1}{<} % less \074
\075: equal
11271 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076
\077: question
\100: at
\101...\132: A...Z
\133: bracketleft
11272 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
\135: bracketright
11273 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
11274 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
11275 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
\141...\172: a...z
11276 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
11277 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
11278 \DeclareTextCommand{\textbar}{PD1}{|} % bar
11279 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
11280 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
No glyph \177 in PDFDocEncoding.
11281 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
11282 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
11283 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
11284 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
11285 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
11286 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
11287 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
11288 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
11289 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
11290 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
11291 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
11292 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
11293 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
11294 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
11295 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
11296 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
11297 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
11298 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
11299 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
11300 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
11301 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
11302 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
11303 \DeclareTextCommand{\OE}{PD1}{\226} % OE
11304 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
11305 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230} % Ydieresis
11306 \DeclareTextCommand{\IJ}{PD1}{\230}
11307 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231
11308 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
11309 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233

```

```

11310 \DeclareTextCommand{\oe}{PD1}{\234} % oe
11311 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
11312 \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.

```

11313 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
11314 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
11315 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
11316 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
11317 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
11318 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
11319 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
11320 \DeclareTextCommand{\textsection}{PD1}{\247} % section
11321 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
11322 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
11323 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
11324 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
11325 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11326 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
11327 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
11328 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
11329 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
11330 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
11331 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
11332 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
11333 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
11334 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
11335 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
11336 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
11337 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
11338 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
11339 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
11340 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
11341 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
11342 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
11343 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
11344 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
11345 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301} % Aacute
11346 \DeclareTextCompositeCommand{\~}{PD1}{A}{\302} % Acircumflex
11347 \DeclareTextCompositeCommand{\`}{PD1}{A}{\303} % Atilde
11348 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304} % Adieresis
11349 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
11350 \DeclareTextCommand{\AE}{PD1}{\306} % AE
11351 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
11352 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
11353 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311} % Eacute
11354 \DeclareTextCompositeCommand{\~}{PD1}{E}{\312} % Ecircumflex
11355 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313} % Edieresis
11356 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
11357 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315} % Iacute
11358 \DeclareTextCompositeCommand{\~}{PD1}{I}{\316} % Icircumflex
11359 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317} % Idieresis
11360 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
11361 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
11362 \DeclareTextCompositeCommand{\`}{PD1}{N}{\321} % Ntilde
11363 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322} % Ograve

```

```

11364 \DeclareTextCompositeCommand{\'}{PD1}{0}{\323} % Oacute
11365 \DeclareTextCompositeCommand{\^}{PD1}{0}{\324} % Ocircumflex
11366 \DeclareTextCompositeCommand{\~}{PD1}{0}{\325} % Otilde
11367 \DeclareTextCompositeCommand{\"}{PD1}{0}{\326} % Odieresis
11368 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
11369 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
11370 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331} % Ugrave
11371 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
11372 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333} % Ucircumflex
11373 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
11374 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
11375 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
11376 \DeclareTextCommand{\ss}{PD1}{\337} % germanbls
11377 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340} % agrave
11378 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute
11379 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342} % acircumflex
11380 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
11381 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
11382 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
11383 \DeclareTextCommand{\ae}{PD1}{\346} % ae
11384 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
11385 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350} % egrave
11386 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
11387 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
11388 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
11389 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11390 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11391 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11392 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11393 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11394 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356} % icircumflex
11395 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11396 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11397 \DeclareTextCommand{\dh}{PD1}{\360} % eth
11398 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
11399 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362} % ograve
11400 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
11401 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
11402 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
11403 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
11404 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
11405 \DeclareTextCommand{\o}{PD1}{\370} % oslash
11406 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371} % ugrave
11407 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
11408 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
11409 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
11410 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
11411 \DeclareTextCommand{\th}{PD1}{\376} % thorn
11412 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
11413 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

11414 \DeclareTextCommand{\SS}{PD1}{SS}
11415 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

11416 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
11417 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
11418 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}

```



```

11419 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
11420 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
11421 \DeclareTextCommand{\textfrq}{PD1}{\guillemotright}
11422 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
11423 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

11424 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
11425 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
11426 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
11427 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
11428 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
11429 \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;

```

11430 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
11431 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
11432 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
11433 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
11434 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
11435 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
11436 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
11437 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
11438 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
11439 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
11440 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
11441 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
11442 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
11443 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot

```

```

11444 \pdfenc)

```

50.2 PU encoding

```

11445 \langle *puenc \rangle
11446 \DeclareFontEncoding{PU}{-}{-}

```

50.2.1 Basic Latin

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11447 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
11448 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
11449 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
11450 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
11451 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

11452 \DeclareTextAccent{\'}{PU}{\textgrave}
11453 \DeclareTextAccent{\'}{PU}{\textacute}
11454 \DeclareTextAccent{\^}{PU}{\textcircumflex}
11455 \DeclareTextAccent{\~}{PU}{\texttilde}
11456 \DeclareTextAccent{"}{PU}{\textdieresis}
11457 \DeclareTextAccent{\r}{PU}{\textring}
11458 \DeclareTextAccent{\v}{PU}{\textcaron}
11459 \DeclareTextAccent{\.}{PU}{\textdotaccent}
11460 \DeclareTextAccent{\c}{PU}{\textcedilla}
11461 \DeclareTextAccent{\U}{PU}{\textbreve}
11462 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
11463 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textgrave}
11464 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}

```

```

11465 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textcircumflex}
11466 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
11467 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
11468 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
11469 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
11470 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
11471 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
11472 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
11473 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
11474 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
11475 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
11476 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
11477 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

Accent glyph names
11478 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
11479 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
11480 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
11481 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
11482 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
11483 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
11484 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
11485 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
11486 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

11487 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
11488 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
11489 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
11490 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
11491 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

11492 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
11493 \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

11494 \DeclareTextCommand{\textless}{PU}{<} % less \80\074

\075: equal

11495 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

11496 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash

\135: bracketright

11497 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum

```

```

11498 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
11499 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
\141... \172: a...z
11500 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
11501 \DeclareTextCommand{\j}{PU}{j} % jdotless
11502 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
11503 \DeclareTextCommand{\textbar}{PU}{|} % bar
11504 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
11505 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
No glyph \177 in PDFDocEncoding.

```

50.2.2 Latin-1 Supplement

```

11506 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
11507 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
11508 \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.

```

11509 \DeclareTextCommand{\OE}{PU}{OE} % OE
11510 \DeclareTextCommand{\oe}{PU}{oe} % oe

```

The euro \240 is inserted in version 1.3 of the pdf specification.

```

11511 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
11512 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
11513 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
11514 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
11515 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
11516 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
11517 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
11518 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
11519 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
11520 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
11521 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
11522 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11523 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
11524 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
11525 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
11526 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
11527 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
11528 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
11529 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
11530 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
11531 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
11532 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
11533 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
11534 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
11535 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
11536 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
11537 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
11538 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
11539 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
11540 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
11541 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300} % Agrave
11542 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute

```

```

11543 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\302} % Acircumflex
11544 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
11545 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
11546 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
11547 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
11548 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
11549 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310} % Egrave
11550 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
11551 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
11552 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
11553 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314} % Igrave
11554 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
11555 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
11556 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317} % Idieresis
11557 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
11558 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321} % Ntilde
11559 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322} % Ograve
11560 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323} % Oacute
11561 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324} % Ocircumflex
11562 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325} % Otilde
11563 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326} % Odieresis
11564 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
11565 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
11566 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331} % Ugrave
11567 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332} % Uacute
11568 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333} % Ucircumflex
11569 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334} % Udieresis
11570 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335} % Yacute
11571 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
11572 \DeclareTextCommand{\ss}{PU}{\80\337} % germandbls
11573 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340} % agrave
11574 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341} % aacute
11575 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342} % acircumflex
11576 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343} % atilde
11577 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344} % adieresis
11578 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
11579 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
11580 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
11581 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350} % egrave
11582 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351} % eacute
11583 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352} % ecircumflex
11584 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353} % edieresis
11585 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
11586 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
11587 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
11588 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
11590 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
11591 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
11592 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
11593 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
11594 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361} % ntilde
11595 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362} % ograve
11596 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363} % oacute
11597 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364} % ocircumflex
11598 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365} % otilde
11599 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366} % odieresis

```

```

11600 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
11601 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
11602 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
11603 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
11604 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373} % ucircumflex
11605 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
11606 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
11607 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
11608 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
11609 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```

11610 \DeclareTextCommand{\SS}{PU}{SS}

```

Aliases (german.sty)

```

11611 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
11612 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
11613 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
11614 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
11615 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
11616 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
11617 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
11618 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

11619 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
11620 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
11621 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
11622 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
11623 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

50.2.3 Latin Extended-A

```

11624 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
11625 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
11626 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
11627 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
11628 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% Aogonek
11629 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% aogonek
11630 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% Cacute
11631 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% cacute
11632 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% Ccircumflex
11633 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% ccircumflex
11634 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% Cdot
11635 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% cdot
11636 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% Ccaron
11637 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% ccaron
11638 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% Dcaron
11639 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% dcaron
11640 \DeclareTextCommand{\DJ}{PU}{\81\020}% Dslash
11641 \DeclareTextCommand{\dj}{PU}{\81\021}% dslash
11642 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% Emacron
11643 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% emacron
11644 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% Ebreve
11645 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% ebreve
11646 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% Edot
11647 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% edot
11648 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% Eogonek
11649 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% eogonek
11650 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% Ecaron

```

```

11651 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
11652 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
11653 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % Gcircumflex
11654 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
11655 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
11656 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
11657 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
11658 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
11659 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
11660 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
11661 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % Hcircumflex
11662 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
11663 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
11664 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
11665 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
11666 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
11667 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
11668 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
11669 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
11670 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
11671 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
11672 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
11673 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
11674 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
11675 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
11676 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
11677 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
11678 % IJlig
11679 % ijlig
11680 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
11681 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
11682 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
11683 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
11684 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
11685 % kgreen
11686 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
11687 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
11688 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
11689 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
11690 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
11691 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
11692 % L middle dot
11693 % l middle dot
11694 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
11695 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
11696 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
11697 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
11698 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
11699 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
11700 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
11701 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
11702 % n apostrophe
11703 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
11704 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
11705 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron
11706 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
11707 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve

```

```

11708 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
11709 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
11710 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
11711 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
11712 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
11713 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
11714 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
11715 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
11716 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
11717 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
11718 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
11719 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
11720 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
11721 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex
11722 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135} % scircumflex
11723 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
11724 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
11725 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
11726 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
11727 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
11728 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
11729 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
11730 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
11731 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
11732 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
11733 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
11734 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
11735 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
11736 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
11737 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
11738 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
11739 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
11740 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
11741 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
11742 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
11743 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
11744 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
11745 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
11746 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
11747 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex
11748 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167} % ycircumflex
11749 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170} % Ydieresis
11750 \DeclareTextCommand{\IJ}{PU}{\81\170}
11751 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
11752 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
11753 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
11754 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
11755 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
11756 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

```

50.2.4 Latin Extended-B

```

11757 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
11758 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
11759 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
11760 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
11761 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
11762 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron

```

```

11763 \DeclareTextCompositeCommand{\v}{PU}{0}{\81\321} % Ocaron
11764 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
11765 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
11766 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
11767 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
11768 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
11769 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
11770 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
11771 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
11772 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
11773 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
11774 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

```

50.2.5 Greek

```

11775 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
11776 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
11777 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
11778 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
11779 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
11780 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
11781 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
11782 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
11783 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
11784 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
11785 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
11786 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
11787 \DeclareTextCommand{\textBeta}{PU}{\83\222}
11788 \DeclareTextCommand{\textGamma}{PU}{\83\223}
11789 \DeclareTextCommand{\textDelta}{PU}{\83\224}
11790 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
11791 \DeclareTextCommand{\textZeta}{PU}{\83\226}
11792 \DeclareTextCommand{\textEta}{PU}{\83\227}
11793 \DeclareTextCommand{\textTheta}{PU}{\83\230}
11794 \DeclareTextCommand{\textIota}{PU}{\83\231}
11795 \DeclareTextCommand{\textKappa}{PU}{\83\232}
11796 \DeclareTextCommand{\textLambda}{PU}{\83\233}
11797 \DeclareTextCommand{\textMu}{PU}{\83\234}
11798 \DeclareTextCommand{\textNu}{PU}{\83\235}
11799 \DeclareTextCommand{\textXi}{PU}{\83\236}
11800 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
11801 \DeclareTextCommand{\textPi}{PU}{\83\240}
11802 \DeclareTextCommand{\textRho}{PU}{\83\241}
11803 \DeclareTextCommand{\textSigma}{PU}{\83\243}
11804 \DeclareTextCommand{\textTau}{PU}{\83\244}
11805 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
11806 \DeclareTextCommand{\textPhi}{PU}{\83\246}
11807 \DeclareTextCommand{\textChi}{PU}{\83\247}
11808 \DeclareTextCommand{\textPsi}{PU}{\83\250}
11809 \DeclareTextCommand{\textOmega}{PU}{\83\251}
11810 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}
11811 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}
11812 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
11813 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
11814 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
11815 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
11816 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
11817 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}

```



```

11818 \DeclareTextCommand{\textalpha}{PU}{\83\261}
11819 \DeclareTextCommand{\textbeta}{PU}{\83\262}
11820 \DeclareTextCommand{\textgamma}{PU}{\83\263}
11821 \DeclareTextCommand{\textdelta}{PU}{\83\264}
11822 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
11823 \DeclareTextCommand{\textzeta}{PU}{\83\266}
11824 \DeclareTextCommand{\texteta}{PU}{\83\267}
11825 \DeclareTextCommand{\texttheta}{PU}{\83\270}
11826 \DeclareTextCommand{\textiota}{PU}{\83\271}
11827 \DeclareTextCommand{\textkappa}{PU}{\83\272}
11828 \DeclareTextCommand{\textlambda}{PU}{\83\273}
11829 \DeclareTextCommand{\textmu}{PU}{\83\274}
11830 \DeclareTextCommand{\textnu}{PU}{\83\275}
11831 \DeclareTextCommand{\textxi}{PU}{\83\276}
11832 \DeclareTextCommand{\textomicron}{PU}{\83\277}
11833 \DeclareTextCommand{\textpi}{PU}{\83\300}
11834 \DeclareTextCommand{\textrho}{PU}{\83\301}
11835 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
11836 \DeclareTextCommand{\textsigma}{PU}{\83\303}
11837 \DeclareTextCommand{\texttau}{PU}{\83\304}
11838 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
11839 \DeclareTextCommand{\textphi}{PU}{\83\306}
11840 \DeclareTextCommand{\textchi}{PU}{\83\307}
11841 \DeclareTextCommand{\textpsi}{PU}{\83\310}
11842 \DeclareTextCommand{\textomega}{PU}{\83\311}
11843 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}
11844 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}
11845 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}
11846 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}
11847 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}
11848 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
11849 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
11850 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
11851 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
11852 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
11853 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
11854 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
11855 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
11856 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
11857 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}
11858 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}
11859 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
11860 %\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.

```

11861 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
11862 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}%
11863 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
11864 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% GJE
11865 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
11866 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
11867 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
11868 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
11869 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
11870 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE

```

11871 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
11872 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
11873 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
11874 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
11875 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
11876 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
11877 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
11878 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
11879 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
11880 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
11881 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
11882 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
11883 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
11884 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
11885 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
11886 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
11887 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
11888 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
11889 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
11890 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
11891 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
11892 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
11893 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
11894 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
11895 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
11896 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
11897 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
11898 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
11899 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
11900 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
11901 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
11902 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
11903 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
11904 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
11905 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
11906 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
11907 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
11908 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
11909 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
11910 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
11911 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
11912 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
11913 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
11914 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
11915 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
11916 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
11917 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
11918 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
11919 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
11920 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
11921 \DeclareTextCommand{\cyrl}{PU}{\84\073}% el
11922 \DeclareTextCommand{\cyrn}{PU}{\84\074}% em
11923 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
11924 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
11925 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
11926 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
11927 \DeclareTextCommand{\cyrs}{PU}{\84\101}% es

11928 \DeclareTextCommand{\cyr t}{PU}{\84\102}% te
11929 \DeclareTextCommand{\cyr u}{PU}{\84\103}% u
11930 \DeclareTextCommand{\cyr f}{PU}{\84\104}% ef
11931 \DeclareTextCommand{\cyr h}{PU}{\84\105}% ha
11932 \DeclareTextCommand{\cyr c}{PU}{\84\106}% tse
11933 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% che
11934 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% sha
11935 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% shcha
11936 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% hard sign
11937 \DeclareTextCommand{\cyr rery}{PU}{\84\113}% yeru
11938 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% soft sign
11939 \DeclareTextCommand{\cyr rerev}{PU}{\84\115}% e
11940 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% yu
11941 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% ya
11942 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% io
11943 \DeclareTextCompositeCommand{\ "}{PU}{\cyr e}{\84\121}%
11944 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% dje
11945 \DeclareTextCompositeCommand{\ '}{PU}{\cyr g}{\84\123}% gje
11946 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% ukrainian ie
11947 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% dze
11948 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% byelorussian-ukrainian i
11949 \DeclareTextCommand{\cyr yi}{PU}{\84\127}% yi
11950 \DeclareTextCommand{\cyr je}{PU}{\84\130}% je
11951 \DeclareTextCommand{\cyr lje}{PU}{\84\131}% lje
11952 \DeclareTextCommand{\cyr nje}{PU}{\84\132}% nje
11953 \DeclareTextCommand{\cyr tshe}{PU}{\84\133}% tshe
11954 \DeclareTextCompositeCommand{\ '}{PU}{\cyr k}{\84\134}% kje
11955 \DeclareTextCommand{\cyr shr t}{PU}{\84\136}% short u
11956 \DeclareTextCommand{\cyr dzhe}{PU}{\84\137}% dzhe
11957 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
11958 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
11959 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
11960 \DeclareTextCommand{\cyryat}{PU}{\84\143}% yat
11961 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
11962 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
11963 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
11964 \DeclareTextCommand{\cyr lyus}{PU}{\84\147}% little yus
11965 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
11966 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% iotified little yus
11967 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS
11968 \DeclareTextCommand{\cyr byus}{PU}{\84\153}% big yus
11969 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
11970 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% iotified big yus
11971 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
11972 \DeclareTextCommand{\cyr ksi}{PU}{\84\157}% ksi
11973 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
11974 \DeclareTextCommand{\cyr psi}{PU}{\84\161}% psi
11975 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
11976 \DeclareTextCommand{\cyr fita}{PU}{\84\163}% fita
11977 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
11978 \DeclareTextCommand{\cyr izh}{PU}{\84\165}% izhitsa
11979 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
11980 \DeclareTextCompositeCommand{\C}{PU}{\cyr izh}{\84\167}% izhitsa double grave
11981 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
11982 \DeclareTextCommand{\cyr uk}{PU}{\84\171}% uk
11983 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
11984 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega

11985 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
11986 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
11987 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
11988 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
11989 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
11990 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
11991 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
11992 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
11993 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
11994 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
11995 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
11996 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
11997 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
11998 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
11999 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
12000 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
12001 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
12002 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
12003 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
12004 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
12005 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
12006 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
12007 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% ka descender
12008 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
12009 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
12010 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
12011 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% ka stroke
12012 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
12013 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
12014 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
12015 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
12016 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
12017 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
12018 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
12019 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
12020 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
12021 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
12022 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
12023 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
12024 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
12025 \DeclareTextCommand{\cyrtldsc}{PU}{\84\255}% te descender
12026 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
12027 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
12028 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
12029 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% straight u stroke
12030 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
12031 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
12032 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
12033 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% ligature te tse
12034 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
12035 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
12036 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
12037 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke
12038 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
12039 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
12040 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
12041 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che

12042 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
12043 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
12044 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
12045 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
12046 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\302}% zhe breve
12047 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
12048 \DeclareTextCommand{\cyrk}{PU}{\84\304}% ka hook
12049 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
12050 \DeclareTextCommand{\cyrn}{PU}{\84\310}% en hook
12051 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
12052 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
12053 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
12054 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
12055 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% A diaeresis
12056 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% a diaeresis
12057 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
12058 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
12059 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
12060 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
12061 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
12062 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% schwa
12063 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
12064 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% schwa diaeresis
12065 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
12066 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% zhe diaeresis
12067 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
12068 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
12069 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
12070 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
12071 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% I macron
12072 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% i macron
12073 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
12074 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
12075 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
12076 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
12077 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
12078 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
12079 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
12080 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
12081 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U macron
12082 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% u macron
12083 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U diaeresis
12084 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% u diaeresis
12085 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
12086 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
12087 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
12088 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% che diaeresis
12089 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
12090 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% yeru diaeresis

50.2.7 Symbols

12091 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
12092 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
12093 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030} % quoteleft
12094 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
12095 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase

```

12096 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
12097 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
12098 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
12099 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
12100 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
12101 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
12102 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
12103 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
12104 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
12105 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
12106 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
12107 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
12108 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
12109 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
12110 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
12111 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
12112 %\DeclareTextCommand{\cyrlangle}{PU}{\9043\051}
12113 %\DeclareTextCommand{\cyrrangle}{PU}{\9043\052}

12114 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

12115 <*puvnenc>

12116 \DeclareTextCommand{\abreve}{PU}{\81\003}
12117 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
12118 \DeclareTextCommand{\dj}{PU}{\81\021}
12119 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
12120 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
12121 \DeclareTextCommand{\ohorn}{PU}{\81\241}
12122 \DeclareTextCommand{\uhorn}{PU}{\81\260}
12123 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
12124 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
12125 \DeclareTextCommand{\DJ}{PU}{\81\020}
12126 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
12127 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
12128 \DeclareTextCommand{\OHORN}{PU}{\81\240}
12129 \DeclareTextCommand{\UHORN}{PU}{\81\257}

12130 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
12131 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
12132 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
12133 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
12134 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
12135 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
12136 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
12137 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
12138 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
12139 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
12140 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
12141 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
12142 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
12143 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
12144 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
12145 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
12146 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
12147 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}

```

12148 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
12149 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
12150 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
12151 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
12152 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
12153 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
12154 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
12155 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
12156 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
12157 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
12158 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
12159 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
12160 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
12161 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
12162 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
12163 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
12164 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
12165 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
12166 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
12167 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
12168 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
12169 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
12170 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
12171 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
12172 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
12173 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
12174 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
12175 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
12176 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
12177 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
12178 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
12179 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
12180 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
12181 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
12182 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
12183 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
12184 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
12185 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
12186 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
12187 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
12188 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
12189 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
12190 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
12191 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
12192 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
12193 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
12194 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
12195 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
12196 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
12197 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
12198 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
12199 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
12200 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
12201 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
12202 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
12203 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
12204 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}

```

12205 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
12206 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
12207 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
12208 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
12209 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
12210 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
12211 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
12212 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
12213 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
12214 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
12215 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
12216 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
12217 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
12218 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
12219 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
12220 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
12221 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
12222 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
12223 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
12224 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
12225 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
12226 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
12227 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
12228 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
12229 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
12230 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
12231 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
12232 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
12233 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
12234 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
12235 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
12236 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
12237 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
12238 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
12239 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
12240 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
12241 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
12242 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
12243 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
12244 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
12245 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
12246 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
12247 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
12248 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
12249 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
12250 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
12251 <*puarenc>
```

```

12252 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
12253 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
12254 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
12255 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
12256 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA

```


12257 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
12258 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
12259 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
12260 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
12261 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
12262 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
12263 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
12264 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
12265 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
12266 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
12267 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
12268 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
12269 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
12270 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
12271 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
12272 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
12273 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
12274 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
12275 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
12276 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
12277 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
12278 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWHEEL
12279 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
12280 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
12281 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
12282 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
12283 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
12284 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
12285 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
12286 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
12287 \DeclareTextCommand{\alefmaqura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
12288 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

12289 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
12290 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
12291 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
12292 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
12293 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
12294 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
12295 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
12296 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi
12297 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
12298 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
12299 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
12300 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
12301 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
12302 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

12303 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
12304 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

12305 </puarenc>

51 End of file hycheck.tex

12306 <*check>

```
12307 \typeout{}  
12308 \begin{document}  
12309 \end{document}  
12310 </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	12180, 12185, 12190, 12195,	\@Gauge . . 4035, 7533, 9485, 9681,
\"	202, 227, 2292, 10928, 11240,	12200, 12205, 12210, 12215,	9702, 9726, 9863, <u>10177</u>
	11249, 11305, 11348, 11355,	12220, 12225, 12230, 12235,	\@Localurlfalse 7488
	11359, 11367, 11373, 11381,	12240, 12245	\@Localurltrue 7485
	11388, 11395, 11396, 11403,	\(. 190, 215, 579, 582, 584, 10992,	\@M 788, 1672
	11409, 11412, 11456, 11467,	11268	\@PushButton 4032,
	11545, 11552, 11556, 11563,	\) . 191, 216, 551, 557, 560, 10993,	7545, 9606, 9693, 9714, 9823,
	11569, 11577, 11584, 11591,	11269	<u>10029</u> , <u>10363</u>
	11592, 11599, 11605, 11608,	\+ 200, 225	\@Refstar 6102, 6109
	11749, 11810, 11811, 11817,	\- 201, 226	\@Reset . . 4041, 7548, 9641, 9696,
	11843, 11844, 11862, 11943,	\. . 198, 223, 11243, 11252, 11276,	9717, 9839, 10070, <u>10412</u>
	12055, 12056, 12063, 12064,	11436, 11443, 11459, 11470,	\@Roman 458
	12065, 12066, 12067, 12068,	11500, 11634, 11635, 11646,	\@SCTR 5849, 5901
	12073, 12074, 12075, 12076,	11647, 11656, 11657, 11676,	\@SetMaxRnhfLabel 5359
	12079, 12080, 12083, 12084,	11753, 11754	\@Submit . 4038, 7551, 9623, 9697,
	12087, 12088, 12089, 12090	\/ 194, 219, 495, 496, 497, 562, 1218	9718, 9836, 10048, <u>10388</u>
\#	397, 1476, 1477, 3126, 3136, 3138,	\: 189, 214	\@TextField . . 4023, 7536, 9488,
	3152, 3184, 3199, 3269, 6292,	\; 199, 224, 5990	9684, 9705, 9729, 9901, <u>10215</u>
	6294, 6887, 6896, 6923, 7481,	\< 196, 221	\@addchap 11191
	8978, 8987, 9014, 9243, 9252,	\= 167, 173, 180, 183, 11474, 11624,	\@addtoreset . . 5681, 5682, 5696,
	9278	11625, 11642, 11643, 11667,	5846
		11668, 11669, 11705, 11706,	\@afterheading 11209
\\$	184, 209, 398, 3128, 3198	11735, 11736, 12071, 12072,	\@anchorcolor . 6860, 6941, 7595,
\%	399, 1451, 1452, 3125, 3133, 3135,	12081, 12082	8951, 9217
	3185, 6294	\> 197, 222	\@arabic 758, 763, 767, 4710
\&	185, 210, 400, 3139, 9024	\@ 2283	\@auxout . 1627, 3268, 4221, 4223,
\'	203, 228, 2232, 2246, 2287,	\@@@ 1633	4764, 4792, 5305, 5320, 5336,
	2289, 2290, 2291, 2292, 2297,	\@BOOKMARK 10921, 10922, <u>10970</u> ,	5346, 5376, 5399, 5425, 5431,
	2298, 2300, 2305, 2311, 2315,	11019, 11024	5455
	2316, 2319, 2344, 2345, 2350,	\@ListBox . . . 9579, 9599, 9993,	\@backslashchar 1378, 3147, 6307,
	2351, 2352, 2353, 2354, 2355,	10021, 10316, <u>10349</u>	6317
	2356, 2357, 2359, 2363, 2376,	\@Menu 9789, 9797	\@baseurl 2536, 2538, 3348, 6607,
	10926, 11237, 11246, 11345,	\@PasswordField . . . 9738, 9744	6610, 6847, 6849, 7084, 7086,
	11353, 11357, 11364, 11371,	\@Radio . 9564, 9585, 9787, 9811,	7420, 7430, 7457, 7459, 7931,
	11374, 11378, 11386, 11391,	9978, 9999, 10301, <u>10322</u>	7933, 8297, 8311, 8938, 8940,
	11392, 11400, 11407, 11410,	\@TextField 9740, 9755	9115, 9129, 9205, 9207
	11431, 11433, 11434, 11435,	\@commahyperpage . . 5802, 5803	\@bibitem 5312, 5343
	11438, 11440, 11441, 11442,	\@hyperref 3233, 3234	\@biblabel 5285, 5332
	11453, 11464, 11542, 11550,	\@LatextohtmlX 2127, 3396	\@bookmarkopenstatus 3028, 3045,
	11554, 11560, 11567, 11570,	\@windex 5764, 5765	<u>10895</u>
	11574, 11582, 11587, 11588,	\@writetorep 10841, 10847	\@bookmarksopenlevel 2499, 2501,
	11596, 11603, 11606, 11630,	\@Alph 4709, 4710	<u>3031</u>
	11631, 11686, 11687, 11696,	\@BIBLABEL 5285, 5291, 5297	\@bsphack 1620, 3266, 5429
	11697, 11713, 11714, 11719,	\@BOOKMARK 10921, 10922	\@capstartfalse 5187
	11720, 11751, 11752, 11777,	\@CITE 5362, 5370	\@caption 5156, 5168, 5202, 5236,
	11778, 11779, 11780, 11781,	\@CITEX 5364	<u>5238</u>
	11782, 11783, 11785, 11812,	\@CheckBox 4029, 7539, 9657, 9687,	\@capttype 1629, 5151, 5155, 5159,
	11813, 11814, 11815, 11845,	9708, 9842, 10087, <u>10435</u>	5166, 5173, 5206, 5229, 5233,
	11846, 11847, 11864, 11873,	\@ChoiceMenu . . 4026, 7542, 9516,	<u>5236</u>
	11945, 11954, 12130, 12135,	9690, 9711, 9777, 9929, <u>10252</u>	\@car 1020, 1036, 1056, 2478, 3472,
	12140, 12145, 12150, 12155,	\@Form . . . 3822, 7531, 9306, 9679,	6559, 6570
	12160, 12165, 12170, 12175,	9700, 9721, 9873, 10180	\@cdr 6560, 6571

<code>\@chapter</code>	11123, 11124	<code>\@extra@b@citeb</code> 5270, 5273, 5290,	<code>\@hyper@linkfile</code> . . .	3309, 3312,
<code>\@cite</code>	5362, 5393, 5490, 5496	5295, 5315, 5363, 5385, 5401,		3316, 3338
<code>\@cite@opt</code> 5491, 5497, 5501, 5511		5408	<code>\@hyper@readexternallink</code> 3303,	
<code>\@citea</code>	5365, 5372, 5373, 5392,	<code>\@extra@b@info</code> . . .	3307	
5395, 5396		5269, 5272, 5276	<code>\@hyperdef</code>	3241, 3242
<code>\@citeb</code>	5371, 5374, 5376, 5378,	<code>\@fifthoffive</code> . . .	<code>\@hyperpage</code>	5794, 5795
5382, 5385, 5394, 5397, 5399,		2843, 3086, 3260,	<code>\@hyperref</code>	3222, 3233
5401, 5405, 5408		6056, 6171	<code>\@ifclasslater</code> . . .	11215, 11220
<code>\@citebordercolor</code>	2765	<code>\@filebordercolor</code> . .	<code>\@ifclassloaded</code> 1612, 4540, 4736,	
<code>\@citedata@opt</code>	5492, 5498, 5500	6480, 7268, 7270, 7662, 7664,	4773, 5354, 5830, 5834, 6774,	
<code>\@citedatax</code>	5507, 5512	8617, 8635, 8682	11214, 11219	
<code>\@citedatax@opt</code>	5504, 5510	<code>\@filecolor</code>	<code>\@ifnextchar</code>	12,
<code>\@citeseppen</code>	5489, 5495	2528, 6497, 7036,	88, 103, 123, 499, 500, 1113,	
<code>\@citex</code>	5391	7048, 7280, 7668	3192, 3222, 3241, 3279, 3822,	
<code>\@commahyperpage</code> . . .	5797, 5802	<code>\@firstoffive</code> . . .	4023, 4026, 4029, 4032, 4035,	
<code>\@currDisplay</code>	3876,	3082, 3091, 6095,	4038, 4041, 4210, 4266, 4275,	
9528, 9590, 9806, 9820, 9941,		6176	5098, 5116, 5444, 5502, 8322,	
10004, 10264, 10328		<code>\@firstofone</code>	8545, 8558, 10921, 10922	
<code>\@currValue</code> 3878, 3880, 9594, 9806,		415, 416, 417,	<code>\@ifpackagelater</code> . . .	1643, 5706
9817, 10011, 10339, 10724		418, 419, 420, 421, 422, 423,	<code>\@ifpackageloaded</code> . .	353, 1615,
<code>\@currentHlabel</code> 4715, 4717, 4720,		424, 425, 450, 868, 872, 876,	1963, 2822, 2920, 4664, 4728,	
4841, 4852, 5023, 5034, 5037,		2688, 3030, 3789, 3795, 4597,	4739, 4801, 4820, 4824, 4832,	
5039, 5084		4707, 4714, 4751, 5164, 5234,	4866, 4980, 5047, 5203, 5414,	
<code>\@currentHref</code>	1635,	5374, 5397, 5523, 5580, 6769,	5487, 5569, 5573, 5705, 5741,	
4121, 4680, 4719, 4724, 4804,		10515, 10532, 10549	5742, 5839, 6101, 6243, 6247,	
4807, 4842, 4853, 4855, 4894,		<code>\@firstoftwo</code> . . .	9197	
4905, 4909, 4916, 4940, 5024,		467, 632, 750, 1134,	<code>\@ifpackagewith</code> . . .	2823, 5673
5035, 5038, 5040, 5085, 5171,		4199	<code>\@ifstar</code>	66, 3102, 3104, 6109,
5193, 5195, 5207, 5209, 5434,		<code>\@footnotemark</code> 4984, 5030, 5094,	6135, 6154	
5581, 5604, 5613, 5619, 5663,		5096, 5108, 5109, 5139, 5141	<code>\@ifundefined</code>	34,
5664, 5670, 5671, 5677, 5678,		<code>\@footnotetext</code> 4983, 4990, 5015,	237, 451, 490, 563, 598, 617,	
10830, 10831, 11116, 11118,		5095, 5097, 5111, 5112, 5132	622, 635, 638, 656, 662, 668,	
11127, 11129, 11159, 11161,		<code>\@for</code> 2555, 3462, 5371, 5394, 9525,	673, 678, 685, 691, 697, 702,	
11168, 11173, 11201, 11203		9587, 9795, 9802, 9812, 9938,	708, 713, 723, 729, 735, 741,	
<code>\@currentlabel</code> 5427, 5434, 5855,		10001, 10261, 10325	990, 1066, 1067, 1616, 1649,	
5907		<code>\@fourthoffive</code> 3085, 3261, 6166,	1753, 1896, 1976, 2433, 2441,	
<code>\@currentlabelname</code> . .	1625, 5025,	6173	2448, 2476, 2784, 2798, 2855,	
5086, 5175		<code>\@gobble</code>	2856, 2857, 3529, 3848, 4303,	
<code>\@currentlabstr</code>	1624, 1632	49, 56, 117, 448,	4607, 4668, 4673, 4694, 4708,	
<code>\@curropt</code>	9525, 9526, 9587,	470, 471, 472, 480, 639, 774,	4826, 4835, 4889, 4911, 4929,	
9588, 9795, 9802, 9803, 9805,		778, 781, 958, 971, 975, 1037,	4935, 4972, 5157, 5268, 5279,	
9812, 9813, 9815, 9938, 9939,		1082, 1083, 1090, 1095, 1109,	5362, 5378, 5401, 5656, 5686,	
10001, 10002, 10261, 10262,		1114, 1118, 1662, 1664, 2676,	5694, 5695, 5708, 5709, 5716,	
10325, 10326		2831, 2833, 3116, 3774, 4166,	6143, 6144, 6188, 6189, 6191,	
<code>\@dblarg</code>	1725, 5166, 5236	4170, 4186, 4188, 4197, 4203,	6192, 6345, 6419, 6428, 6797,	
<code>\@definecounter</code>	5647, 5648	4204, 4205, 4207, 4208, 4210,	7562, 7616, 7691, 7995, 7996,	
<code>\@ehc</code>	1911, 3534, 3658, 3853	4576, 4591, 4595, 5153, 5231,	8049, 8079, 8168, 8346, 9874,	
<code>\@ehd</code>	63, 5152, 5230	5579, 6230, 6771, 7811, 7814,	10181, 10524, 11122, 11133	
<code>\@endForm</code> 3823, 7532, 9484, 9680,		9874, 10181, 10887, 10888,	<code>\@indexfile</code>	5768, 5776, 5780
9701, 9725, 9900, 10201		10889, 11018	<code>\@inmathwarn</code>	391, 392
<code>\@eqnocr</code>	4924	<code>\@gobblefour</code> . . .	<code>\@latex@</code>	4297, 4298
<code>\@eqnstarfalse</code>	4900, 4927	503, 884, 885, 886,	<code>\@latex@error</code> . . .	2067, 2087, 2097,
<code>\@eqnstartrue</code>	4924	5970	2106, 5152, 5230	
<code>\@eqnswtrue</code>	4870, 4879	<code>\@gobbleopt</code>	<code>\@latex@warning</code> 3255, 5381, 5404,	
<code>\@esphack</code>	1641, 3271, 5439, 5787	4210, 4212	6031, 6051, 6068, 6182	
		<code>\@gobbletwo</code> 474, 498, 504, 505, 883,	<code>\@lbbibitem</code>	5286, 5331
		1114, 1118, 1122, 1776, 2835,		
		3720, 4190, 4198, 4206, 4210,		
		6154, 11114		
		<code>\@harvarditem</code>		
		5444, 5446		
		<code>\@hyper@anchor</code>		
		3357, 3358		
		<code>\@hyper@itemfalse</code> . .		
		4627, 4643		
		<code>\@hyper@itemtrue</code>		
		4628		
		<code>\@hyper@launch</code> 3319, 3327, 6501,		
		7283, 7717, 8648		

<code>\@linkbordercolor</code> .. 2760, 6435, 7586	<code>\@onelevel@sanitize</code> 1769, 1773, 1945, 2477, 3530, 3767, 3849, 4483, 4485, 5609, 6081, 7199	<code>\@pdfmoddate</code> .. 2671, 2772, 6673, 6675, 7064, 7066, 7370, 7372, 8212, 8216, 9044, 9046
<code>\@linkcolor</code> 8347	<code>\@outlinefile</code> 10893, 11005, 11006, 11008, 11072, 11073, 11075	<code>\@pdfnonfullscreenpagemode</code> .. 6629, 7121, 7399, 7942, 8276, 9094
<code>\@linkdim</code> . 320, 6902, 6903, 6908, 6909, 6910, 6969, 6970, 6979, 6980, 6981, 6998, 6999, 7008, 7009, 7010, 7028, 7029, 7038, 7039, 7040, 8993, 8994, 8999, 9000, 9001, 9258, 9259, 9265, 9266, 9267	<code>\@pagerefstar</code> .. 3104, 6097, 6125	<code>\@pdfnumcopies</code> 6645, 6647, 7137, 7139, 7415, 7417, 7958, 7960, 8292, 8294, 9110, 9112
<code>\@listctr</code> 5321, 5347	<code>\@pagesetref</code> 6047	<code>\@pdfpageduration</code> .. 2544, 6717, 6720, 6725, 7867, 7869, 7872, 8130, 8132, 8140
<code>\@m</code> 771, 5373, 5396, 7858	<code>\@parboxrestore</code> 5180, 5243	<code>\@pdfpagelayout</code> 6655, 7149, 7439, 7963, 7965, 8306, 9124
<code>\@mainaux</code> . 4219, 4220, 4559, 4567	<code>\@parcount</code> 10974, 10982	<code>\@pdfpagemode</code> . 2908, 2909, 3041, 3042, 3051, 3052, 6609, 7105, 7434, 7930, 8260, 9078
<code>\@makecaption</code> .. 5188, 5190, 5248	<code>\@part</code> 11142, 11149	<code>\@pdfpagescrop</code> 2709, 2775, 6594, 6598, 7088, 7089, 7110, 7112, 7446, 7448, 7919, 7921, 8265, 8267, 9083, 9085
<code>\@makefnmark</code> 5042, 5144	<code>\@pdfauthor</code> .. 2667, 2768, 6665, 7068, 7374, 7970, 8233, 9048	<code>\@pdfpagetransition</code> 2542, 6693, 6697, 6702, 7758, 7760, 7762, 8113, 8115, 8123
<code>\@makeother</code> .. 166, 167, 179, 180, 182, 183, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 3139, 6279, 10996	<code>\@pdfborder</code> .. 2132, 2456, 2581, 2584, 2586, 6387, 7215, 7584, 8092, 8184, 8195, 8539, 8549, 8563, 8584, 8596, 8614, 8633, 8658, 8680, 8706, 8787, 8889, 9027, 9193	<code>\@pdfpicktraybypdfsize</code> .. 6637, 6639, 7129, 7131, 7407, 7409, 7950, 7952, 8284, 8286, 9102, 9104
<code>\@makeschapterhead</code> 11206, 11208	<code>\@pdfborderstyle</code> ... 2457, 2582, 2588, 2590, 6388, 7216, 7585, 8093, 8185, 8196, 8540, 8550, 8564, 8585, 8597, 8615, 8634, 8659, 8681, 8707, 8788, 8890, 9028, 9194	<code>\@pdfprintarea</code> 6633, 7125, 7403, 7946, 8280, 9098
<code>\@menubordercolor</code> .. 2762, 6829, 6831, 7342, 7344, 7746, 7748	<code>\@pdfcreationdate</code> .. 2670, 2771, 6669, 6671, 7060, 7062, 7366, 7368, 8208, 8210, 9040, 9042	<code>\@pdfprintclip</code> 6634, 7126, 7404, 7947, 8281, 9099
<code>\@menucolor</code> ... 6841, 7348, 7752	<code>\@pdfcreator</code> .. 2669, 2770, 6668, 7059, 7365, 7973, 8232, 9039	<code>\@pdfprintpagerange</code> 2655, 2778, 6641, 6643, 7133, 7135, 7411, 7413, 7954, 7956, 8288, 8290, 9106, 9108
<code>\@mkboth</code> 474, 5952, 11114, 11194, 11196	<code>\@pdfdirection</code> 6630, 7122, 7400, 7943, 8277, 9095	<code>\@pdfprintscaling</code> .. 6635, 7127, 7405, 7948, 8282, 9100
<code>\@mpfn</code> 4987, 5117, 5129	<code>\@pdfduplex</code> .. 6636, 7128, 7406, 7949, 8283, 9101	<code>\@pdfproducer</code> . 2668, 2769, 6535, 6677, 6679, 7052, 7053, 7069, 7071, 7351, 7352, 7356, 7375, 7377, 7887, 7888, 7892, 7895, 7896, 7974, 7976, 8219, 8223, 8701, 8702, 8778, 8780, 8782, 8886, 8887, 9030, 9031, 9049, 9051
<code>\@mpfootnotetext</code> ... 4990, 5003, 5004	<code>\@pdfhighlight</code> 2574, 2766, 6400, 6402, 6446, 6474, 6476, 6509, 6511, 6825, 6827, 8091, 8183, 8194, 8538, 8583, 8595, 8613, 8632, 8657, 8679	<code>\@pdfstartpage</code> 2697, 2699, 2777, 6615, 6619, 7092, 7097, 7423, 7427, 7923, 7927, 8247, 8252, 9065, 9070
<code>\@mycount</code> 10972, 10982	<code>\@pdfhightlight</code> 6444	<code>\@pdfstartview</code> 2704, 2706, 2776, 6490, 6617, 6619, 7094, 7098, 7275, 7425, 7427, 7925, 8249, 8253, 8623, 8641, 9067, 9071
<code>\@namedef</code> 1986, 1987, 1988, 1989, 1990, 1991, 3540, 3541, 3542, 3543, 3864, 3865, 4737, 4923, 4926, 5419, 5420, 5421, 5422	<code>\@pdfkeywords</code> . 2673, 2774, 6681, 7057, 7379, 7978, 8234, 9037	<code>\@pdfsubject</code> .. 2672, 2773, 6667, 7073, 7364, 7972, 8231, 9053
<code>\@nameuse</code> . 1629, 1983, 3546, 3856	<code>\@pdflang</code> 2752, 2779, 6656, 6658, 7150, 7152, 7440, 7442, 8307, 8309, 9125, 9127	<code>\@pdftempa</code> 3314, 3315, 3318
<code>\@ne</code> .. 757, 1930, 2040, 7910, 8779, 10210	<code>\@pdfm@dest</code> ... 7162, 7218, 7222	
<code>\@newctr</code> 5652, 5653	<code>\@pdfm@mark</code> 4547, 7161, 7210, 7235, 7254, 7263, 7281, 7287, 7308, 7313, 7329, 7333, 7349, 7361, 7421, 7448, 10183, 10184, 10185, 10199, 10242, 10248, 10334, 10344, 10355, 10361, 10378, 10385, 10403, 10409, 10426, 10432, 10452, 10458, 10462, 10494, 10502, 11045	
<code>\@newl@bel</code> 4260, 5272		
<code>\@nil</code> 339, 343, 348, 352, 367, 1020, 1038, 1054, 1056, 1059, 1062, 1065, 1503, 1505, 1521, 1523, 2478, 3169, 3173, 3178, 3472, 4285, 4288, 4295, 4297, 4298, 4383, 4430, 4431, 4433, 4456, 4473, 4520, 4522, 4836, 4846, 4848, 4861, 5813, 5816, 5826, 6035, 6038, 6190, 6220, 6303, 6309, 6313, 6319, 6559, 6560, 6570, 6571, 7777, 7778, 10522, 10535, 10540		
<code>\@nobreakfalse</code> 4257		
<code>\@nocnterr</code> 5695, 5709		
<code>\@nocounterr</code> 5694, 5708		
<code>\@number</code> 4707, 4751, 5523		
<code>\@nx</code> 5698, 5712, 5715, 5717		

\@pdftempwordfile . . .	3305, 3315		
\@pdftempwordrun . . .	3306, 3318		
\@pdftitle	2666, 2767, 6666, 7058, 7363, 7971, 8230, 9038		
\@pdfview	2678, 6373, 6380, 7167, 7171, 7175, 7179, 7183, 7187, 7188, 7191, 7192, 7195, 7199, 7200, 7214, 7583, 7592, 7603, 8031, 8061, 8708, 8789, 8891, 9137		
\@pdfviewarea	6631, 7123, 7401, 7944, 8278, 9096		
\@pdfviewclip	6632, 7124, 7402, 7945, 8279, 9097		
\@pdfviewparams	2680, 2682, 8031, 8061, 8709, 8790, 8892, 9138		
\@percentchar	3134, 3135, 3185		
\@processme	3872, 3873, 6699, 6705, 6722, 6728, 6743, 6749, 8325, 8326, 8402, 8403, 8406, 8407		
\@protected@testopt	501		
\@refstar	3102, 6094		
\@runbordercolor	2764, 6513, 6515, 7292, 7294, 7731, 7733, 8661		
\@runcolor	6531, 7307, 7737		
\@safe@activesfalse	456, 3088		
\@safe@activetrue	455, 3087		
\@schapter	11110, 11111		
\@secondoffive	2844, 3083, 3096, 6057, 6058, 6098		
\@secondoftwo	449, 473, 630, 753, 1132, 2843, 2844		
\@sect	11164, 11165		
\@seqnchr	4924		
\@serial@counter	10924, 10971, 10972, 10973		
\@seteqlabel	5674, 5675		
\@setminipage	5182, 5245		
\@setref	3091, 3096, 6026, 6027, 6064		
\@sharp	4836, 4843		
\@skiphyperrreffalse	4644, 5301, 5313		
\@skiphyperrreftrue	5287, 5313		
\@spart	11155, 11156		
\@ssect	11105, 11106		
\@startlos	5964, 5971, 6020		
\@starttoc	4245		
\@tempa	5049, 5053, 5056, 5072		
\@tempb	4952, 4956		
\@tempboxa	6901, 6902, 6908, 6966, 6969, 6972, 6973, 6979, 6984, 6985, 6996, 6998, 7001, 7002, 7008, 7013, 7014, 7026, 7028, 7031, 7032, 7038, 7043, 7044, 8992, 8993, 8999, 9257, 9258, 9265		
\@tempcnta	10853, 10854, 10855, 10856, 10857, 10859, 10862, 10863, 10864, 10870, 10872, 10874, 10906, 10907, 10908, 10911, 10912, 10913, 10914, 10915, 11094, 11095, 11096		
\@tempdima	1675, 4063, 4064, 4065, 4066, 4067, 4068, 4069, 4070, 6366, 9524, 9529, 9531, 9568, 9569, 9570, 9574, 9575, 9576, 9577, 9937, 9942, 9944, 9982, 9983, 9984, 9988, 9989, 9990, 9991, 10260, 10265, 10267, 10305, 10306, 10307, 10311, 10312, 10313, 10314		
\@tempdimb	9528, 9529, 9941, 9942, 10264, 10265		
\@tempswafalse	5506		
\@tempswatrue	5476, 5479, 5482, 5503		
\@temptokena	2381, 2386, 2389, 2391		
\@tfor	4953		
\@the@H@page	5525, 5527		
\@thefnmark	4988, 4999, 5061, 5062, 5118, 5130, 5137		
\@thirdoffive	3084		
\@topnewpage	11206		
\@undefined	506, 4200, 4224, 4244, 4445, 4463, 4501, 5151, 5205, 5217, 5220, 5229, 6089, 6364, 6539, 6548, 7556, 7898, 7912		
\@undottedtocline	6016		
\@unprocessedoptions	2998		
\@urlbordercolor	2761, 6448, 6450, 7318, 7320, 7680, 7682, 8586, 8598		
\@urlcolor	6462, 6907, 6916, 7006, 7018, 7328, 7686, 8998, 9007, 9264, 9272		
\@urltype	6878, 6882, 7462, 7484, 7611, 7622, 8969, 8973, 9234, 9238		
\@vpageref	6119		
\@whilenum	900		
\@wrindex	5747, 5748, 5764		
\@writefile	5432		
\@x@sf	5032, 5044, 5143, 5145		
\@xfootnote	5116		
\@xfootnotemark	4996, 5134		
\@xfootnotenext	4985, 5127		
\@xp	5697, 5698, 5711, 5712, 5714, 5715		
\[.	192, 217		
\{	394		
\}	395		
\]	193, 218		
\^	186, 211, 2310, 3123, 3124, 3131, 11238, 11247, 11346, 11354, 11358, 11365, 11372, 11379, 11387, 11393, 11394, 11401, 11408, 11454, 11465, 11543, 11551, 11555, 11561, 11568, 11575, 11583, 11589, 11590, 11597, 11604, 11632, 11633, 11652, 11653, 11660, 11661, 11680, 11681, 11682, 11721, 11722, 11745, 11746, 11747, 11748		
_	187, 212, 402, 3127, 3141, 3142		
\‘	166, 172, 179, 182, 2246, 2362, 2365, 2367, 2375, 11236, 11245, 11344, 11352, 11356, 11363, 11370, 11377, 11385, 11389, 11390, 11399, 11406, 11452, 11463, 11541, 11549, 11553, 11559, 11566, 11573, 11581, 11585, 11586, 11595, 11602, 12132, 12137, 12142, 12147, 12152, 12157, 12162, 12167, 12172, 12177, 12182, 12187, 12192, 12197, 12202, 12207, 12212, 12217, 12222, 12227, 12232, 12237, 12242, 12247		
\| . . . . .	188, 213, 1341, 1433, 2192, 2812, 5744, 6278, 6288		
\~	401, 902, 2304, 2312, 2313, 2314, 2859, 3145, 11239, 11248, 11347, 11362, 11366, 11380, 11398, 11402, 11455, 11466, 11544, 11558, 11562, 11576, 11594, 11598, 11664, 11665, 11666, 11733, 11734, 12134, 12139, 12144, 12149, 12154, 12159, 12164, 12169, 12174, 12179, 12184, 12189, 12194, 12199, 12204, 12209, 12214, 12219, 12224, 12229, 12234, 12239, 12244, 12249		
	Numbers		
\3	381, 944, 945, 946, 947, 948, 949, 950, 951, 1589, 10991, 11344, 11345, 11346, 11347, 11348, 11349, 11350, 11351, 11352, 11353, 11354, 11355, 11356, 11357, 11358, 11359, 11360, 11361, 11362, 11363, 11364, 11365, 11366, 11367, 11368, 11369, 11370, 11371, 11372,		

`\AtBeginShipoutFirst` 4340, 8711, 8791, 8860, 8882, 9307
`\AtEndDocument` 4236, 4543
`\AtEndOfPackage` 1613, 2432, 2440, 2447, 2887, 2913, 2919, 3047
`\author` 4265, 4275
`\autopageref` 2907, 6134
`\autoref` .. 477, 2906, 6153, 9286
`\ayn` 12276

B

`\baa` 12259
`\back@none` 2140, 2150, 2163
`\back@page` 2142, 2155
`\back@section` . 2141, 2147, 2153, 2159
`\back@slide` 2143, 2152
`\backcite` 5433
`\backref` 5464, 9290
`\baselineskip` . 1667, 4077, 4078, 4079, 4080, 4081, 4082, 6958, 8057, 8078, 8742
`\bbl@cite@choice` 5280
`\BeforeTeXIVht` 1999
`\begin` 9295, 12308
`\belowpdfbookmark` 10910
`\bfseries` . 430, 5379, 5402, 6030, 6050, 6067, 6181
`\bgroup` ... 496, 3192, 7526, 8070, 9733, 9825, 9846
`\bibcite` . 5271, 5277, 5281, 5306, 5321, 5337, 5347
`\bitsetGetDec` . 3474, 3575, 3593, 3607, 3620, 3636, 3668, 3693
`\bitsetGetHex` 3475
`\bitsetGetSetBitList` 3463
`\bitsetIsEmpty` 3572, 3590, 3604, 3617, 3633, 3665, 3690
`\bitsetReset` .. 3545, 3579, 3598, 3612, 3625, 3641, 3673
`\bitsetSetValue` 3443, 3453
`\BOOKMARK` 10894, 10921
`\box` 4071, 4336, 8385
`\bullet` ... 5982, 5990, 6000, 6008

C

`\C` ... 11462, 11473, 11979, 11980
`\c` 2304, 2312, 2313, 2314, 4288, 4295, 11244, 11253, 11351, 11384, 11460, 11471, 11548, 11580, 11658, 11659, 11683, 11684, 11688, 11689, 11698, 11699, 11715, 11716, 11723, 11724, 11727, 11728
`\c@footnote` 4998, 5051, 5059, 5136

`\c@page` .. 4382, 4400, 4401, 4405, 4417, 4419, 4424, 4431, 4433, 4435, 4464, 5520
`\c@secnumdepth` ... 11132, 11150, 11166, 11171
`\c@slidesection` 5848, 5976, 5977
`\c@slidesubsection` 5900
`\c@tocdepth` 2469, 2474
`\calc@bm@number` .. 11019, 11093
`\calculate@pdfview` . 2674, 2677
`\caption` .. 5150, 5152, 5228, 5230
`\catcode` 172, 173, 184, 185, 186, 187, 206, 880, 887, 1341, 1342, 1433, 1434, 3123, 3124, 3125, 3126, 3127, 3128, 3131, 3133, 3136, 3142, 3152, 3198, 3199, 6278, 8105, 8106, 10926, 10928, 10995
`\cf@encoding` 956
`\chapterautorefname` 2203, 2221, 2239, 2257, 2275, 2293, 2311, 2333, 2351, 2369, 6263
`\chapternumberline` 10885, 10889
`\char` 9890, 10930, 10967
`\chardef` 2040, 2042
`\check@bm@number` . 11029, 11038, 11086, 11094
`\CheckBox` 4028
`\CheckCommand` 5048
`\checkcommand` ... 42, 4790, 5127, 5134, 5141, 5228, 5238, 5331, 5343, 5641, 5644, 5693, 6064
`\checklatex` . 4, 5126, 5227, 5330, 5640, 6063
`\checkpackage` 9, 4789, 5692
`\ChoiceBox` 3769
`\ChoiceMenu` 4025
`\citation` 5376, 5399, 5425
`\citeauthoryear` 5491, 5497
`\citeN` 5488
`\CJK@char` 883
`\CJK@charx` 884
`\CJK@ignorespaces` 882
`\CJK@punctchar` 885
`\CJK@punctcharx` 886
`\clear@document` 4541
`\clearpage` 4543
`\close@pdflink` 6414, 6426, 6433, 6463, 6498, 6532, 6841
`\closeout` 4219
`\codeof` 5455
`\color@endbox` . 6901, 6966, 6996, 7026, 8992, 9257
`\color@hbox` .. 6901, 6966, 6996, 7026, 8992, 9257
`\COMBINING` . 11992, 11993, 11994, 11995

`\comma@entry` ... 3760, 3767, 3769
`\comma@parse` 3759
`\contentsline` . 4225, 4226, 4237, 5619, 5623, 5642, 5644
`\copy` 4848, 4857
`\count@` . 899, 900, 901, 902, 1231, 2485, 2486, 2491, 2492, 3421, 3422, 3437, 3702, 3717, 3719, 3743, 3765, 3781, 6579, 6580, 6581, 6582, 6583, 6584, 6587, 7890, 7891, 7892, 7893, 7894, 7897
`\CurrentBorderColor` 6404, 6406, 6420, 6422, 6429, 6431, 6435, 7586, 7617, 7619, 7627, 7629, 7642, 7644, 7692, 7694, 7705, 7707
`\currentpdfbookmark` ... 10902
`\cyr` .. 457, 2323, 2326, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341
`\CYRA` 11876, 12053, 12055
`\cyra` 2323, 2330, 2334, 2335, 2336, 2339, 2340, 11909, 12054, 12056
`\CYRABHCH` 12040
`\cyrahch` 12041
`\CYRABHCHDSC` 12042
`\cyrahchdsc` 12043
`\CYRABHDZE` 12069
`\cyrahdze` 12070
`\CYRABHHA` 12020
`\cyrahha` 12021
`\CYRAE` 12057
`\cyrae` 12058
`\CYRB` 11877
`\cyrb` 2330, 11910
`\CYRBYUS` 11967
`\cyrbyus` 11968
`\CYRC` 11899
`\cyr` 11932
`\CYRCH` 11900, 12087
`\cyrch` 2331, 11933, 12088
`\CYRCHLDSC` 12051
`\cyrchldsc` 12052
`\CYRCHRDSC` 12034
`\cyrchrdsc` 12035
`\CYRCHVCRS` 12036
`\cyrchvcrs` 12037
`\CYRD` 11880
`\cyrd` 2326, 2334, 2335, 2336, 11913
`\CYRDJE` 11863
`\cyrdje` 11944
`\CYRDZE` 11866
`\cyrdze` 11947
`\CYRDZHE` 11875

\cyrdzhe	11956	\CYRKSI	11971	\cyrsh	11934
\CYRE	11862, 11881, 12059	\cyrksi	11972	\CYRSHCH	11902
\cyre	2323, 2340, 11914, 11943, 12060	\CYRKVCRS	12008	\cyrshch	11935
\CYREREV	11906	\cyrkvcrs	12009	\CYRSHHA	12038
\cyrerev	11939	\CYRL	11888	\cyrshha	12039
\CYRERY	11904, 12089	\cyrl	2330, 2332, 2333, 11921	\CYRT	11895
\cyrery	2323, 11937, 12090	\cyrangle	12112	\cyrt	2326, 2330, 2339, 2340, 11928
\CYRF	11897	\CYRLJE	11870	\CYRTDSC	12024
\cyrf	11930	\cyrlje	11951	\cyrt dsc	12025
\CYRFITA	11975	\CYRLYUS	11963	\CYRTETSE	12032
\cyrfita	11976	\cyrlyus	11964	\cyrtetse	12033
\CYRG	11864, 11879	\CYRM	11889	\cyrthousands	11991
\cyrg	2333, 11912, 11945	\cyrm	2326, 2340, 11922	\CYRTSHE	11872
\CYRGHCRS	11998	\CYRN	11890	\cyrtshe	11953
\cyrghcrs	11999	\cyrn	2323, 11923	\CYRU	11896, 12081, 12083, 12085
\CYRGHK	12000	\CYRNDSC	12014	\cyru	11929, 12082, 12084, 12086
\cyrghk	12001	\cyrndsc	12015	\CYRUK	11981
\CYRGUP	11996	\CYRNG	12016	\cyruk	11982
\cyrgup	11997	\cyrng	12017	\CYRUSHRT	11874
\CYRH	11898	\CYRNHK	12049	\cyrushrt	11955
\cyrh	11931	\cyrnhk	12050	\CYRV	11878
\CYRHDSC	12030	\CYRNJE	11871	\cyrv	2323, 11911
\cyrhdsc	12031	\cyrnje	11952	\CYRY	12026
\CYRHRDSN	11903	\CYRO	11891, 12075	\cyry	12027
\cyrhrdsn	11936	\cyro	2326, 2339, 2340, 11924, 12076	\CYRYA	11908
\CYRI	11884, 11886, 12071, 12073	\CYROMEGA	11957	\cyrya	11941
\cyri	2323, 2326, 2329, 2332, 11917, 11919, 12072, 12074	\cyromega	11958	\CYRYAT	11959
\CYRIE	11865	\CYROMEGARND	11983	\cyryat	11960
\cyrie	11946	\cyromegarnd	11984	\CYRYHCRS	12028
\CYRII	11867	\CYROMEGATITLO	11985	\cyryhcrs	12029
\cyrii	11948	\cyromegatitlo	11986	\CYRYI	11868
\CYRIOTBYUS	11969	\CYROT	11987	\cyryi	11949
\cyriotbyus	11970	\cyrot	11988	\CYRYO	11861
\CYRIOTE	11961	\CYROTL D	12077, 12079	\cyryo	11942
\cyriote	11962	\cyrotld	12078, 12080	\CYRYU	11907
\CYRIOTLYUS	11965	\CYRP	11892	\cyryu	11940
\cyriotlyus	11966	\cyrp	2326, 2328, 2332, 2337, 2338, 11925	\CYRZ	11883, 12067
\CYRISHRT	11885	\CYRpalochka	12044	\cyrz	2334, 2335, 2336, 11916, 12068
\cyrishrt	11918	\CYRPHK	12018	\CYRZDSC	12004
\CYRIZH	11977, 11979	\cyrphk	12019	\cyrzdsc	12005
\cyrizh	11978, 11980	\CYRPSI	11973	\CYRZH	11882, 12045, 12065
\CYRJE	11869	\cyrpsi	11974	\cyrzh	2323, 11915, 12046, 12066
\cyrje	11950	\CYRR	11893	\CYRZHDSC	12002
\CYRK	11873, 11887	\cyrr	2323, 2326, 2329, 2332, 2334, 2335, 2336, 2339, 2340, 11926	\cyrzhdsc	12003
\cyrk	2339, 11920, 11954	\cyrrangle	12113		
\CYRKBEAK	12012	\CYRS	11894		
\cyrkbeak	12013	\cyrs	2326, 2329, 2339, 2341, 11927		
\CYRKDSC	12006	\CYRSCHWA	12061, 12063		
\cyrk dsc	12007	\cyrschwa	12062, 12064		
\CYRKHCRS	12010	\CYRSDSC	12022		
\cyrkhcrs	12011	\cyr dsc	12023		
\CYRKHK	12047	\CYRSFTSN	11905		
\cyrkhk	12048	\cyr sftsn	11938		
\CYRKOPPA	11989	\CYRSH	11901		
\cyrkoppa	11990				

D

\d	2364, 2368, 2370, 2371, 2372, 2373, 2374, 2376, 12131, 12136, 12141, 12146, 12151, 12156, 12161, 12166, 12171, 12176, 12181, 12186, 12191, 12196, 12201, 12206, 12211, 12216, 12221, 12226, 12231, 12236, 12241, 12246
\dad	12273
\dal	12266

\damma 12293	\DefaultWidthofReset 4076, 9643, 10072, 10414	1599, 1602, 1607, 1608
\declare@shorthand 658, 659, 664, 665, 670, 680, 681, 682, 687, 688, 693, 694, 699, 704, 705, 710, 715, 716, 717, 718, 719, 720, 725, 726, 731, 732, 737, 738	\DefaultWidthofSubmit . . . 4074, 9625, 10050, 10390	\DingObject 10011
\DeclareFontEncoding . . . 11230, 11446	\DefaultWidthofText 4083, 9492, 9905, 10219	\discretionary 498
\DeclareFontFamily . . 618, 623, 1897	\define@key . . 1754, 1756, 1799, 1814, 1817, 1820, 1824, 1828, 1832, 1836, 1840, 1844, 1848, 1851, 1854, 1857, 1859, 1862, 1865, 1868, 1871, 1874, 1877, 1880, 1883, 1886, 1918, 1975, 1993, 1994, 2010, 2016, 2022, 2027, 2032, 2037, 2045, 2050, 2055, 2060, 2064, 2094, 2112, 2117, 2122, 2126, 2129, 2134, 2137, 2144, 2173, 2189, 2192, 2400, 2430, 2438, 2446, 2453, 2460, 2463, 2466, 2470, 2498, 2503, 2507, 2510, 2517, 2529, 2537, 2540, 2543, 2545, 2548, 2557, 2567, 2574, 2581, 2582, 2654, 2663, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2695, 2702, 2709, 2710, 2713, 2716, 2719, 2722, 2725, 2728, 2751, 2754, 2757, 3415, 3503, 3527, 3829, 3834, 3846, 3883, 3886, 3889, 3892, 3895, 3898, 3901, 3905, 3908, 3911, 3914, 3917, 3920, 3923, 3926, 3929, 3932, 3935, 3938, 3941, 3944, 3947, 3960, 3963, 3966, 3969, 3972, 3975, 3978, 3981, 3984, 3987, 3990, 3994, 3997, 4000, 4003, 4006, 4009, 4012, 4015, 4018, 8413, 8415, 8418, 8420, 8422, 8431, 8439, 8446, 8448, 8450, 8452, 8454, 8456, 8465, 8475, 8477, 8479, 8481, 8490, 8492, 8494, 8496, 8498, 8500, 8502, 8504, 8506, 8508, 8510, 8511, 8513, 8515, 8517, 8519, 8521, 8522, 8523, 8524, 8525, 8526, 8527, 8528, 8529, 8530, 8531	\do . . 900, 1771, 1776, 1781, 2555, 2576, 2577, 2578, 2579, 2594, 2595, 2596, 2597, 2598, 2599, 2602, 2603, 2604, 2605, 2606, 2607, 2610, 2611, 2614, 2615, 2616, 2617, 2618, 2621, 2622, 2623, 2624, 2625, 2628, 2629, 2630, 2631, 2632, 2635, 2636, 2637, 2638, 2639, 2642, 2643, 2646, 2647, 2648, 2651, 2652, 2658, 2659, 2660, 2661, 2744, 2745, 2746, 2747, 2748, 2749, 3463, 4956, 5371, 5394, 9525, 9587, 9795, 9802, 9812, 9938, 10001, 10261, 10325, 10994
\DeclareFontShape 619, 624, 1898		\documentclass 2
\DeclareFontSubstitution . 620, 625, 1899		\dospecials 10999
\DeclareRobustCommand . . . 3102, 3103, 3191, 3208, 3210, 3212, 3221, 4022, 4025, 4028, 4031, 4034, 4037, 4040, 6108, 6134, 6153		\dots 405
\DeclareTextAccent 11236, 11237, 11238, 11239, 11240, 11241, 11242, 11243, 11244, 11452, 11453, 11454, 11455, 11456, 11457, 11458, 11459, 11460, 11461, 11462		\dp . 4067, 4070, 6902, 6969, 6998, 7028, 8377, 8380, 8993, 9258, 10205
\DefaultHeightofCheckBox 4077, 9662, 10092, 10440		\dvipdfm@setdim . . 10202, 10244, 10336, 10357, 10380, 10405, 10428, 10454
\DefaultHeightofChoiceMenu . . . 4079, 9521, 9934, 10257		E
\DefaultHeightofReset . . . 4075, 9644, 10073, 10415		\ECIRCUMFLEX 12126, 12210, 12211, 12212, 12213, 12214
\DefaultHeightofSubmit . . 4073, 9626, 10051, 10391		\ecircumflex 12119, 12150, 12151, 12152, 12153, 12154
\DefaultHeightofText 4081, 9497, 9910, 10224		\EdefEscapeString 603
\DefaultHeightofTextMultiline . 4082, 9495, 9908, 10222		\EdefUnescapeString 600
\DefaultOptionsofCheckBox 4087, 9665, 10095, 10443		\egroup . . . 497, 7526, 8100, 9742, 9834, 9859
\DefaultOptionsofComboBox 4090		\em 436
\DefaultOptionsofListBox 4089		\emph 415
\DefaultOptionsofPopdownBox 4091		\empty 882, 2473
\DefaultOptionsofPushButton . . 4086, 9611, 10034, 10368		\enc@html 3833, 3836
\DefaultOptionsofRadio . . 4092	\DH 11360, 11557	\enc@update 390
\DefaultOptionsofReset . . 4085, 9647, 10076, 10418	\dh 11397, 11593	\END . . . 981, 982, 1007, 1008, 1023, 1024, 1041, 1042, 1390, 1396, 1401, 1485, 1487, 6696, 6709, 6713, 6719, 6732, 6736, 6741, 6753, 6757
\DefaultOptionsofSubmit . 4084, 9629, 10054, 10394	\dhal 12267	\end 12309
\DefaultOptionsofText . . . 4088, 9503, 9916, 10230	\dimen@ . 359, 360, 364, 1237, 1305, 1306, 1309, 1311, 2799, 2800, 2802, 2809, 2810, 7857, 7858, 7860, 8376, 8388, 8391	\endeqnarray . . . 4902, 4920, 4927
\DefaultWidthofCheckBox . 4078, 9661, 10091, 10439	\dimexpr . . 371, 1500, 1502, 1510, 1515, 1518, 1520, 1538, 1540, 1542, 1546, 1548, 1559, 1564, 1572, 1576, 1581, 1591, 1594,	\endequation 4865, 4897
\DefaultWidthofChoiceMenu 4080, 9520, 9933, 10256		\endForm 3823

<code>\endlinechar</code>	3122	<code>\find@pdflink</code> . .	6390, 6424, 6433	<code>\Fld@flags</code>	
<code>\endNoHyper</code>	4181	<code>\Fld@additionalactions</code>	10618,		3605, 3607, 3618, 3620, 3634,
<code>\EndPreamble</code>	9296		10661, 10663		3636, 3666, 3668, 3691, 3693,
<code>\endsubeqnarray</code>	4931, 4942	<code>\Fld@additionalactions</code> .	10618,		10570, 10598, 10671, 10704,
<code>\eqnarray</code>	4901, 4903, 4924		10697, 10729, 10763		10736, 10771, 10803
<code>\equal</code>	5452	<code>\Fld@align</code> . . .	3813, 3930, 10571,	<code>\Fld@format@code</code> . . .	3950, 3964,
<code>\equation</code> .	4864, 4873, 4877, 4886		10672, 10737		10623, 10625
<code>\equationautorefname</code>	2196, 2214,	<code>\Fld@annotflags</code>	3591, 3593,	<code>\Fld@getmethodfalse</code>	3857
	2232, 2250, 2268, 2286, 2304,		10567, 10595, 10668, 10701,	<code>\Fld@getmethodtrue</code>	3859
	2322, 2344, 2362, 6252, 6256		10733, 10768, 10800	<code>\Fld@height</code>	
<code>\errmessage</code>	2397	<code>\Fld@bcolor</code> . .	3815, 3942, 10582,		3912, 9493, 9510, 9521, 9577,
<code>\es@roman</code>	458		10584, 10688, 10690, 10716,		9592, 9602, 9626, 9644, 9662,
<code>\escapechar</code> . .	377, 4949, 11017,		10718, 10741, 10753, 10755		9671, 9906, 9925, 9934, 9991,
	11018, 11068	<code>\fld@bcolor</code>	10676		10016, 10026, 10051, 10073,
<code>\eTeX</code>	411, 9301	<code>\Fld@bordercolor</code> . . .	3816, 3945,		10092, 10103, 10220, 10237,
<code>\etex@unexpanded</code> . . .	1169, 1176		10578, 10580, 10602, 10610,		10257, 10314, 10324, 10351,
<code>\eTeXversion</code> . . .	6539, 6541, 6543		10612, 10675, 10684, 10686,		10391, 10415, 10440, 10448
<code>\evensidemargin</code>	5542		10712, 10714, 10740, 10749,	<code>\Fld@keystroke@code</code>	3953, 3961,
<code>\ExecuteOptions</code>	2814, 2815, 2819		10751, 10775, 10783, 10785,		10619, 10621
<code>\ext@figure</code>	5832		10807, 10815, 10817	<code>\Fld@listcount</code>	9586, 9589, 9598,
<code>\ext@table</code>	5831	<code>\Fld@bordersep</code>	3817, 3924		10000, 10003, 10020, 10323,
<code>\extra@b@citeb</code>	5378	<code>\Fld@borderstyle</code> . . .	3819, 3921,		10327, 10331, 10335, 10343,
<code>\extrasvietnam</code>	2439		10572, 10600, 10673, 10706,		10348
<code>\extrasvietnamese</code>	2431		10738, 10773, 10823	<code>\Fld@loc</code>	3884
F					
<code>\fa</code>	12279	<code>\Fld@borderwidth</code>	3818,	<code>\Fld@maxlen</code> . .	3812, 3906, 10764
<code>\FancyVerbLineautorefname</code>	2209,		3918, 4061, 4064, 4065, 4068,	<code>\Fld@menulength</code>	3808,
	2227, 2245, 2263, 2281, 2299,		4069, 9575, 9576, 9989, 9990,		3909, 9523, 9527, 9574, 9794,
	2317, 2339, 2357, 2375, 6269		10312, 10313, 10572, 10600,		9795, 9798, 9936, 9940, 9988,
<code>\farsikaf</code>	12300		10673, 10706, 10738, 10773,		10259, 10263, 10311
<code>\farsiya</code>	12302	<code>\Fld@calculate@code</code>	3952, 3970,	<code>\Fld@name</code>	3899, 9489,
<code>\fatha</code>	12292		10631, 10633		9517, 9607, 9658, 9731, 9736,
<code>\fbox</code>	9894, 9897	<code>\Fld@cbsymbol</code> .	3820, 3936, 10586		9747, 9748, 9759, 9760, 9769,
<code>\Field@addtoks</code>	3871, 3893, 3896,	<code>\Fld@charsize</code>			9770, 9778, 9799, 9816, 9824,
	3985, 3988, 3992, 3995, 3998,		3810, 3811, 3915, 9574, 9988,		9829, 9844, 9853, 9902, 9930,
	4001, 4004, 4007, 4010, 4013,		10311, 10588, 10694, 10722,		10030, 10088, 10216, 10253,
	4016, 4019		10759, 10805		10364, 10436, 10561, 10563,
<code>\Field@boolkey</code>	3416, 3504, 3866,	<code>\Fld@checkedfalse</code>	3806		10568, 10596, 10669, 10702,
	3887, 3890	<code>\Fld@checkequals</code>	3875,	<code>\Fld@onblur@code</code> . . .	3955, 3976,
<code>\Field@toks</code>	3869, 3870,		9526, 9588, 9803, 9813, 9939,		10639, 10641
	3872, 9501, 9532, 9609, 9624,		10002, 10262, 10326	<code>\Fld@onclick</code>	3991, 10616
	9642, 9663, 9734, 9751, 9762,	<code>\Fld@choices</code> . . .	3699, 3707, 3709,	<code>\Fld@onenter@code</code> . .	3958, 3979,
	9773, 9783, 9800, 9818, 9826,		3713, 3722, 3730, 3735, 3783,		10651, 10653
	9831, 9847, 9856, 9914, 9945,		3785, 3793, 3794, 10696	<code>\Fld@onexit@code</code> . . .	3959, 3982,
	10032, 10049, 10071, 10093,	<code>\Fld@color</code> . . .	3814, 3948, 10589,		10655, 10657
	10228, 10268, 10366, 10389,		10695, 10723, 10760	<code>\Fld@onfocus@code</code> . .	3954, 3973,
	10413, 10441	<code>\Fld@default</code>	3724, 3727,		10635, 10637
<code>\Field@Width</code>	3809, 3903		3729, 3927, 9490, 9507, 9518,	<code>\Fld@onmousedown@code</code> . . .	3956,
<code>\figureautorefname</code> .	2199, 2217,		9559, 9659, 9732, 9750, 9764,		10643, 10645
	2235, 2253, 2271, 2289, 2307,	<code>\Fld@choices</code> . . .	3699, 3707, 3709,	<code>\Fld@onmouseup@code</code>	3957, 10647,
	2329, 2347, 2365, 6259		3713, 3722, 3730, 3735, 3783,		10649
<code>\filename@area</code>	3344		3785, 3793, 3794, 10696	<code>\Fld@rotation</code> .	3821, 3939, 10574,
<code>\filename@base</code>	3344	<code>\Fld@color</code> . . .	3814, 3948, 10589,		10576, 10601, 10606, 10608,
<code>\filename@ext</code> . .	3341, 3342, 3344,		10695, 10723, 10760		10674, 10680, 10682, 10708,
	3345	<code>\Fld@default</code>	3724, 3727,		10710, 10739, 10745, 10747,
<code>\filename@parse</code>	3340		3729, 3927, 9490, 9507, 9518,		10774, 10779, 10781, 10806,
			9559, 9659, 9732, 9750, 9764,		10811, 10813
			9772, 9779, 9805, 9815, 9845,		
			9855, 9903, 9921, 9931, 9973,		
			10089, 10217, 10235, 10254,		
			10296, 10437, 10724, 10725,		
			10761		
		<code>\Fld@disabledfalse</code>	3807		
		<code>\Fld@export</code>	3536, 3539, 3546, 3838		
		<code>\Fld@findlength</code>	9782, 9793		

\Fld@submitflags ... 3573, 3575, 10795	\GenericError 503	\H@seteqlabel 5674, 5676
\Fld@validate@code . 3951, 3967, 10627, 10629	\GenericInfo 505	\H@subeqnarray 4930, 4934
\Fld@value 3725, 3732, 3734, 3933, 9491, 9507, 9519, 9558, 9559, 9904, 9921, 9932, 9972, 9973, 10218, 10235, 10255, 10295, 10296, 10762	\getpagerefnumber 4829	\ha 12285
\Fld@width 3902, 9492, 9506, 9510, 9520, 9557, 9568, 9570, 9592, 9602, 9614, 9625, 9633, 9643, 9650, 9661, 9668, 9671, 9905, 9920, 9925, 9933, 9971, 9982, 9984, 10016, 10026, 10038, 10050, 10058, 10072, 10079, 10091, 10099, 10103, 10219, 10234, 10237, 10256, 10294, 10305, 10307, 10324, 10351, 10372, 10390, 10398, 10414, 10421, 10439, 10447, 10448	\getrefbykeydefault 4799, 4800	\Haa 12264
\float@caption 5160, 5211	\gexmode 7912, 7913, 7997	\halign 480
\float@makebox 5213, 5214	\ghayn 12277	\hamza 12252
\flq 465	\Gin@setfile 5731, 5732	\HAR@checkcitations 5468
\flqq 463	\glossary 472	\HAR@citetoaux 5424
\fmtname 7	\glq 461	\HAR@tempa 5469, 5470, 5471, 5472, 5473, 5474
\fmtversion 7	\glqq 459	\harvardcite 5418, 5455
\fontencoding ... 385, 388, 9886	\greek@Alph 4709	\harvarditem 5443
\fontfamily 9885	\Greeknumeral 746	\hbox 1229, 1235, 1241, 1679, 2484, 2490, 3903, 4055, 4056, 4057, 4058, 5408, 5537, 6903, 6910, 6970, 6981, 6999, 7010, 7029, 7040, 8070, 8380, 8391, 8994, 9001, 9259, 9267, 9871, 10236, 10324, 10351, 10373, 10399, 10422, 10448
\fontseries 9887	\greeknumeral 745	\hc@currentHref 5171
\fontshape 3070, 9888	\grq 462	\HCode ... 9723, 9725, 9736, 9745, 9757, 9765, 9767, 9798, 9804, 9809, 9814, 9828, 9833, 9837, 9840, 9849
\footnote 3392	\grqq 460	\headerps@out . 8705, 8712, 8786, 8792, 8852, 8861, 8881, 8894, 8932, 9034, 9308
\footnoteautorefname 2197, 2215, 2233, 2251, 2269, 2287, 2305, 2325, 2345, 2363, 6253, 6257	\guill@spacing 675	\hfill ... 4055, 4056, 4057, 4058, 5299, 5332
\footnotesize 441	\guillemotleft 715, 11324, 11420, 11521, 11615	\Hfootnoteautorefname ... 6253
\footnotetext 5051	\guillemotright ... 716, 11339, 11421, 11536, 11616	\hhyperref 3397
\Form 3822	\guilsinglleft ... 11289, 11422, 11617, 12105	\Hmake@df@tag@@ ... 5659, 5661
\Form@action . 3832, 9723, 10793	\guilsinglright .. 11290, 11423, 11618, 12106	\Hmake@df@tag@@@ ... 5666, 5668
\Form@boolkey 3826	H	\hoffset 5538
\Form@htmlfalse 3825, 3843	\H ... 11475, 11709, 11710, 11741, 11742, 12085, 12086	\href . 473, 3191, 3391, 3392, 4205
\Form@htmltrue 3837	\h 2366, 12133, 12138, 12143, 12148, 12153, 12158, 12163, 12168, 12173, 12178, 12183, 12188, 12193, 12198, 12203, 12208, 12213, 12218, 12223, 12228, 12233, 12238, 12243, 12248	\href@ 3192, 3195, 3200
\Form@method ... 3855, 3863, 9723	\H@@footnotemark ... 4984, 5001, 5096, 5108, 5119	\href@split 3200, 3201
\frq 466	\H@@footnotetext ... 4983, 4993, 5016, 5077, 5097, 5111, 5119	\hskip ... 1240, 1318, 1715, 1716, 4061, 9871
\frqq 464	\H@@mpfootnotetext . 4991, 5003, 5005	\hspace 469, 5458, 5459
\futurelet 515, 975	\H@definecounter ... 5647, 5649	\hss 5546
\FV@SetLineNo 4730	\H@endeqnarray 4902, 4921	\ht . 4063, 4066, 6908, 6973, 6979, 6985, 7002, 7008, 7014, 7032, 7038, 7044, 8376, 8999, 9265, 10203
\FV@StepLineNo . 4729, 4731, 4732	\H@endequation 4865, 4897	\htmladdimg 3390
G	\H@endsubeqnarray .. 4931, 4943	\htmladdnormallink 3391
\g@addto@macro 4343, 4494, 4541, 5280, 5552, 6760, 7881, 8157	\H@eqnarray 4901, 4906	\htmladdnormallinkfoot .. 3392
\G@refundefinedtrue 3254, 5380, 5403, 6029, 6049, 6066, 6180	\H@equation 4864, 4888	\htmlref 3393
\gaf 12301	\H@item ... 4623, 4629, 5288, 5313	\Huge 438
\Gauge 4034	\H@newctr 5652, 5654	\huge 442
	\H@old@part 11142, 11153	\Hurl 3207, 3209, 3211
	\H@old@chapter .. 11110, 11112	\hv@pdf@char 10925, 10988, 10989, 10990, 10991
	\H@old@sect 11164, 11170	\hvtex@buffer . 7777, 7780, 7788, 7791, 7800, 7804, 7820
	\H@old@spart 11155, 11157	
	\H@old@ssect 11105, 11107	
	\H@refstepcounter .. 4638, 4648, 4731, 4839, 4887, 5155, 5845, 5898	

\hvtex@gettoken 7777, 7789, 7793, 7802, 7806	\Hy@babelnormalise . 3222, 3224	2634, 2641, 2645, 2650, 2657, 2743
\hvtex@gettoken@ . . . 7777, 7778	\Hy@backout 3116, 4166, 4170, 5254	
\hvtex@par@dimension 7773, 7812	\Hy@backreffalse 283, 2164, 2183, 2911	\Hy@DEST 8367, 8393
\hvtex@par@direction 7774, 7815	\Hy@backreftrue 2157, 2161, 2180	\Hy@DestName 6380, 6384
\hvtex@par@duration 7775, 7807	\Hy@bibcite 5277, 5281	\Hy@DisableOption . . 1752, 2849, 2850, 2851, 2853, 2892, 2918, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3055, 3079, 3080, 3118, 3119, 4127, 4128, 4129, 4130, 4131, 4132, 4133, 4134, 4135, 4136, 4137, 4138, 4139, 4140, 4141, 4142, 4143, 4144, 4145, 4146, 4147, 4148, 4149, 4150, 4301, 4496, 5123, 5736, 5792, 5793, 6361, 6683, 6684, 6685, 6686, 6687, 6688, 6689, 6690, 6818, 7074, 7075, 7076, 7077, 7078, 7079, 7080, 7081, 7382, 7383, 7384, 7385, 7386, 7387, 7388, 7389, 7580, 7979, 7980, 7981, 7982, 7983, 7984, 7985, 7986, 8236, 8237, 8238, 8239, 8240, 8241, 8242, 8243, 8772, 9054, 9055, 9056, 9057, 9058, 9059, 9060, 9061
\hvtex@par@motion . . 7776, 7809	\Hy@bookmarksdepth . 2469, 2474, 2486, 2492, 10839	\Hy@displaydoctitlefalse . 317
\hvtex@param@dimension . . 7784, 7813, 7831, 7834	\Hy@bookmarksnumberedfalse 284	\Hy@DistillerDestFix 5516, 7990, 7992
\hvtex@param@direction . . 7785, 7816, 7842, 7850	\Hy@bookmarksopenfalse . . . 285	\Hy@draftfalse 251
\hvtex@param@duration . . . 7786, 7808, 7855, 7857	\Hy@bookmarkstrue 286	\Hy@drafttrue 252
\hvtex@param@motion 7787, 7810, 7831, 7838	\Hy@bookmarkstype . . 2504, 2506, 5591, 10850	\Hy@driver 321, 2000, 2011, 2023, 2028, 2033, 2046, 2051, 2056, 2061, 2073, 2077, 2103, 2113, 2119, 2124, 2130, 2921, 2924, 2932, 2934, 2938, 2943, 2953, 2959, 2961, 2967, 2969, 2974, 2979, 2984, 2989, 2993, 2995, 2997
\hvtex@parse@trans . 7762, 7782	\Hy@boolkey . . 1725, 1815, 1818, 1821, 1849, 1852, 1855, 1860, 1863, 1866, 1869, 1872, 1875, 1878, 1881, 1884, 1887, 2135, 2138, 2190, 2454, 2461, 2464, 2467, 2508, 2511, 2549, 2664, 2711, 2714, 2717, 2720, 2723, 2726, 2734, 2755, 2758	\Hy@dviopdfmxOutlineOpentru 3006
\hvtex@produce@trans 7821, 7827	\Hy@BorderArrayPatch 8426, 8429, 8710, 9142	\Hy@endcolorlink . . . 3066, 3071, 3075, 6414, 6860, 6893, 6911, 6918, 6941, 6963, 6977, 6989, 7006, 7018, 7036, 7048, 7253, 7280, 7307, 7328, 7348, 7595, 7615, 7668, 7686, 7711, 7737, 7752, 8041, 8072, 8347, 8349, 8951, 8971, 8998, 9007, 9217, 9236, 9264, 9272
\hvtex@token . . 7779, 7790, 7796, 7803, 7808, 7811, 7814, 7816	\Hy@breaklinksfalse 287	\Hy@escapeform 9509, 9591, 9601, 9616, 9634, 9651, 9670, 9923, 10006, 10024, 10041, 10060, 10081, 10101, 10241, 10330, 10353, 10377, 10401, 10424, 10451, 10516, 10545, 10552
\hvtex@trans@code . . 7766, 7767, 7768, 7769, 7770, 7771, 7772, 7783, 7829, 7830, 7832, 7834, 7836, 7838, 7840, 7842, 7844, 7845, 7846, 7847, 7848, 7850	\Hy@breaklinkstrue . 2014, 2030, 2035, 2048, 2964, 2976	
\hvtex@trans@effect@Blinds 7766	\Hy@breaklinksunhbox 8366, 8383	
\hvtex@trans@effect@Box . 7767	\Hy@centerwindowfalse 288	
\hvtex@trans@effect@Dissolve 7768	\Hy@chapapp . . 4691, 4697, 4704, 11116, 11127, 11201	
\hvtex@trans@effect@Glitter 7769	\Hy@chapterstring . . 4686, 4688, 4691, 4703	
\hvtex@trans@effect@R . . . 7772	\Hy@CheckOptionValue 1766, 1803	
\hvtex@trans@effect@Split 7770	\Hy@CJKbookmarksfalse 289	
\hvtex@trans@effect@Wipe 7771	\Hy@cjkpu 893, 895, 914	
\hvtex@trans@par . . . 7803, 7807, 7809, 7812, 7815	\Hy@colorlink . 3062, 3070, 3074, 6409, 6462, 6497, 6531, 6841, 6860, 6880, 6907, 6916, 6941, 6955, 6976, 6988, 7006, 7018, 7036, 7048, 7250, 7280, 7307, 7328, 7348, 7595, 7615, 7668, 7686, 7711, 7737, 7752, 8041, 8072, 8347, 8349, 8951, 8971, 8998, 9007, 9217, 9236, 9264, 9272	
\hvtex@trans@params 7797, 7799, 7823	\Hy@ColorList 2554, 2555	
\Hy@boolkey 1725, 1726	\Hy@CounterExists . . 4588, 4601, 4604	
\Hy@DefNameKey 1796, 1798	\Hy@currentbookmarklevel 10845, 10855, 10856, 10862, 10869, 10903, 10906, 10911, 10915	
\Hy@escapeform . . 10522, 10535, 10540	\Hy@defaultdriver . . 2925, 2932, 2953, 2959, 2967	
\Hy@temp 2514, 2516	\Hy@DefFormAction . . 3830, 3832	
\Hy@abspage 4363, 4428, 4537, 4558	\Hy@DefNameKey 1795, 2575, 2593, 2601, 2609, 2613, 2620, 2627,	
\Hy@activeanchorfalse . . . 3120, 6417, 6862, 6875, 6942, 6951, 7225, 7513, 7528, 7596, 7608, 8039, 8064, 8953, 8966, 9219, 9231		
\Hy@activeanchortrue 6416, 6859, 6871, 6940, 6948, 7221, 7509, 7525, 7594, 7605, 8038, 8054, 8950, 8962, 9216, 9227		
\Hy@ActiveCarriageReturn 3153, 3156		
\Hy@appendixstring . 4690, 4697		
\Hy@author 4277, 4281		

\Hy@escapeformfalse	290	\Hy@levelcheck . . .	10852, 10867	\Hy@pdfversion	1983, 1992, 3706, 6351, 6353, 6357, 6360, 10556
\Hy@escapestring .	10513, 10586, 10616, 10621, 10625, 10629, 10633, 10637, 10641, 10645, 10649, 10653, 10657, 10761, 10762, 10793	\Hy@linkcounter	323, 325, 4723, 4724, 4803, 4804, 5662, 5663, 5669, 5670, 5677, 5887, 5888, 5892, 5938, 5939, 5943, 10829, 10830, 11115, 11116, 11126, 11127, 11158, 11159, 11167, 11168, 11200, 11201	\Hy@plainpagesfalse	307
\Hy@EveryPageAnchor	5515, 5553	\Hy@linkfileprefix .	2539, 3329, 3350, 6896, 7481, 8987, 9252	\Hy@ps@CR	8841, 8849, 8854, 8855, 8872, 8899, 8900, 8901, 8907, 8914, 8921, 8928
\Hy@EveryPageBoxHook	4327, 4331, 4335, 5552, 7881, 8157	\Hy@linktopagefalse	297	\Hy@pstringB . .	6607, 6612, 7420, 7432, 8297, 8313, 9115, 9131
\Hy@EveryPageHook . .	4326, 4330, 4494, 6760	\Hy@LT@currentHlabel	4841, 4852	\Hy@pstringD . .	6469, 6492, 7261, 7275, 8607, 8623, 8641
\Hy@ExchangeLeftParenthesis .	6303, 6309	\Hy@LT@currentHref .	4842, 4853	\Hy@pstringdef	6273, 6379, 6396, 6438, 6468, 6469, 6503, 6504, 6607, 7165, 7233, 7260, 7261, 7284, 7285, 7311, 7420, 7614, 7673, 7718, 7719, 8297, 8457, 8466, 8576, 8606, 8607, 8650, 8651, 9115, 10538, 11027, 11035, 11044
\Hy@ExchangeRightParenthesis .	6313, 6319	\Hy@LT@footnotetext	5066, 5076	\Hy@pstringDest	6379, 6380, 7165, 7210, 8457, 8458, 8462, 8466, 8467, 8471
\Hy@false .	1661, 1733, 2149, 2182	\Hy@maketitle@end . .	5100, 5105, 5107	\Hy@pstringF . .	6468, 6486, 6503, 6521, 6526, 7260, 7274, 7284, 7298, 7302, 7718, 7725, 7727, 8606, 8622, 8640, 8650, 8666, 8669, 8687, 8690
\Hy@figuresfalse	291	\Hy@maketitle@optarg	5098, 5103	\Hy@pstringName . .	11027, 11028, 11035, 11039, 11044, 11058
\Hy@finalfalse	252	\Hy@MaybeStopNow . . .	2063, 2068, 2088, 2098, 2107, 2820	\Hy@pstringP . .	6504, 6526, 7285, 7302, 7719, 7727, 8651, 8669, 8690
\Hy@finaltrue	251	\Hy@menubartrue	298	\Hy@pstringURI	6438, 6458, 7311, 7324, 7614, 7624, 7673, 7677, 8576, 8587
\Hy@FirstPageHook . .	4328, 4341, 4343	\Hy@naturalnamesfalse	299	\Hy@PutCatalog .	4490, 4498, 4547
\Hy@fitwindowfalse	292	\Hy@nestingfalse	300	\Hy@raisedlink	1668, 1997, 2024, 2052, 2057, 2104, 2120, 2131, 2970, 2986, 4679, 4806, 4812, 4813, 4814, 4817, 4854, 4894, 4897, 5009, 5020, 5081, 5195, 5265, 5289, 5294, 5314, 5664, 5671, 5678, 10831, 11117, 11128, 11160, 11172, 11202
\Hy@float@caption . .	5161, 5202, 5204	\Hy@newline@author	4320	\Hy@raiselinksfalse .	308, 5417
\Hy@float@currentHref . . .	5205, 5207, 5209, 5217, 5219, 5220	\Hy@newline@title	4319	\Hy@RemoveDurPageAttr . . .	6719, 6732
\Hy@footnote@currentHlabel . .	5023, 5037, 5069	\Hy@newwindowfalse	302	\Hy@RemoveHidPageAttr . . .	6741, 6753
\Hy@footnote@currentHref	4122, 5007, 5010, 5018, 5021, 5024, 5038, 5041, 5068	\Hy@newwindowsetfalse	301, 2731	\Hy@RemovePercentCr	3169, 3173, 3178
\Hy@Gin@setfile	5731, 5733	\Hy@newwindowsettrue	2733	\Hy@RemoveTransPageAttr .	6695, 6709
\Hy@GlobalStepCount	319, 4428, 4723, 4803, 5530, 5662, 5669, 5887, 5938, 10829, 11115, 11126, 11158, 11167, 11200	\Hy@next	4444, 4454, 4459, 11125, 11135, 11138	\Hy@reserved@a	3278, 4904, 4933, 9730, 9780, 9843
\Hy@gttemp . .	614, 615, 3729, 3730, 3734, 3735, 3746, 3760, 6327, 6329, 10561, 10563	\Hy@nextfalse	2854, 5740	\Hy@RestoreCatcodes	205, 2816, 2999
\Hy@href	3192, 3194	\Hy@nexttrue . .	2855, 2856, 2857, 5741, 5742		
\Hy@hstringURI	8599	\Hy@number	2687, 2691, 2699		
\Hy@hyperfootnotesfalse .	4980	\Hy@numberline . . .	10846, 10883, 10884, 10885		
\Hy@hyperfootnotesttrue . . .	293	\Hy@org@chapter . .	11123, 11139		
\Hy@hyperindextrue	294	\Hy@OutlineName . .	11028, 11082		
\Hy@hypertextnamesfalse . .	1617	\Hy@pageanchortrue	303		
\Hy@hypertextnamestrue	295	\Hy@pagecounter .	324, 326, 4761, 5530, 5531		
\Hy@implicittrue	296	\Hy@pageheight	1826, 1830, 1834, 1838, 1842, 1846, 2810, 8793, 8895		
\Hy@Info . .	236, 1741, 2862, 2864, 2867, 2869, 2872, 2874, 2877, 2879, 2882, 2884, 3040, 3046, 3067, 3072, 3076, 3470, 4094, 4096, 4099, 4101, 4104, 4106, 4109, 4111, 4114, 4116, 5355, 5416, 5596	\Hy@pagelabelsfalse	4350		
\Hy@level . .	10851, 10853, 10864, 10869, 10870, 10871, 10895	\Hy@pagelabelstrue	304		
		\Hy@param	4702, 4703, 4704, 4720, 4724		
		\Hy@pdfencoding@pdfdoc . .	1957		
		\Hy@pdfmarkerrorfalse . . .	8324		
		\Hy@pdfmarkerrortrue	8459, 8468		
		\Hy@pdfminorversion	6334, 6340, 6343, 6351, 6353, 6356, 6360		
		\Hy@pdfpagehiddenfalse . . .	305		
		\Hy@pdfstringdef	613, 3704, 3712		
		\Hy@pdfstringfalse . .	306, 4152		
		\Hy@pdfstringtrue . . .	484, 4124		

\Hy@RestoreLastskip	1683, 6381, 6863, 6876, 6943, 6952, 7212, 7514, 7529, 7597, 7609, 8035, 8065, 8954, 8967, 9220, 9232	\Hy@StepCount	318, 4405, 9527, 9589, 9795, 9940, 10003, 10263, 10327, 10907, 10912, 10973	7639, 7697, 7698, 7699, 7702, 8174, 8175, 8176, 8187, 8199	
\Hy@ReturnAfterElseFi	327, 3157	\Hy@temp	510, 517, 2513, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2555, 2556, 2557, 2560, 2562, 2565, 2729, 2730, 2968, 2969, 2973, 2974, 2978, 2979, 2983, 2984, 2988, 2989, 3460, 3464, 3465, 3476, 3528, 3529, 3530, 3532, 3536, 3847, 3848, 3849, 3851, 3855, 3856, 4385, 4388, 4397, 4399, 4403, 4407, 4451, 4453, 4755, 4758, 4761, 4767, 4867, 4873, 6622, 6651, 6653, 7091, 7096, 7102, 7106, 7109, 7114, 7145, 7147, 7392, 7435, 7437, 8207, 8210, 8214, 8215, 8221, 8222, 8228, 8246, 8251, 8257, 8261, 8264, 8269, 8302, 8304, 8423, 8424, 8432, 8433, 9064, 9069, 9075, 9079, 9082, 9087, 9120, 9122, 10521, 10522, 11025, 11031, 11040, 11055	\Hy@texhtfalse	310
\Hy@ReturnAfterElseFiFiEnd	331, 1203			\Hy@texhtttrue	1996, 2922
\Hy@ReturnAfterFi	327, 347, 1369, 3161, 3177, 5825, 6308, 6318, 10539			\Hy@title	4268, 4272
\Hy@ReturnAfterFiFiEnd	330, 1195, 1209, 1287, 1294			\Hy@toclevel	5601, 5605, 5614
\Hy@ReturnEnd	329, 330, 331, 1215, 1299			\Hy@toolbartrue	311
\Hy@safe@activesfalse	332, 3092, 3097, 6169			\Hy@true	1660, 1729, 1731, 2176, 2178
\Hy@safe@activetrue	332, 3090, 3095, 3149, 3186, 3226, 3284, 6079, 6158			\Hy@typexmlfalse	312
\Hy@samed@currentHlabel	5034, 5039			\Hy@undefinedname	6389, 6394, 7227, 7231, 7612, 7636, 7699, 8166, 8176
\Hy@samed@currentHref	5035, 5040			\Hy@unicodetrue	1914
\Hy@samed@footnotemark	5094, 5109			\Hy@usehidkeyfalse	2547
\Hy@samed@footnotetext	5095, 5112			\Hy@usehidkeytrue	2551
\Hy@samed@hook	4305, 4315	\Hy@temp@A	541, 542, 1187, 1189, 1200, 1202, 1207, 1208, 1211, 5753, 5754, 5755, 5772, 5773, 5774	\Hy@UseMaketitleInfos	4321, 6663, 7056, 7360, 7969, 8206, 9036
\Hy@SaveLastskip	1683, 6378, 6853, 6866, 6935, 6946, 7163, 7503, 7517, 7588, 7600, 8026, 8051, 8945, 8957, 9211, 9223	\Hy@temp@B	1188, 1189	\Hy@UseMaketitleString	4302, 4322, 4323
\Hy@scanauthor	4275, 4280	\Hy@tempa	1727, 1728, 1729, 1731, 1733, 1735, 1738, 1741, 1742, 2145, 2146, 2147, 2149, 2150, 2152, 2153, 2155, 2159, 2163, 2174, 2175, 2176, 2178, 2182, 3155, 3156, 3167, 3171, 3227, 3231, 3283, 3286, 3292, 3294, 3835, 3836, 4434, 4436, 4474, 4476, 4558, 4560, 4951, 4953, 4954, 4957, 4958, 4959, 5156, 5161, 5166, 5590, 5591, 5608, 5609, 5612, 5851, 5852, 5903, 5904, 6881, 6882, 7484, 7621, 7622, 8972, 8973, 9237, 9238, 10849, 10850, 10873, 10875, 10891, 10896, 11190, 11216, 11221, 11224, 11227	\Hy@UseNameKey	1808, 6629, 6630, 6631, 6632, 6633, 6634, 6635, 6636, 6655, 7121, 7122, 7123, 7124, 7125, 7126, 7127, 7128, 7149, 7399, 7400, 7401, 7402, 7403, 7404, 7405, 7406, 7439, 7942, 7943, 7944, 7945, 7946, 7947, 7948, 7949, 8276, 8277, 8278, 8279, 8280, 8281, 8282, 8283, 8306, 9094, 9095, 9096, 9097, 9098, 9099, 9100, 9101, 9124
\Hy@scanoptauthor	4275, 4276			\Hy@usetitlefalse	314
\Hy@scanopttitle	4266, 4267			\Hy@varioref@undefined	4823, 4827, 6164
\Hy@scantitle	4266, 4271			\Hy@verbosefalse	315
\Hy@secnum@part	11145, 11147, 11150			\Hy@vt@PutCatalog	4520, 4522
\Hy@seminarslidesfalse	5837			\Hy@VTeXversion	4500, 4512, 7658, 7755, 7889, 10927
\Hy@seminarslidestrue	5835			\Hy@Warning	234, 354, 1127, 1746, 1761, 1786, 1941, 1946, 2482, 3295, 5582, 6145, 6194, 7196, 7200, 8460, 8469, 10858, 10876
\Hy@SetCatcodes	181, 231, 2818			\Hy@WarningNoLine	235, 1967, 2017, 2533, 2571, 2803, 2847, 3360, 4249, 4351, 4514, 4572, 4742, 5592, 5723, 8332
\Hy@SetNewWindow	2737, 6488, 6523, 7276, 7299, 7726, 8621, 8639, 8665, 8686			\Hy@WarningPageBorderColor	2568, 2570, 2572
\Hy@setouterhbox	8365, 8372			\Hy@WarningPageColor	2530, 2532, 2534
\Hy@setpagesizetrue	309	\Hy@tempb	4435, 4436, 4475, 4476, 10874, 10875, 10896	\Hy@WarnOptionDisabled	1758, 1760
\Hy@setpdfborder	2583, 6399, 6443, 6473, 6508, 6824, 7239, 7267, 7291, 7317, 7341, 7626, 7641, 7661, 7679, 7704, 7730, 7745	\Hy@tempcolor	8080, 8082, 8094, 8169, 8171, 8186, 8192		
\Hy@setpdfversiontrue	1982	\Hy@TempPageAnchor	5520, 5527, 5531, 5545		
\Hy@setref@link	6035, 6038				
\Hy@slidetitle	5864, 5866, 5873, 5881, 5891, 5915, 5917, 5924, 5932, 5942	\Hy@testname	6392, 6393, 6394, 6396, 6408, 7229, 7230, 7231, 7233, 7246, 7634, 7635, 7636,		
\Hy@StartlinkName	6398, 6411				

\HyWarnOptionValue	1739, <u>1745</u> , 2166, 2185	\HyField@AnnotCount	... <u>10207</u> , 10210, 10213		3600, 3601, 3613, 3614, 3615, 3626, 3627, 3628, 3629, 3631, 3642, 3643, 3644, 3645, 3646, 3647, 3648, 3649, 3660, 3663, 3674, 3675, 3676, 3677, 3679, 3681, 3682, 3685, 3688	
\HyWindowuitrue	316	\HyField@FlagsAnnot	<u>3578</u> , <u>3597</u> , 3611, 3624, 3640, 3672			
\HyWritebookmark	1665, 5602, 5871, 5879, 5889, 5922, 5930, 5940, 10835, 10918	\HyField@FlagsCheckBox	.. <u>3610</u> , 9667, 10098, 10446			
\HyC@cmd	87, 109, 122	\HyField@FlagsChoice	<u>3671</u> , <u>9567</u> , 9981, 10304		\HyInd@windex	.... 5748, 5749
\HyC@check	68, 71, <u>74</u>	\HyField@FlagsPushButton	.... ... <u>3596</u> , 9613, 9631, 9649, 10037, 10056, 10078, 10371, 10396, 10420		\HyInd@EncapChar	... 2193, 2812, 5744
\HyC@checkcommand	... 50, 57, <u>59</u>	\HyField@FlagsRadioButon	<u>3623</u> , 9563, 9977, 10300		\HyInd@Org@windex	.. 5747, 5751, 5757, 5759
\HyC@checkFailed	... 146, <u>157</u>	\HyField@FlagsSubmit	<u>3544</u> , <u>9632</u> , 10057, 10397		\HyInd@pagelink	5799, 5805, 5807, 5810
\HyC@checkItem	132, 133, 134, 135, <u>138</u>	\HyField@FlagsText	.. <u>3639</u> , <u>9505</u> , 9919, 10233		\HyInd@ParenLeft	... 5738, 5754, 5773
\HyC@checklong	45, <u>53</u>	\HyField@NewBitsetFlag	.. 3408, 3411, <u>3419</u>		\HyInd@ParenRight	.. 5739, 5755, 5774
\HyC@checkOk	144, <u>154</u>	\HyField@NewFlag	... 3406, <u>3482</u> , 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3517, 3518, 3520, 3521, 3523, 3524, 3525, 3526		\HyInd@removespaces	5813, 5816, 5826
\HyC@checkPackage	... 12, 16, <u>18</u>	\HyField@NewFlagOnly	<u>3410</u> , 3516, 3519, 3522		\HyLang@addto	.. 2379, 2401, 2431, 2439
\HyC@cmd	.. 62, 75, 87, 95, 118, 131	\HyField@NewOption	.. 3407, <u>3413</u>		\HyLang@afrikaans	.... 2195
\HyC@date	11, 15, 23, 29, 31	\HyField@PDFChoices	<u>3697</u> , <u>9600</u> , 10022, 10350		\HyLang@DeclareLang	2393, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429
\HyC@DeclareRobustCommand	<u>114</u>	\HyField@PrintFlags	<u>3457</u> , <u>3571</u> , 3589, 3603, 3616, 3632, 3664, 3689		\HyLang@english	.... 2213
\HyC@def	125	\HyField@SetFlag	... <u>3449</u> , <u>3557</u> , 3563, 3568, 3602, 3630		\HyLang@french	.... 2231
\HyC@defcmd	47, 54, 93	\HyField@SetKeys	.... ... 3801, 9502, 9534, 9537, 9556, 9610, 9628, 9646, 9664, 9915, 9947, 9950, 9969, 10033, 10053, 10075, 10094, 10229, 10270, 10273, 10292, 10367, 10393, 10417, 10442		\HyLang@german	.... 2249
\HyC@doCheck	99, <u>130</u>	\HyField@TheAnnotCount	.. <u>10212</u> , 10243, 10248, 10335, 10344, 10356, 10361, 10379, 10385, 10404, 10409, 10427, 10432, 10453, 10458		\HyLang@italian	.... 2267
\HyC@edef	125	\HyField@UseFlag	... <u>3439</u> , <u>3548</u> , 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3558, 3559, 3560, 3561, 3564, 3565, 3566, 3569, 3580, 3581, 3582, 3583, 3584, 3585, 3586, 3587, 3588, 3599,		\HyLang@magyar	.... 2285
\HyC@getDate	12, <u>14</u>				\HyLang@portuges	.... 2303
\HyC@meaning	152, 160				\HyLang@russian	.... 2321
\HyC@nc@default	103, <u>105</u>				\HyLang@spanish	.... 2343
\HyC@nc@noopt	.. 88, <u>91</u> , 103, 112, 123, 127				\HyLang@vietnamese	.. 2361, 2431, 2439
\HyC@nc@opt	88, <u>101</u> , 123				\HyOrg@addtoreset	.. 5681, 5683, 5710
\HyC@newcommand	86				\HyOrg@appendix	.... 4692, 4698
\HyC@next	48, 55, 60, 83				\HyOrg@author	.. 4265, 4278, 4282
\HyC@noValue	.. 80, 81, 82, <u>85</u> , 139				\HyOrg@float@makebox	5213, 5215
\HyC@optcmd	107, 111				\HyOrg@maketitle	... 5092, 5099, 5104
\HyC@org@cmd	76				\HyOrg@subequations	4968, 4975
\HyC@org@optcmd	80, 111				\HyOrg@title	... 4264, 4269, 4273
\HyC@org@robustcmd	81, 120				\HyOrg@url	.... 3206
\HyC@org@robustoptcmd	82				\hyper@anchor	2831, 3216, 3218, 3244, 3246, 3273, 3275, 3357, 4156, 4171, 4186, 5007, 5010, 5018, 5021, 5079, 5082, 5193, 5195, 5219, 5520, 5527, 5531, 5870, 5878, 5888, 5921, 5929, 5939
\HyC@package	10, 22, 28, 34, 37, 38				\hyper@link	.. 3189, 3202, 3239, 3258, 3260, 3278, 5273, 5419,
\HyC@param	78, 96, 102					
\HyC@robustcmd	115, 120, 121, 122					
\HyC@star	67, 70, 94					
\HyC@string	.. 131, <u>152</u> , 155, 158					
\HyC@Toks	.. 79, <u>90</u> , 96, 106, 126					
\HyCal@do	348, 352					
\HyCal@scan	339, 343, 367					
\HyColor@FieldBColor	3942, 3945					
\HyColor@FieldColor	3948					
\HyColor@HyperrefBorderColor	2558					
\HyColor@HyperrefColor	2518					
\HyColor@UseColor	3064					
\HyField@PDFChoices	3724, 3725, <u>3740</u>					
\HyField@@SetFlag	.. 3450, <u>3452</u>					
\HyField@@UseFlag	.. 3440, <u>3442</u>					
\HyField@AdvanceAnnotCount	.. <u>10209</u> , 10239, 10332, 10354, 10374, 10402, 10425, 10449					

5420, 5421, 5469, 5471, 5473, 6040, 6055, 6154	4175, 4190, 5041, 5255, 5262, 5629, 5633, 6418, 6879, 6954, 7228, 7257, 7483, 7613, 8040, 8067, 8970, 9235	\HyperRaiseLinkHook 1666, 1677
\hyper@@normalise . . 3158, 3162, 3166	\hyper@linkurl 2837, 3211, 3321, 3328, 3349, 3353, 4163, 4177, 4192, 6436, 6896, 6898, 6923, 6992, 7310, 7469, 7481, 7671, 7715, 8164, 8574, 8987, 8989, 9014, 9252, 9254, 9278	\HyperRaiseLinkLength . . . 1675, 1676, 1679
\hyper@anchor . 3384, 4224, 6415, 6852, 6934, 7217, 7516, 7587, 8025, 8944, 9210	\hyper@livelink 4157, 4182	\hyperref 3221, 3397, 3398, 4209, 6112, 6116, 6126, 6140
\hyper@anchorend 2834, 4151, 4160, 4174, 4189, 4680, 4807, 4855, 4897, 4916, 4940, 5267, 5292, 5295, 5315, 5448, 5664, 5671, 5678, 6417, 6873, 6950, 7224, 7511, 7607, 8039, 8056, 8964, 9229, 10831, 10919, 11118, 11129, 11161, 11173, 11203	\hyper@makecurrent . 4676, 4700, 4840, 4893, 4915, 4939, 5036, 5173, 5206	\hypersetup 1934, 2813, 2815, 4203
\hyper@anchorstart 2833, 4151, 4159, 4173, 4188, 4680, 4807, 4855, 4894, 4916, 4940, 5265, 5290, 5295, 5315, 5448, 5664, 5671, 5678, 6416, 6865, 6945, 7220, 7502, 7599, 8038, 8050, 8956, 9222, 10831, 10919, 11118, 11129, 11161, 11173, 11203	\hyper@nat@current 5256	\hypertarget 3214, 4208
\hyper@chars . . 3183, 6439, 6856, 6868, 6886, 6904, 6914, 6927, 6994, 7024, 7471, 7490, 7505, 7520, 7591, 7602, 7674, 8577, 8959, 8977, 8995, 9005, 9018, 9225, 9242, 9261, 9270, 9282	\hyper@nat@anchorend 5267	\HyPL@@@CheckThePage 4455, 4473
\hyper@currentanchor 8042, 8053, 8062, 8074, 8090	\hyper@nat@anchorstart . . . 5264	\HyPL@CheckThePage 4431, 4433
\hyper@currentlinktype . . 8075, 8079, 8083	\hyper@nat@linkbreak 5261	\HyPL@Alph 4371
\hyper@hash . . 3137, 3138, 3184, 3321, 3333, 3350, 3353, 4118, 7465	\hyper@nat@linkend 5258	\HyPL@alph 4372
\hyper@image . . 3212, 3213, 6925, 7714, 8163, 9016, 9280	\hyper@nat@linkstart 5253	\HyPL@arabic 4368
\hyper@last 4240, 4244	\hyper@normalise . . . 2814, 2819, 3129, 3192, 3195, 3208, 3210, 3212, 3233, 3830	\HyPL@CheckThePage . 4383, 4430
\hyper@link . . 2832, 3287, 4157, 4158, 4172, 4182, 4187, 6427, 6922, 6965, 7256, 7463, 7690, 8167, 9013, 9277	\hyper@pageduration 6716, 6762, 7866, 7883, 8129, 8159	\HyPL@Entry 4560, 4568, 4576, 4578
\hyper@link@ . . 2839, 3279, 3281, 4155, 4165, 4169, 4179, 4194	\hyper@pagehidden . . 6739, 6763, 7876, 7884, 8146, 8160	\HyPL@EveryPage 4373, 4494
\hyper@linkend 2836, 4162, 4176, 4191, 5043, 5259, 5262, 5629, 5633, 6426, 6891, 6962, 7252, 7257, 7495, 7650, 8044, 8077, 8982, 9247	\hyper@pagetransition . . . 6692, 6761, 7757, 7882, 8112, 8158	\HyPL@Format . . 4446, 4447, 4448, 4449, 4450, 4462
\hyper@linkfile 2838, 3346, 4164, 4178, 4193, 6466, 6895, 7022, 7259, 7480, 7654, 8604, 8986, 9251	\hyper@quote . . 4120, 6857, 6869, 6883, 6887, 6905, 6915, 6928, 7465, 7474, 7486, 7507, 7523, 8948, 8960, 8974, 8978, 8996, 9006, 9019, 9214, 9225, 9239, 9243, 9261, 9271, 9283	\HyPL@Found . . 4445, 4452, 4456, 4463, 4473, 4475
\hyper@linkstart . . . 2835, 4161,	\hyper@readexternallink . 3289, 3302	\HyPL@Labels . . 4362, 4485, 4486, 4488, 4490, 4534, 4535, 4571, 4579, 4580
	\hyper@refstepcounter . . . 4656, 4658, 4665	\HyPL@LastNumber . . . 4366, 4401, 4424
	\hyper@tilde . . 3144, 3145, 3146, 4119	\HyPL@LastPrefix . . . 4367, 4395, 4426
	\hyperbaseurl . . 2536, 2537, 4204	\HyPL@LastType . 4365, 4386, 4425
	\hypercalcbp 334, 334	\HyPL@page 4376, 4378, 4383, 4391
	\hypercalcbpdef . 336, 373, 2706	\HyPL@Prefix . . 4391, 4393, 4395, 4409, 4412, 4414, 4426, 4440, 4478
	\hyperdef 3241, 4206	\HyPL@Roman 4369
	\hypergetpageref 4800	\HyPL@roman 4370
	\hypergetref 4799	\HyPL@SetPageLabels 4484, 4541, 4543, 4574
	\hyperimage . . . 3212, 3390, 5733	\HyPL@StorePageLabel 4409, 4411, 4481, 4532, 4555
	\hyperlink 3188, 4207, 5822, 5960, 5968, 5983, 5991, 6001, 6009, 6016	\HyPL@thisLabel 4359, 4361, 4375, 4378, 4379
	\hyperlinkfileprefix 2539, 2540, 2541, 9202	\HyPL@Type 4381, 4386, 4390, 4408, 4416, 4425, 4439, 4477
	\hyperpage 4213, 5794	\HyPL@Useless 4482, 4488
	\HyperRaiseLinkDefault . . 1667, 1676	\HyPsd@@@autoref . . . 1044, 1046, 1049
		\HyPsd@@@pageref . . . 1026, 1028, 1031
		\HyPsd@@@ref . . . 1010, 1012, 1015
		\HyPsd@@AppendItalcorr . . 1217
		\HyPsd@@autoref . . . 1041, 1042
		\HyPsd@@autorefname 1062, 1065
		\HyPsd@@ConvertToUnicode 1487
		\HyPsd@@GetNextTwoTokens 1485
		\HyPsd@@GreekNum . 761, 770, 869, 873, 877
		\HyPsd@@hspace 981, 982
		\HyPsd@@LetCommand . 1086, 1107
		\HyPsd@@pageref . . . 1023, 1024

[\HyPsd@@ProtectSpacesFi](#) . 1139, 1143, 1161, 1167, 1172
[\HyPsd@ref](#) 1007, 1008
[\HyPsd@@RemoveBraces](#) 1185
[\HyPsd@@RemoveBracesFi](#) . . 1182, 1185
[\HyPsd@@RemoveCmdPrefix](#) . 1344, 1347
[\HyPsd@@ReplaceFi](#) . . 1390, 1396, 1401
[\HyPsd@add@accent](#) 393, 970
[\HyPsd@AfterCountRemove](#) . 1230, 1301
[\HyPsd@AfterDimenRemove](#) . 1236, 1304
[\HyPsd@AfterSkipRemove](#) . . 1242, 1316
[\HyPSD@AMSclassfix](#) 468, 991, 993
[\HyPsd@AppendItalcorr](#) . . 1201, 1208, 1217
[\HyPsd@autoref](#) 477, 1041
[\HyPsd@autorefname](#) . 1053, 1059
[\HyPsd@babel@danish](#) 657
[\HyPsd@babel@dutch](#) 663
[\HyPsd@babel@finnish](#) 669
[\HyPsd@babel@frenchb](#) 674
[\HyPsd@babel@german](#) 679
[\HyPsd@babel@macedonian](#) . . 686
[\HyPsd@babel@ngerman](#) 692
[\HyPsd@babel@portuges](#) 698
[\HyPsd@babel@russian](#) 703
[\HyPsd@babel@slovene](#) 709
[\HyPsd@babel@spanish](#) 714
[\HyPsd@babel@swedish](#) 724
[\HyPsd@babel@ukrainian](#) . . . 730
[\HyPsd@babel@usorbian](#) 736
[\HyPsd@CatcodeWarning](#) . . . 1246, 1263, 1266, 1269, 1272, 1328
[\HyPsd@CheckCatcodes](#) . 528, 1223
[\HyPsd@CJKActiveChars](#) . 897, 910
[\HyPsd@CJKhook](#) 482, 879
[\HyPsd@ConvertToUnicode](#) . . 596, 1435
[\HyPsd@DecimalToOctal](#) . 889, 918
[\HyPsd@DefCommand](#) 511, 512, 513, 514, 1075
[\HyPsd@DisableCommands](#) 644, 646
[\HyPsd@DoConvert](#) . . . 1437, 1447
[\HyPsd@DoEscape](#) 1461
[\HyPsd@doxspace](#) 568, 1408
[\HyPsd@empty](#) . . 553, 555, 559, 560, 562, 570, 577
[\HyPsd@End](#) . 528, 532, 1140, 1143, 1146, 1149, 1152, 1165, 1175, 1182, 1185, 1223, 1231, 1237, 1243, 1288, 1295, 1301, 1304, 1316
[\HyPsd@EndWithElse](#) . . . 960, 969
[\HyPsd@fi](#) . 1157, 1163, 1167, 1173
[\HyPsd@GetNextTwoTokens](#) . 1485
[\HyPsd@GetOneByte](#) 1480
[\HyPsd@GetTwoBytes](#) 1476
[\HyPsd@GLYPHERR](#) 533, 957, 971, 978
[\HyPsd@GlyphProcess](#) 535, 1363, 1380
[\HyPsd@GlyphProcessWarning](#) 1370, 1374
[\HyPsd@GobbleFiFi](#) 962, 968
[\HyPsd@GreekNum](#) . . 750, 753, 755
[\HyPsd@Greeknumeral](#) . . 746, 752
[\HyPsd@greeknumeral](#) . . 745, 749
[\HyPsd@GreekNumI](#) . 773, 799, 842, 868
[\HyPsd@GreekNumII](#) 777, 821, 865, 872
[\HyPsd@GreekNumIII](#) 780, 844, 876
[\HyPsd@GreekNumIV](#) 789, 867
[\HyPsd@GreekNumV](#) 792, 871
[\HyPsd@GreekNumVI](#) 794, 875
[\HyPsd@GreekPatch](#) 454, 742, 744
[\HyPsd@hspace](#) 469, 981
[\HyPsd@hspacetest](#) 984, 986, 989
[\HyPsd@ifnextchar](#) . . . 499, 1112
[\HyPsd@InitUnicode](#) 621
[\HyPsd@inmathwarn](#) 392, 954
[\HyPsd@ITALCORR](#) . . 491, 495, 978
[\HyPsd@LetCommand](#) 515, 516, 1075
[\HyPsd@LetUnexpandableSpace](#) . 486, 487, 488, 489, 974, 977
[\HyPsd@LoadStringEnc](#) 1938, 1958, 1960, 1964, 1966
[\HyPsd@LoadUnicode](#) . 1893, 1895, 1900, 1903, 1905, 1912
[\HyPsd@new@ifnextchar](#) 500, 1116
[\HyPsd@pageref](#) 476, 1023
[\HyPsd@pdfencoding](#) . 597, 1889, 1891, 1921, 1933, 1936, 1937, 1942, 1957
[\HyPsd@pdfencoding@auto](#) . . 597, 1927, 1937, 1954
[\HyPsd@pdfencoding@pdfdoc](#) 1920, 1942, 1955
[\HyPsd@pdfencoding@unicode](#) 1924, 1956
[\HyPsd@protected@ttestopt](#) . 501, 1120
[\HyPsd@ProtectSpaces](#) 521, 1137, 1158, 1207
[\HyPsd@ref](#) 475, 1007
[\HyPsd@RemoveBraces](#) 523, 1179, 1196, 1204, 1210
[\HyPsd@RemoveCmdPrefix](#) . . 1337, 1343
[\HyPsd@RemoveMask](#) . . 531, 1146, 1152, 1165, 1175
[\HyPsd@RemoveSpaceWarning](#) 1311, 1323, 1349
[\HyPsd@ReplaceSpaceWarning](#) 1306, 1318, 1356
[\HyPsd@Rest](#) . . 1224, 1284, 1292, 1295, 1302, 1307, 1313, 1319, 1325
[\HyPsd@SPACEOPTI](#) . 525, 540, 541, 543, 545, 547, 548, 587, 589, 1259, 1419
[\HyPsd@spaceopti](#) 589, 1382
[\HyPsd@String](#) 522, 524, 527, 529, 534, 536, 1190, 1191, 1201, 1253, 1254, 1258, 1259, 1274, 1275, 1305, 1317, 1364, 1365
[\HyPsd@StringSubst](#) 537, 539, 545, 551, 554, 557, 560, 579, 582, 584, 1405
[\HyPsd@Subst](#) . . 533, 542, 546, 552, 558, 562, 566, 571, 572, 573, 574, 575, 576, 580, 583, 1389, 1406
[\HyPsd@temp](#) . . 600, 601, 603, 604, 1919, 1920, 1921, 1924, 1927, 1933, 1945, 1949
[\HyPSD@tocsection](#) 994, 995, 996, 997, 998, 999, 1000, 1002
[\HyPsd@UnexpandableSpace](#) . 977, 1148, 1172, 1307, 1319
[\HyPsd@unichar](#) 1496, 1551, 1557, 1562
[\HyPsd@unichar@first@byte](#) 1570, 1590
[\HyPsd@unichar@octtwo](#) . . 1592, 1600, 1606
[\HyPsd@unichar@second@byte](#) 1578, 1598
[\HyPsd@UnicodeReplacementCharacter](#) 1554, 1589
[\HyPsd@UTFviii](#) . . 386, 1491, 1493
[\HyPsd@UTFviii@@four](#) . . . 1536, 1544
[\HyPsd@UTFviii@@four](#) 1533, 1535
[\HyPsd@UTFviii@@three](#) . . . 1514, 1523
[\HyPsd@UTFviii@@two](#) 1499, 1505
[\HyPsd@UTFviii@four](#) 1532
[\HyPsd@UTFviii@three](#) 1495, 1513
[\HyPsd@UTFviii@two](#) . 1494, 1498
[\HyPsd@Warning](#) 1124, 1329, 1350, 1357, 1375
[\HyPsd@XSPACE](#) 493, 567, 978
[\HyPsd@xspace](#) 565, 567, 568
[\HyRef@@StarSetRef](#) . 6083, 6088

\HyRef@autopageref . 6137, 6139	\ifdim 989, 1305,	\ifHy@figures . . 254, 2861, 4093,
\HyRef@autopagerefname . . 6136,	1309, 1317, 1321, 1686, 1705,	5730
6140, 6142	2785, 2786, 2791, 2792, 2800,	\ifHy@fitwindow 255, 6626, 7118,
\HyRef@autoref 6154, 6156	6778, 6782, 6787, 6791, 6798,	7396, 7939, 8273, 9091
\HyRef@autosetref . . 6159, 6162	6802, 6807, 6811, 7563, 7566,	\ifHy@frenchlinks . . . 256, 3069
\HyRef@CaseStar 6222, 6228	7570, 7573, 8377, 8388, 9529,	\ifHy@hyperfootnotes . 257, 4981
\HyRef@currentHtag . 6175, 6193,	9568, 9569, 9942, 9982, 9983,	\ifHy@hyperindex 258, 2871, 4103,
6196, 6202, 6208, 6214, 6229	10265, 10305, 10306	5737
\HyRef@MakeUppercaseFirstOfFive	\ifetex@unexpanded 1131	\ifHy@hypertextnames 259, 4706,
. 6103, 6105	\IfFileExists 4248, 9293	4753, 5518, 5868, 5919
\HyRef@name . . 6191, 6192, 6197,	\ifFld@checked 3804, 9850, 10591	\ifHy@implicit . 260, 2893, 11099
6203, 6221, 6222, 6223, 6225	\ifFld@comb 3650	\ifHy@linktocpage . . . 261, 5627
\HyRef@Ref 6109, 6111	\ifFld@combo 3678,	\ifHy@menubar . . 262, 6624, 7116,
\HyRef@ShowKeysInit 6231, 6244,	3683, 9543, 9572, 9956, 9986,	7394, 7937, 8271, 9089
6248	10279, 10309	\ifHy@naturalnames . 263, 4713,
\HyRef@ShowKeysRef . 6163, 6230	\ifFld@disabled 3805, 9851	5869, 5920
\HyRef@StarSetRef . . 6077, 6095,	\ifFld@edit 3684	\ifHy@nesting . . 264, 2866, 3215,
6098, 6103	\ifFld@fileselect 3653	3243, 3272, 3366, 4098, 5006,
\HyRef@StripStar . . . 6190, 6220	\ifFld@hidden 9506, 9557,	5017, 5078, 5192
\HyRef@testrestype . 6168, 6187	9614, 9633, 9650, 9668, 9749,	\ifHy@newwindow . 266, 2740, 7658
\HyRef@thisref 6165, 6168	9761, 9771, 9854, 9920, 9971,	\ifHy@newwindowset . . 265, 2738
\HyTmp@found . . . 3751, 3761, 3764	10038, 10058, 10079, 10099,	\ifHy@next 655, 2858, 5746
\HyTmp@key 3745, 3746	10234, 10294, 10372, 10398,	\ifHy@pageanchor 267, 4740, 4752,
\HyTmp@optitem 3701, 3717, 3744,	10421, 10447	4767, 5517
3749, 3755, 3776, 3787	\ifFld@multiline . . . 3651, 9494,	\ifHy@pagelabels 268, 4347, 4532,
\HyTmp@optlist 3700, 3715, 3716,	9756, 9907, 10221	4554
3747, 3748, 3753, 3754, 3762,	\ifFld@multiselect 3723	\ifHy@pdfmarkerror . 8321, 8329
3763, 3783, 3785, 3792, 3795	\ifFld@password 3652, 9737	\ifHy@pdfpagehidden 269, 2550,
	\ifFld@popdown 3502, 9544, 9957,	6742, 7878, 8152
	10280	\ifHy@pdfstring . 270, 629, 4646
	\ifFld@radio . . 9540, 9562, 9786,	\ifHy@plainpages 271, 2876, 4754,
	9953, 9976, 10276, 10299	5519
	\ifFld@readonly 9758, 9768, 9852	\ifHy@psize 272
	\ifForm@html 3824	\ifHy@raiselinks 273, 6900, 6968,
	\ifhmode . 1704, 1713, 5032, 5044,	6997, 7027, 8991, 9256
	5143, 5145	\ifHy@seminarslides 274
	\ifHy@activeanchor . . 241, 3381	\ifHy@setpagesize . . 275, 6768,
	\ifHy@backref . . 242, 2881, 3113,	7560, 8769
	4108, 5426, 5462	\ifHy@setpdfversion 1974, 6350
	\ifHy@bookmarks 243, 3039	\ifHy@texht 276, 3081, 3108, 4151,
	\ifHy@bookmarksnumbered . . 244,	6023
	5863, 5914, 10882	\ifHy@toolbar . . 277, 6623, 7115,
	\ifHy@bookmarksopen . 245, 3029	7393, 7936, 8270, 9088
	\ifHy@breaklinks 246, 8068, 8098,	\ifHy@typexml . . 240, 2886, 3058,
	8371, 8382	3100, 4218, 11007, 11074
	\ifHy@centerwindow . 247, 6627,	\ifHy@unicode . 278, 382, 538, 550,
	7119, 7397, 7940, 8274, 9092	578, 586, 595, 756, 892, 1331,
	\ifHy@CJKbookmarks . . . 248, 481	1377, 1552, 1888, 1935, 10557
	\ifHy@colorlinks 249, 2455, 3057,	\ifHy@useHidKey 2546, 6740, 7877,
	4113, 8931	8147
	\ifHy@displaydoctitle 282, 6628,	\ifHy@usetitle 279, 4263
	7120, 7398, 7941, 8275, 9093	\ifHy@verbose . . 280, 3458, 5607,
	\ifHy@draft 250, 2830	6375
	\ifHy@DvipdfmxOutlineOpen 3001,	\ifHy@windowui . 281, 6625, 7117,
	11046	7395, 7938, 8272, 9090
	\ifHy@escapeform . . . 253, 10517,	\ifmeasuring@ 4664, 4677
	10546	

I

\i . . . 11308, 11390, 11392, 11394,	
11396, 11586, 11588, 11590,	
11592, 11666, 11669, 11672,	
11675, 11677, 11762	
\if . 1003, 1654, 4399, 4407, 4957,	
4958, 7829, 7832, 7836, 7840,	
7844, 7846, 7848, 10661	
\if@eqnstar 4899, 4907	
\if@filesw 1622, 3267,	
4217, 4253, 4556, 4566, 4749,	
5302, 5317, 5333, 5345, 5375,	
5398, 5425, 5430, 5449, 5766,	
10892, 11004, 11071	
\if@hyper@item 4641, 4654	
\if@Localurl 7454, 7496	
\if@mid@expandable 467	
\if@minipage 5181, 5244	
\if@nmbrlist 4628	
\if@skiphyperref . . . 4642, 4652	
\if@twocolumn 11205	
\if@twoside 11193	
\ifcase . 806, 828, 851, 919, 1527,	
1924, 2479, 3546, 3651, 3781,	
3856, 5754, 5773, 5975, 6164,	
7902, 10601, 10674, 10739,	
10774, 10806, 10931	
\ifcat . . . 1225, 1252, 1257, 1262,	
1265, 1268, 1271, 3368, 3370	

<code>\ifnum</code> 757, 760, 771, 772, 776, 784, 788, 791, 801, 823, 846, 1517, 1553, 1556, 1568, 2071, 2075, 2101, 2480, 2481, 2937, 2941, 2958, 3005, 3030, 3706, 3777, 3788, 4382, 4401, 4417, 4512, 5977, 6015, 6351, 6543, 6550, 6556, 6564, 7658, 7755, 7889, 7897, 7899, 7900, 7910, 7913, 7995, 7997, 8108, 8779, 9876, 10331, 10335, 10343, 10556, 10574, 10601, 10606, 10674, 10680, 10708, 10739, 10745, 10764, 10774, 10779, 10806, 10811, 10839, 10855, 10927, 10995, 11048, 11132, 11150, 11166, 11171	<code>\jobname</code> . 4220, 4248, 4255, 9293, 11000, 11006, 11020, 11066, 11068, 11073	7025, 7262, 7286, 7312, 7332, 7464, 7472, 7521, 7655, 7675, 7696, 7720, 7741, 8070, 8370, 8578, 8608, 8652, 8990, 9255, 10005, 10023, 10040, 10059, 10080, 10329, 10352, 10376, 10400, 10423
<code>\ifodd</code> 1547, 5539	K	<code>\limits</code> 3175
<code>\ifportrait</code> 6777	<code>\k</code> ... 11254, 11430, 11432, 11437, 11439, 11476, 11628, 11629, 11648, 11649, 11673, 11674, 11675, 11743, 11744, 11773, 11774	<code>\listofslides</code> 5949
<code>\ifthenelse</code> 5452	<code>\kaf</code> 12281	<code>\listslidename</code> 5948, 5951, 5953, 5955
<code>\iftrue</code> .. 1138, 1160, 1400, 11134	<code>\kasra</code> 12294	<code>\literalps@out</code> 1662, 7989, 7994, 8052, 8057, 8073, 8078, 8340, 8344, 8354, 8358, 8369, 8378, 8380, 8389, 8391, 8704, 8785, 8847, 9033, 9192
<code>\ifvmode</code> 1669, 1685, 1694	<code>\keepPDF@SetupDoc</code> .. 8935, 8942	<code>\lower</code> ... 6903, 6970, 6999, 7029, 8380, 8994, 9259
<code>\ifvoid</code> 4848, 4857	<code>\kern</code> 1234, 1306, 1311, 1323, 5534, 5535, 5536, 5538, 5539, 5544	<code>\lowercase</code> 903, 1727, 2145, 2174, 3407, 3408, 3411, 3416, 3440, 3450, 3504, 3528, 3847, 3887, 3890, 5745, 8107
<code>\ignorespaces</code> . 4821, 4977, 5177, 5188, 5191, 5241, 5248, 5310, 5325, 5341, 5350, 5460, 5848, 5900	<code>\kha</code> 12265	<code>\lslide@flag</code> .. 5975, 5978, 5996, 6015, 6019
<code>\IJ</code> 11306, 11750	<code>\KV@Hyp@draft</code> 1823	<code>\LT@array</code> 4834
<code>\ij</code> 11413, 11609	<code>\KV@Hyp@nolinks</code> 1823	<code>\LT@firsthead</code> 4848, 4857
<code>\immediate</code> 4219, 4220, 4221, 4223, 4255, 4525, 4559, 4567, 4764, 4792, 5305, 5320, 5336, 5346, 5376, 5399, 5425, 5455, 8000, 8786, 9867, 10981, 11006, 11008, 11073, 11075	<code>\kv@key</code> .. 3704, 3707, 3709, 3713, 3717	<code>\LT@p@ftn</code> . 5050, 5053, 5057, 5071
<code>\incr@eqnum</code> 4868, 4881	<code>\kv@parse</code> 3703	<code>\LT@p@ftntext</code> 5048, 5055
<code>\index</code> 471	<code>\kv@value</code> 3705, 3712, 3713	<code>\LT@start</code> 4850, 4861
<code>\indexentry</code> ... 5769, 5777, 5781	L	<code>\luatexrevision</code> 6587
<code>\input</code> . 617, 622, 1896, 2434, 2442, 2449, 2997, 8700, 8777, 8884, 9029	<code>\L</code> 11302, 11694	<code>\luatexversion</code> 6579, 6584
<code>\InputIfFileExists</code> 2817, 11000, 11020, 11066, 11068	<code>\l</code> 11309, 11695	
<code>\inputlineno</code> ... 3373, 5610, 6376	<code>\l@slide</code> . 5848, 5958, 5963, 5967, 5974	
<code>\item</code> 4623, 4626, 5332, 5344, 5447	<code>\l@subslide</code> 5900, 5963, 5970, 6014	
<code>\itemautorefname</code> 6254	<code>\label</code> 470, 5579	
<code>\itemautorefname</code> ... 2198, 2216, 2234, 2252, 2270, 2288, 2306, 2328, 2346, 2364, 6254, 6255, 6258	<code>\label@C@hyperref</code> ... 3250, 3252	
<code>\itshape</code> 432	<code>\label@hyperdef</code> 3241, 3264	
J	<code>\label@hyperref</code> 3222, 3249, 3394	
<code>\j</code> 11501, 11682	<code>\labelsep</code> 5459	
<code>\jarr</code> 12291	<code>\labelwidth</code> 5458	
<code>\jeem</code> 12263	<code>\lam</code> 12282	
<code>\jeh</code> 12299	<code>\language@group</code> 452	
	<code>\LARGE</code> 439	
	<code>\Large</code> 440	
	<code>\large</code> 443, 5980, 5988, 5998, 6006	
	<code>\lastpage@putlabel</code> 4735	
	<code>\lastskip</code> 1686, 1690, 1697, 1705, 1709, 1716	
	<code>\LaTeX</code> 409, 410, 9299, 9300	
	<code>\LaTeXe</code> 410, 9300	
	<code>\LayoutCheckField</code> .. 4049, 9669, 10100, 10450	
	<code>\LayoutChoiceField</code> . 4046, 9561, 9975, 10298	
	<code>\LayoutPushButtonField</code> .. 4052, 9615, 10039, 10375	
	<code>\LayoutTextField</code> ... 4043, 9508, 9922, 10240	
	<code>\lccode</code> 902, 5744	
	<code>\ldots</code> 404	
	<code>\leavevmode</code> 478, 5031, 5142, 5366, 6115, 6123, 6391, 6440, 6470, 6505, 6821, 6899, 6967, 6995,	
		<code>\makeatletter</code> 3, 643, 4247
		<code>\MakeButtonField</code> 4059, 9617, 9635, 9652, 10043, 10066, 10083, 10373, 10399, 10422
		<code>\MakeCheckField</code> 4056, 9671, 10103, 10448
		<code>\MakeChoiceField</code> ... 4058, 9602, 10026, 10351
		<code>\MakeFieldObject</code> ... 9866, 9883, 9893, 9896
		<code>\MakeRadioField</code> 4055, 9592, 10016, 10324
		<code>\makeslideheading</code> 5858
		<code>\makeslidesubheading</code> 5910
		<code>\MakeTextField</code> 4057, 9510, 9925, 10237
		<code>\maketitle</code> 5092, 5093

<code>\MakeUppercase</code> . 5953, 5955, 6106	266, 267, 268, 269, 270, 271,	1529, 1530, 1533, 1536, 1537,
<code>\MathBSuppress</code> 7473, 7476	272, 273, 274, 275, 276, 277,	1538, 1539, 1540, 1541, 1542,
<code>\mathdisplay</code> 4871, 4880	278, 279, 280, 281, 282, 655,	1546, 1547, 1548, 1558, 1559,
<code>\mathdisplay@push</code> . . 4869, 4878	1974, 2546, 3001, 3414, 3502,	1563, 1564, 1571, 1572, 1576,
<code>\mathversion</code> 448	3804, 3805, 3824, 4641, 4642,	1579, 1580, 1581, 1591, 1593,
<code>\maxdimen</code> 2501, 9871	4664, 4899, 7454, 8321	1594, 1599, 1601, 1602, 1607,
<code>\MaybeStopEarly</code> 322, 2001, 2078,	<code>\newlabel</code> 1628, 3269, 4230, 4231,	1608, 2688, 3031, 3428, 6357,
2897, 2944, 4587	4238, 4260, 4765, 4793	6360, 6958, 6972, 6973, 6984,
<code>\mbox</code> 479, 5379, 5402	<code>\newlabelxx</code> 4232, 4233	6985, 7001, 7002, 7013, 7014,
<code>\mdseries</code> 431	<code>\newline</code> 407, 4308	7031, 7032, 7043, 7044
<code>\meaning</code> 62, 153,	<code>\newname</code> . 4670, 4891, 4913, 4937,	<code>\numberline</code> . . 5177, 5241, 10883,
159, 1625, 4287, 4720, 4954,	4950, 4959	10887
11031, 11040, 11055	<code>\newsavebox</code> 7160, 8364	<code>\numberwithin</code> 5690
<code>\measuring@false</code> 4664	<code>\newtoks</code> 90, 3869, 8204, 8398, 8399	<code>\numexpr</code> . 1507, 1508, 1509, 1511,
<code>\mediaheight</code> . . 7556, 7558, 7564,	<code>\newwrite</code> . . . 4254, 11005, 11072	1517, 1525, 1526, 1527, 1528,
7571	<code>\next</code> 5453, 5454, 5455, 7821, 7823,	1529, 1530, 1546, 1547, 1558,
<code>\mediawidth</code> 7567, 7574	7825	1563, 1580, 1594, 1602, 1608,
<code>\meem</code> 12283	<code>\nfss@text</code> 6030, 6050, 6067, 6181	2692
<code>\message</code> 5976	<code>\NG</code> 11703	<code>\nun</code> 12284
<code>\MessageBreak</code> 355, 1337,	<code>\ng</code> 11704	
1352, 1359, 1377, 1747, 1748,	<code>\noboundary</code> 12304	O
1762, 1784, 1787, 1789, 1907,	<code>\nobreak</code> . 1687, 1695, 1706, 1714,	<code>\O</code> 11369, 11565
1908, 1909, 1947, 1948, 1968,	5032, 5143	<code>\o</code> 11405, 11601
1978, 2018, 2167, 2805, 3461,	<code>\nobreakspace</code> . . 489, 6118, 6147,	<code>\obeylines</code> 8843
3466, 3475, 3532, 3656, 3770,	6150	<code>\OBJ@acroform</code> . 9880, 9882, 10174
3851, 4352, 4743, 5584, 5725,	<code>\noexpand</code> 22,	<code>\OBJ@Helv</code> . . . 9879, 10160, 10167
10860, 10878	93, 95, 108, 116, 169, 171, 172,	<code>\OBJ@pdfdocencoding</code> 9877, 10141,
<code>\MF</code> 413, 9302	173, 176, 206, 653, 914, 1081,	10157
<code>\MP</code> 414, 9303	1098, 1225, 1693, 1694, 1695,	<code>\OBJ@ZaDb</code> . . . 9878, 10150, 10166
<code>\multiply</code> 6583, 7858, 7893	1698, 1712, 1713, 1714, 1717,	<code>\OCIRCUMFLEX</code> 12127, 12225, 12226,
	2396, 2398, 2400, 2401, 2557,	12227, 12228, 12229
N	2558, 2560, 3169, 3229, 3295,	<code>\ocircumflex</code> 12120, 12165, 12166,
<code>\name@of@eq</code> 4639, 4667	3368, 3370, 3470, 4455, 4456,	12167, 12168, 12169
<code>\name@of@slide</code> 4640, 4650	4465, 4467, 4470, 4777, 4778,	<code>\oddsidemargin</code> 5540
<code>\nasb</code> 12289	4780, 4953, 5051, 5059, 5060,	<code>\OE</code> 11303, 11509, 11711
<code>\netscape</code> 6933	5061, 5062, 5063, 5065, 5152,	<code>\oe</code> 11310, 11510, 11712
<code>\new@ifnextchar</code> 1117	5230, 5304, 5319, 5335, 5685,	<code>\offinterlineskip</code> 4334
<code>\new@pdflink</code> . . . 6374, 6415, 6416	5687, 6083, 6084, 6197, 6198,	<code>\OHORN</code> 12128, 12230, 12231, 12232,
<code>\new@refstepcounter</code> 4863, 4895	6203, 6204, 6209, 6210, 6215,	12233, 12234
<code>\newblock</code> 5463	6216, 6586, 7103, 8258, 8325,	<code>\ohorn</code> . . 2362, 2369, 12121, 12170,
<code>\newcommand</code> 4,	8844, 9076, 9536, 9537, 9538,	12171, 12172, 12173, 12174
9, 42, 628, 1663, 4201, 4602,	9539, 9949, 9950, 9951, 9952,	<code>\oldcontentsline</code> . . . 4225, 4228,
4605, 4608, 4609, 4610, 4612,	10272, 10273, 10274, 10275,	4237
4613, 4614, 4615, 4617, 4618,	10519	<code>\oldnewlabel</code> . . . 4230, 4235, 4238
4619, 4620, 4621, 4622, 4631,	<code>\nofrenchguillemets</code> . . 506, 508	<code>\OMEGA</code> 9298
4632, 4633, 4634, 4635, 4636,	<code>\NoHyper</code> 4154	<code>\openout</code> 4220, 4255, 11006, 11073
4945, 5693, 5835, 5840, 5841,	<code>\nolinkurl</code> 3208	<code>\OpMode</code> . . 2071, 2075, 2087, 2101,
10902, 10905, 10910	<code>\nolinkurl@</code> 3208, 3209	2106, 2937, 2941, 7910, 7997,
<code>\newcount</code> 323,	<code>\nonumber</code> 4924, 4927	8779
324, 3808, 4363, 9598, 10020,	<code>\normalfont</code> 426	<code>\or</code> . . 808, 809, 810, 811, 812, 813,
10207, 10348, 10924	<code>\normalsize</code> 444, 5184, 5247	814, 815, 816, 830, 831, 832,
<code>\newcounter</code> 4624, 4982	<code>\null</code> 5444, 5452, 6072, 6177	833, 834, 835, 836, 837, 838,
<code>\newdimen</code> 320, 3809, 3810	<code>\number</code> 774, 778, 781, 789, 792, 794,	853, 854, 855, 856, 857, 858,
<code>\newif</code> 240, 241, 242, 243, 244, 245,	1500, 1501, 1502, 1503, 1507,	859, 860, 861, 920, 921, 922,
246, 247, 248, 249, 250, 253,	1508, 1509, 1510, 1511, 1515,	923, 924, 925, 926, 927, 928,
254, 255, 256, 257, 258, 259,	1516, 1517, 1518, 1519, 1520,	929, 930, 931, 932, 933, 934,
260, 261, 262, 263, 264, 265,	1521, 1525, 1526, 1527, 1528,	935, 936, 937, 938, 939, 940,

947, 948, 949, 950, 951, 3556, 3562, 3567, 3782, 5995, 6004, 7903, 10932, 10933, 10934, 10935, 10936, 10937, 10938, 10939, 10940, 10941, 10942, 10943, 10944, 10945, 10946, 10947, 10948, 10949, 10950, 10951, 10952, 10953, 10954, 10955, 10956, 10957, 10958, 10959, 10960, 10961, 10962, 10963		
P		
\P 403	\pdf@box . 8364, 8372, 8374, 8376, 8377, 8380, 8387	\pdflastobj 10141, 10150, 10160, 10174
\p@ 1559, 1564, 3811, 3817, 6909, 6980, 7009, 7039, 7857, 9000, 9266, 9531, 9944, 10267, 11198, 11199	\pdf@defaulttoks ... 8325, 8399, 8400, 8410	\pdflastxform .. 6368, 9869, 9871
\PackageError ... 61, 1906, 3531, 3655, 3850	\pdf@docset 8204	\pdflinkmargin . 6363, 6366, 6371
\PackageInfo 236, 6346, 6355	\pdf@endanchor . 6383, 6415, 6417	\pdfm@box ... 7160, 10203, 10204, 10205, 10236, 10247, 10324, 10342, 10351, 10360, 10373, 10384, 10399, 10408, 10422, 10431, 10448, 10457
\PackageWarning . 234, 1977, 3768	\pdf@escapestring 6327	\pdfmark . 4550, 7103, 7112, 7142, 8028, 8058, 8086, 8119, 8136, 8148, 8179, 8191, 8227, 8258, 8267, 8298, 8322, 8535, 8547, 8561, 8572, 8580, 8592, 8610, 8629, 8654, 8676, 9076, 9085, 9116, 9510, 9592, 9602, 9617, 9635, 9652, 9671, 11036
\PackageWarningNoLine 235	\PDF@FinishDoc 2004, 2005, 2081, 2082, 2781, 2842, 2900, 2901, 2947, 2948, 4196, 4344, 4345, 6662, 6845, 7055, 7359, 7455, 7968, 8205, 9035, 9203	\pdfmark@ 8322, 8323
\pageautorefname ... 2211, 2229, 2247, 2265, 2283, 2301, 2319, 2341, 2359, 2377, 6150, 6271	\pdf@linktype . 8346, 8350, 8415, 8416	\pdfminorversion 6343
\pagename 6147	\pdf@rect 8335, 8352, 8368	\PDFNextPage 8545
\pageref .. 476, 2907, 3103, 4743, 6136, 6140	\PDF@SetupDoc . 2780, 2841, 4125, 4126, 4195, 6593, 6846, 7083, 7391, 7456, 7918, 8245, 8937, 9063, 9204	\PDFNextPage@ 8545, 8546
\paperheight .. 2786, 2787, 2798, 6782, 6784, 6787, 6789, 6802, 6804, 7563, 7564, 7566	\PDF@SetupDox 6593	\pdfobj 10108, 10142, 10151, 10161
\paperwidth .. 2785, 2787, 6778, 6780, 6791, 6793, 6798, 6800, 7567	\pdf@toks 8325, 8341, 8355, 8369, 8398, 8402, 8406	\PDFOpen 8571
\par . 5176, 5199, 5239, 5248, 5446, 5466	\pdf@type 8327, 8331, 8341, 8355, 8369, 8393, 8413	\pdfoptionpdfminorversion 6340
\paragraphautorefname ... 2207, 2225, 2243, 2261, 2279, 2297, 2315, 2337, 2355, 2373, 6267	\pdfannotlink 6365	\pdfoutline 11083
\partautorefname ... 2201, 2219, 2237, 2255, 2273, 2291, 2309, 2331, 2349, 2367, 6261	\pdfbookmark .. 1663, 4200, 4201, 10903, 10908, 10913, 10917	\pdfoutput 2958, 6765
\partnumberline .. 10884, 10888	\pdfcatalog 4498, 6608, 6650, 9882	\pdfpageattr .. 6696, 6700, 6701, 6711, 6719, 6723, 6724, 6734, 6741, 6744, 6745, 6755
\PassOptionsToPackage ... 2013, 2115, 2156, 2160, 2179, 2824, 2963, 2981	\pdfcompresslevel 6766	\pdfpageheight 6784, 6793, 6804, 6813
\pdf@addtoks .. 8401, 8420, 8426, 8435, 8442, 8446, 8448, 8450, 8452, 8454, 8462, 8471, 8475, 8477, 8479, 8486, 8490, 8492, 8494, 8496, 8498, 8500, 8502, 8504, 8506, 8508, 8510, 8511, 8513, 8515, 8517, 8519, 8521, 8522, 8523, 8524, 8525, 8526, 8527, 8528, 8529, 8530, 8531	\PDFdefaults 8409	\pdfpagesattr .. 6597, 6599, 6601
\pdf@addtoksx .. 8395, 8405, 8418	\pdfdest 6385	\pdfpagewidth . 6780, 6789, 6800, 6809
	\pdfendlink .. 6414, 9925, 10016, 10027, 10044, 10067, 10084, 10104	\PDFPreviousPage 8557
	\pdfescapestring 10547	\PDFPreviousPage@ .. 8558, 8560
	\pdfform 6367	\pdfrefform 6369
	\PDFForm@Check 9670, 9672, 10101, 10102, 10451, 10455, 10565	\pdfreffobj 9877, 9878, 9879, 9880
	\PDFForm@List . 9601, 9603, 10024, 10025, 10353, 10358, 10666	\pdfrefxform 6369, 9871
	\PDFForm@Name . 9918, 9970, 10036, 10097, 10232, 10293, 10370, 10445, 10554	\pdfstartlink . 6364, 6365, 6412, 6441, 6471, 6506, 6822, 9924, 10007, 10025, 10042, 10061, 10082, 10102
	\PDFForm@Push . 9616, 9618, 10041, 10042, 10377, 10381, 10593	\pdfstringdef ... 375, 614, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 3729, 3734, 3760, 4311, 4391, 4393, 4758, 5525, 10561, 10891
	\PDFForm@Radio 9591, 9594, 10006, 10008, 10330, 10338, 10699	\pdfstringdefDisableCommands 641, 4198, 4306
	\PDFForm@Reset 9651, 9653, 10081, 10082, 10424, 10429, 10798	\pdfstringdefPostHook . 610, 635
	\PDFForm@Submit 9634, 9637, 10060, 10062, 10401, 10406, 10766	\pdfstringdefPreHook . 485, 635, 647, 649, 4305, 4315
	\PDFForm@Text . 9509, 9511, 9923, 9924, 10241, 10244, 10731	\pdfstringdefWarn 406, 407, 480, 652, 1089, 1094, 1113, 1117, 1121
	\pdfhorigin 6775	\pdftexrevision 6553, 6561, 6572
	\pdfinfo 6664	
	\pdflastform 6368	

```

\pdfTeXversion 6548, 6550, 6553,
6556, 6559, 6560, 6564, 6570,
6571, 9876
\pdfvorigin ..... 6776
\pdfxform ..... 6367, 9867
\peh ..... 12297
\penalty .. 1228, 1672, 5373, 5396
\phantomsection 2782, 4202, 5580,
10828, 10880, 11108, 11151
\Preamble ..... 9294
\process@me .. 4285, 4297, 4298,
6596, 6605
\ProcessKeyvalOptions ... 2828
\protect . 1226, 3254, 5177, 5241,
5304, 5319, 5335, 5451, 5458,
5459, 5619, 5642, 5848, 5900,
6029, 6049, 6055, 6066, 6180,
6855, 6937, 7519, 7590, 8947,
9213, 10894, 11198, 11199
\protected@edef 3283, 4451, 4951,
4971, 6392, 7229, 7634, 7697,
8174
\protected@write ... 1627, 3268,
5431, 5768, 5776, 5780, 10893
\protected@xdef 5060, 5062, 5118
\providecommand 1644, 1645, 2132,
2925, 3087, 3088, 3183, 3213,
4481, 4568, 5269, 5270, 5285,
5363, 5570, 5571, 5574, 5575,
5831, 5832, 5948, 6252, 6253,
6254, 6255, 6256, 6257, 6258,
6259, 6260, 6261, 6262, 6263,
6264, 6265, 6266, 6267, 6268,
6269, 6270, 6271, 6373, 6387,
6388, 6933, 7214, 7215, 7216,
7561, 7583, 7584, 7585, 7990,
8365, 8366, 8706, 8707, 8708,
8709, 8787, 8788, 8789, 8790,
8889, 8890, 8891, 8892, 9027,
9028, 9137, 9138, 9193, 9194
\PushButton ..... 4031
\put@me@back ... 3363, 3376, 3386

```

S

Q

R

`\subparagraphautorefname` 2208, 2226, 2244, 2262, 2280, 2298, 2316, 2338, 2356, 2374, 6268
`\subpdfbookmark` 10905
`\subsection` 9023
`\subsectionautorefname` .. 2205, 2223, 2241, 2259, 2277, 2295, 2313, 2335, 2353, 2371, 6265
`\subsubsectionautorefname` 2206, 2224, 2242, 2260, 2278, 2296, 2314, 2336, 2354, 2372, 6266
`\sukun` 12296
`\surd` 5990

T
`\T` 12260
`\T@pageref` 3094, 3104, 6125
`\T@ref` 3089, 3102
`\T@temp` 5357, 5360
`\Ta` 12274
`\taa` 12261
`\tableautorefname` .. 2200, 2218, 2236, 2254, 2272, 2290, 2308, 2330, 2348, 2366, 6260
`\tatweel` 12278
`\tcheh` 12298
`\TeX` 408, 409, 411, 412, 9297, 9299, 9301
`\texorpdfstring` 628, 4199
`\textacute` . 11237, 11246, 11332, 11453, 11464, 11529
`\textAlpha` ... 808, 11777, 11786
`\textalpha` ... 808, 11812, 11818
`\textampersand` 400, 11267, 11491
`\textasciicircum` . 11273, 11497
`\textasciitilde` 401, 3146, 11280, 11505
`\textbackslash` . 396, 537, 11272, 11496
`\textbar` 11278, 11503
`\textBeta` 809, 11787
`\textbeta` 809, 11429, 11819
`\textbf` 420
`\textbraceleft` 394, 11277, 11502
`\textbraceright` 395, 11279, 11504
`\textbreve` . 11255, 11461, 11472, 11478
`\textbrokenbar` ... 11319, 11516
`\textBS` 11234, 11450
`\textbullet` 11281, 12101
`\textcaron` . 11242, 11251, 11256, 11458, 11469, 11479
`\textcdot` 11428, 11623
`\textcedilla` 11244, 11253, 11336, 11460, 11471, 11533
`\textcelsius` 11415, 12109
`\textcent` 11315, 11512
`\textChi` 858, 11807
`\textchi` 858, 11840
`\textcircumflex` .. 11238, 11247, 11257, 11454, 11465, 11480
`\textcolor` 449, 9874, 9894, 9897, 10181
`\textcopyright` ... 11322, 11519
`\textCR` 11232, 11448
`\textcurrency` 11317, 11514
`\textdagger` 11282, 12099
`\textdaggerdbl` ... 11283, 12100
`\textdegree` 11328, 11415, 11525
`\textDelta` 811, 11789
`\textdelta` 811, 11821
`\textdieresis` 11240, 11249, 11321, 11456, 11467, 11518
`\textDigammagreek` 11853
`\textdigammagreek` 11854
`\textdiv` 11426, 11621
`\textdivide` 11404, 11426, 11600, 11621
`\textdollar` .. 398, 11265, 11489
`\textdotaccent` ... 11243, 11252, 11258, 11459, 11470, 11481
`\textdoublegrave` . 11462, 11473, 11486
`\textellipsis` .. 404, 405, 11284, 12102
`\textendash` .. 571, 11285, 12092
`\textendash` .. 572, 11286, 12091
`\textEpsilon` .. 812, 11778, 11790
`\textepsilon` .. 812, 11813, 11822
`\textEta` 815, 11779, 11792
`\texteta` 815, 11814, 11824
`\texteuro` 11313, 12108
`\textexclamdown` 575, 719, 11314, 11511
`\textFF` 11235, 11451
`\textfi` 573, 11300, 11507
`\TextField` 4022
`\textfl` 574, 11301, 11508
`\textflorin` 11287, 11757
`\textflq` 465, 11422, 11617
`\textflqq` 463, 11420, 11615
`\textfractionmark` 11288, 12107
`\textfrq` 466, 11423, 11618
`\textfrqq` 464, 11421, 11616
`\textGamma` 810, 11788
`\textgamma` 810, 11820
`\textglq` 461, 11418, 11613
`\textglqq` 459, 11416, 11611
`\textgrave` . 11236, 11245, 11275, 11452, 11463, 11499
`\textgreater` 11271, 11495
`\textgrq` 462, 11419, 11614
`\textgrqq` 460, 11417, 11612
`\textGslash` 11767
`\textGslash` 11768
`\textHslash` 11662
`\texthslash` 11663
`\textHT` 11233, 11449
`\texthungarumlaut` 11259, 11482
`\textIota` 830, 11780, 11794, 11810
`\textiota` 830, 11815, 11826, 11843
`\textIotadieresis` 11784, 11785
`\textit` 422
`\textKappa` 831, 11795
`\textkappa` 831, 11827
`\textKoppagreek` 838, 11855
`\textkoppagreek` 838, 11856
`\textLambda` 832, 11796
`\textlambda` 832, 11828
`\textlatin` 450, 4714, 5580
`\textless` 11270, 11494
`\textLF` 11231, 11447
`\textlogicalnot` .. 11325, 11424, 11522, 11619
`\textmacron` 11327, 11524
`\textmd` 421
`\textminus` 11291, 11506
`\textMu` 833, 11797
`\textmu` . 833, 11333, 11530, 11829
`\textmultiply` 11368, 11425, 11564, 11620
`\textneg` 11424, 11619
`\textnormal` 416
`\textNu` 834, 11798
`\textnu` 834, 11830
`\textnumbersign` 397, 11264, 11488
`\textnumeralsigngreek` 785, 11775
`\textnumeralsignlowergreek` 802, 824, 847, 11776
`\textnumero` 12110
`\textogonek` 11260, 11483
`\textOmega` ... 860, 11783, 11809
`\textomega` ... 860, 11842, 11847
`\textOmicron` .. 836, 11781, 11800
`\textomicron` .. 836, 11832, 11845
`\textonehalf` 11341, 11538
`\textonequarter` .. 11340, 11537
`\textonesuperior` . 11337, 11534
`\textordfeminine` . 11323, 11520
`\textordmasculine` 11338, 11535
`\textparagraph` 403, 11334, 11531
`\textparenleft` . 579, 580, 11268, 11492
`\textparenright` .. 11269, 11493
`\textpercent` .. 399, 11266, 11490
`\textperiodcentered` ... 11335, 11428, 11532, 11623
`\textpertenthousand` ... 12104
`\textperthousand` . 11292, 12103
`\textPhi` 857, 11806

<code>\textphi</code>	857, 11839	<code>\textupsilonacute</code>	11816, 11817	<code>\theoremautorefname</code>	2210, 2228, 2246, 2264, 2282, 2300, 2318, 2340, 2358, 2376, 6270
<code>\textPi</code>	837, 11801	<code>\textvarkappa</code>	11859	<code>\thepage</code>	1630, 3256, 4353, 4376, 4758, 4766, 4793, 5382, 5405, 5434, 5525, 5619, 5642, 5769, 5777, 5781, 6032, 6052, 6069, 6183
<code>\textpi</code>	837, 11833	<code>\textvarphi</code>	11849	<code>\theslideheading</code>	5861
<code>\textplusminus</code> ...	11329, 11427, 11526, 11622	<code>\textvarpi</code>	11850	<code>\theslidesection</code> ...	5849, 5856, 5864, 5870, 5872, 5874, 5880, 5890
<code>\textpm</code>	11427, 11622	<code>\textvarrho</code>	11860	<code>\theslidesubheading</code>	5862, 5913
<code>\textPsi</code>	859, 11808	<code>\textvarsigma</code>	11835	<code>\theslidesubsection</code>	5901, 5908, 5915, 5921, 5923, 5925, 5931, 5941
<code>\textpsi</code>	859, 11841	<code>\textvartheta</code>	11848	<code>\This@name</code>	4649, 4650, 4666, 4667
<code>\textquestiondown</code> ...	576, 720, 11343, 11540	<code>\textXi</code>	835, 11799	<code>\thispdfpagelabel</code>	4358
<code>\textquotedbl</code> ...	11263, 11487	<code>\textxi</code>	835, 11831	<code>\ThisShouldNotHappen</code> ...	10526
<code>\textquotedblleft</code>	11294, 11417, 11612, 12096	<code>\textyen</code>	11318, 11515	<code>\tiny</code>	447
<code>\textquotedblright</code>	11295, 12097	<code>\textZeta</code>	814, 11791	<code>\title</code>	4264, 4266
<code>\textquoteleft</code> ...	11296, 11419, 11614, 12093	<code>\textzeta</code>	814, 11823	<code>\tocappendix</code>	996
<code>\textquoteright</code> ..	11297, 12094	<code>\TH</code>	11375, 11571	<code>\tocchapter</code>	995
<code>\textregistered</code> ..	11326, 11523	<code>\th</code>	11411, 11607	<code>\toclevel@chapter</code>	5561
<code>\textRho</code>	853, 11802	<code>\thaa</code>	12262	<code>\toclevel@figure</code>	5567
<code>\textrho</code>	853, 11834	<code>\theequation</code> ..	4669, 4890, 4912, 4936, 4972	<code>\toclevel@listing</code>	5575
<code>\textring</code> ..	11241, 11250, 11261, 11457, 11468, 11484	<code>\thefootnote</code>	4999, 5137	<code>\toclevel@lstlisting</code>	5571
<code>\textrm</code>	417	<code>\theHchapter</code> ..	4612, 4613, 4614, 4615, 4696	<code>\toclevel@paragraph</code>	5565
<code>\textSampigreek</code> ...	861, 11857	<code>\theHenumi</code>	4631	<code>\toclevel@part</code>	5557, 5559
<code>\textsampigreek</code> ...	861, 11858	<code>\theHenumii</code>	4632	<code>\toclevel@section</code>	5562
<code>\textsc</code>	423	<code>\theHenumiii</code>	4633	<code>\toclevel@subfigure</code>	1644
<code>\textsection</code>	11320, 11517	<code>\theHenumiv</code>	4634	<code>\toclevel@subparagraph</code> ..	5566
<code>\textsf</code>	418, 9894, 9897	<code>\theHequation</code> ..	4602, 4670, 4891, 4913, 4937, 4945, 4972, 4976	<code>\toclevel@subsection</code>	5563
<code>\textSigma</code>	854, 11803	<code>\theHfigure</code>	4609, 4613	<code>\toclevel@subsubsection</code> ..	5564
<code>\textsigma</code>	854, 11836	<code>\theHHfootnote</code>	4635, 4637	<code>\toclevel@subtable</code>	1645
<code>\textsl</code>	424	<code>\theHHmpfootnote</code>	4637	<code>\toclevel@table</code>	5568
<code>\textsterling</code>	11316, 11513	<code>\theHItem</code>	4625, 4631, 4632, 4633, 4634	<code>\tocparagraph</code>	1000
<code>\textStigmagreek</code> ...	813, 11851	<code>\theHlisting</code>	5574	<code>\tocpart</code>	994
<code>\textstigmagreek</code> ...	813, 11852	<code>\theHlstlisting</code>	5570	<code>\tocsection</code>	997
<code>\TextSymbolUnavailable</code> .	11254, 11474, 11475, 11476, 11477	<code>\theHmpfootnote</code>	4636	<code>\tocsubsection</code>	998
<code>\textTau</code>	855, 11804	<code>\theHparagraph</code>	4619, 4620	<code>\tocsubsubsection</code>	999
<code>\texttau</code>	855, 11837	<code>\theHparentequation</code>	4971, 4976	<code>\toks</code> ...	647, 648, 649, 3287, 3289, 3291, 3292, 3297, 6040, 6041, 6043
<code>\textTheta</code>	816, 11793	<code>\theHpart</code>	4605	<code>\toks@</code>	171, 208, 338, 341, 344, 362, 363, 881, 904, 907, 908, 1153, 1154, 2388, 2389, 2391, 4453, 4455, 4534, 4536, 4775, 4779, 5812, 5817, 5819, 5822
<code>\texttheta</code>	816, 11825	<code>\theHsection</code> ..	4602, 4608, 4615, 4617, 4621, 4622, 4695	<code>\topmargin</code>	5535
<code>\textthreequarters</code> ..	11342, 11539	<code>\theHslide</code>	5835	<code>\tryhyper@link</code>	3236, 3238
<code>\textthreesuperior</code> ..	11331, 11528	<code>\theHslidesection</code> ..	5840, 5842, 5878, 5882	<code>\ttfamily</code>	429
<code>\texttilde</code> ..	2859, 11239, 11248, 11262, 11455, 11466, 11485	<code>\theHslidesubsection</code> ..	5841, 5929, 5933	<code>\ttl@b</code>	4812, 4817
<code>\texttimes</code>	11425, 11620	<code>\theHsubequation</code>	4945	<code>\ttl@gobblecontents</code>	4821
<code>\texttrademark</code> ...	11299, 12111	<code>\theHsubparagraph</code>	4620	<code>\ttl@Hy@refstepcounter</code> ..	4811
<code>\textTslash</code>	11731	<code>\theHsubsection</code> ...	4617, 4618	<code>\ttl@Hy@saveanchor</code> ..	4805, 4814
<code>\texttslash</code>	11732	<code>\theHsubsubsection</code> ..	4618, 4619	<code>\ttl@Hy@steplink</code>	4802
<code>\texttt</code>	419	<code>\theHtable</code>	4610, 4614		
<code>\texttwosuperior</code> .	11330, 11527	<code>\theHtheorem</code>	4621		
<code>\textunderscore</code> ..	402, 3140, 3141, 3143, 11274, 11498	<code>\theHthm</code>	4622		
<code>\textup</code>	425	<code>\thelisting</code>	5574		
<code>\textUpsilon</code> ..	856, 11782, 11805, 11811	<code>\thelstlisting</code>	5570		
<code>\textupsilon</code> ..	856, 11838, 11844, 11846	<code>\thempfn</code> ..	4988, 5061, 5063, 5118, 5130		

<code>\typeout</code>	5, 6, 7, 19, 26, 27, 36, 131, 155, 158, 159, 160, 2002, 2079, 2894, 2896, 2898, 2945, 2993, 2995, 3372, 3840, 5610, 6376, 7531, 7534, 7537, 7540, 7543, 7546, 7549, 7552, 9198, 9486, 9679, 9682, 9685, 9688, 9691, 9694, 9696, 9697, 9700, 9703, 9706, 9709, 9712, 9715, 9717, 9718, 9727, 9864, 10178, 11192, 12307	11760, 11761, 11762, 11763, 11764, 11765, 11766, 11769, 11770, 11771, 11772	4292, 4776, 4783, 4836, 4848, 4861, 5819, 5820, 6045, 6080, 6081, 6082, 6086, 6581, 6582, 6585, 6590, 7166, 7167, 7168, 7171, 7172, 7174, 7175, 7178, 7179, 7180, 7182, 7184, 7186, 7187, 7188, 7191, 7192, 7194, 7195, 7201, 7210, 7994, 7999, 8483, 8484, 9535, 9555, 9968, 10271, 10291
U			
<code>\U</code> . . .	11461, 11472, 11886, 11919, 12045, 12046, 12053, 12054, 12059, 12060	<code>\value</code>	5321, 5347, 5539, 5687
<code>\u</code> . . .	11477, 11626, 11627, 11644, 11645, 11654, 11655, 11670, 11671, 11672, 11707, 11708, 11737, 11738	<code>\vbox</code>	4055, 4056, 4057, 4058, 4333, 5533
<code>\UHORN</code>	12129, 12240, 12241, 12242, 12243, 12244	<code>\vfill</code>	4055, 4056, 4057, 4058
<code>\uhorn</code> . .	2362, 2369, 12122, 12180, 12181, 12182, 12183, 12184	<code>\voffset</code>	5534
<code>\UnDef</code>	9287	<code>\vpageref</code>	6128
<code>\undefined</code>	2385	<code>\Vr@f</code>	6114
<code>\unhbox</code>	8366, 10247, 10360, 10384, 10408, 10431, 10457	<code>\vr@f</code>	6122
<code>\unhcopy</code>	10342	<code>\vref@pagenum</code>	4825
<code>\unichar</code>	1496	<code>\vref@space</code> . . .	6115, 6118, 6123
<code>\unrestored@protected@xdef</code> . .	4988, 4999, 5130, 5137	<code>\vskip</code>	1696, 1697
<code>\unskip</code> . .	5367, 6115, 6119, 6123, 6128	<code>\vss</code>	5548
<code>\upshape</code>	435	<code>\vtex@trans@special</code>	7828, 7830, 7833, 7837, 7841, 7845, 7847, 7849, 7853, 7859, 7860, 7863
<code>\Url</code>	3207	<code>\VTeXInitMediaSize</code> .	7561, 7578
<code>\url</code>	3206, 3210	<code>\VTeXOS</code> . . .	7898, 7899, 7900, 7902
<code>\url@</code>	3210, 3211	<code>\VTeXversion</code> . .	4501, 4504, 4507, 7890, 7894
<code>\use@file</code> .	3344, 3346, 3350, 3353	W	
<code>\usepackage</code>	1999	<code>\waw</code>	12286
<code>\UTFviii@three@octets</code> . . .	1495	<code>\wawhamza</code>	12255
<code>\UTFviii@two@octets</code>	1494	<code>\wd</code> .	6972, 6984, 7001, 7013, 7031, 7043, 10204
V			
<code>\v</code> . . .	11242, 11251, 11304, 11307, 11311, 11312, 11458, 11469, 11636, 11637, 11638, 11639, 11650, 11651, 11690, 11691, 11700, 11701, 11717, 11718, 11725, 11726, 11729, 11730, 11755, 11756, 11758, 11759,	<code>\write</code> . . .	4221, 4223, 4559, 4567, 4764, 4792, 5305, 5320, 5336, 5346, 5376, 5399, 5425, 5455, 11008, 11075
		<code>\WriteBookmarks</code>	2846, 2915, 3027, 3049, 10837, 11002, 11021, 11022, 11065, 11069
		<code>\wwwbrowser</code> . . .	6933, 7003, 7015
X			
<code>\x</code>	21, 25, 92, 98, 168, 169, 176, 178, 206, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 361, 366, 1076, 1104, 1691, 1701, 1710, 1720, 1768, 1769, 1774, 1790, 2395, 2404, 2472, 2473, 2476, 2477, 2478, 2482, 2485, 2491, 2798, 2799, 2804, 2805, 3285, 3293, 3297, 3300, 3423, 3437, 3462, 3466, 3469, 3479, 4286, 4287,		
		Y	
		<code>\y</code> . .	1770, 1775, 1780, 2478, 2480, 2481, 4287, 4295, 4835, 4838, 4846
		<code>\ya</code>	
		<code>\yahamza</code>	
Z			
<code>\z</code>	1772, 1773		
<code>\z@</code> .	784, 801, 823, 846, 989, 1235, 1241, 1305, 1309, 1321, 1686, 1705, 1925, 2042, 2484, 2490, 2785, 2791, 2792, 2800, 3005, 4505, 6778, 6782, 6787, 6798, 6802, 6807, 6811, 7913, 8108, 8377, 8388, 9937, 10208, 10260, 10601, 10606, 10674, 10708, 10739, 10745, 10774, 10779, 10806, 11048, 11145		
		<code>\za</code>	
		<code>\zay</code>	
		<code>\ZWNJ</code>	