

Hypertext marks in L^AT_EX

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2009/12/28 v6.79z

1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

Manual The **USER MANUAL** (also available as HTML).

README The **README** file (also available as text file). Here information is collected that is not yet in the manual: new features, package compatibility, limitations, known problems, ...


ChangeLog This file records the version history (also available as text file).

Options This file provides a short option summary.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT_EX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

 **hyperref.dtx** This is the source code documentation for hyperref (this file).

backref.dtx “Back referencing from bibliographical citations”

nameref.dtx “Section name references in L^AT_EX”

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3 File hyccheck.tex

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

```

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

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

18 \def\HyC@checkPackage{\%
19 \typeout{}}\%
20 \begingroup
21 \edef\x{\endgroup
22 \noexpand\RequirePackage{\HyC@package}}\%
23 \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi\%
24 }\%
25 \x
26 \typeout{}}\%
27 \typeout{\%
28 * Package '\HyC@package'\%
29 \ifx\HyC@date\@empty
30 \else
31 \space\HyC@date
32 \fi
33 }\%
34 \@ifundefined{ver@\HyC@package.sty}{\%
35 }\%
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{hyccheck}{%
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 `\cmdl` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

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

```

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

```

4.2 Compatibility with format dumps

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

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

```

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

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

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

```

5.1 Macros for recursions

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

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

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

Example (T_EX):

```

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

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
382 \begingroup
```

6.2.1 Preprocessing

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

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

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

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

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

```
384 \edef\0{\string\0}%
385 \edef\1{\string\1}%
386 \edef\2{\string\2}%
387 \edef\3{\string\3}%
```

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

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

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

Internal encoding commands. \pdfstringdef interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before \@inmathwarn will be disabled (see below).

```
399 \@inmathwarn\pdfstringdef
```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

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

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

```
401 \let\add@accent\HyPsd@add@accent
```

Commands that don't use NFSS directly. There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

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

Newline `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

backslash: `\pdfstringdefDisableCommands{\let\\\textbackslash}`

new line: `\pdfstringdefDisableCommands{\let\\\textCR}`

disabled: `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

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

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

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

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

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

```

469 \HyPsd@BabelPatch
470 \let\@safe@activestrue\relax
471 \let\@safe@activesfalse\relax

  Disable \cyr, used in russian.ldf.
472 \let\cyr\relax

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

```

Package german.

```

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

```

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

Package FrenchPro. This package uses:

```

\if@mid@expandable{not fully expandable code}{fully expandable code}

482 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

483 \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.

```

484 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

Miscellaneous commands.

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

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

```
496 \def\halign{\pdfstringdefWarn\halign\@gobble}%
497 \let\ignorespaces\HyPsd@ignorespaces
498 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
499 \ifHy@CJKbookmarks
500   \HyPsd@CJKhook
501 \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`).

```
502 \Hy@pdfstringtrue
503 \pdfstringdefPreHook
```

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

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

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
516 \let\discretionary\@gobbletwo
```

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

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

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

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

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

Support for package ‘xargs’:

```
521 \let\@protected@testopt@xargs\HyPsd@protected@testopt
```

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

`\csname`: First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage* that stomach tokens that aren’t allowed in PDF strings are detected by \TeX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. \TeX provides no way to catch the error caused by `\csname` or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

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

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

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

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

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

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

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

6.2.3 Postprocessing

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

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

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

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

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

```
541 \HyPsd@ProtectSpaces#1%
542 \let\HyPsd@String\@empty
543 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
544 \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.

```

545 \let\HyPsd@SPACEOPTI\relax
546 {%
547 \let\HyPsd@String\@empty
548 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
549 \global\let#1\HyPsd@String
550 }%
551 \expandafter\HyPsd@RemoveMask\expandafter
552 |\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.

```

553 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
554 \let\HyPsd@String\@empty
555 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
556 \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.

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

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

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

```

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



```

562 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
563 {\HyPsd@SPACEOPTI\80\273}#1%
564 \else
565 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
566 \expandafter\HyPsd@Subst\expandafter{%
567 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
568 \string\273}{\HyPsd@SPACEOPTI\273}#1%
569 \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.

```

570 \ifHy@unicode
571 \HyPsd@StringSubst{\)}{\80\051}#1%
572 \HyPsd@Subst){\80\051}#1%
573 \let\HyPsd@empty\relax
574 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
575 {\HyPsd@empty\80\051}#1%
576 \else
577 \HyPsd@StringSubst{\)}{\051}#1%
578 \HyPsd@Subst){\051}#1%
579 \let\HyPsd@empty\relax
580 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
581 \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`.

```

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

```

Ligatures. \TeX forms ligatures in its stomach, but the PDF strings are treated only by \TeX 's mouth. The `PDFDocEncoding` contains some ligatures, but the current version 3 of the `AcrobatReader` lacks the `fi` and `fl` glyphs, and the Linux version lacks the `emdash` and `endash` glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the `AcrobatReader` is better. To break the ligatures the user can use

an empty group, because it leads to an insertion of an `\HyPsd@empty`. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package `xspace` is loaded.

Since newer AcrobatReader versions now show the en- and emdash in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.78l.

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

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

```
597 \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.

```
598 \ifHy@unicode
599 \HyPsd@StringSubst{\textparenleft#1%
600 \HyPsd@Subst{\textparenleft#1%
601 \else
602 \HyPsd@StringSubst({\050}#1%
603 \HyPsd@Subst({\050}#1%
604 \HyPsd@StringSubst{\050}{\string\{ }#1%
605 \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.

```
606 \ifHy@unicode
607 \edef\HyPsd@SPACEOPTI{\80\040}%
608 \else
609 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
610 \fi
611 \xdef#1{#1\@empty}%
612 \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.

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

Try conversion back to PDFDocEncoding.

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

```

621 \ifxetex
622 \let\HyPsd@UnescapedString\HyPsd@temp
623 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
624 {utf16be}{ascii-print}{-%
625 \EdefEscapeString\HyPsd@temp\HyPsd@temp
626 \global\let#1\HyPsd@temp
627 \Hy@unicodfalse
628 }{-%
629 \HyPsd@ToBigChars#1%
630 }%
631 \else
632 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
633 {utf16be}{pdfdoc}{-%
634 \EdefEscapeString\HyPsd@temp\HyPsd@temp
635 \global\let#1\HyPsd@temp
636 \Hy@unicodfalse
637 }{ }%
638 \fi
639 }%
640 \fi
641 \fi
642 \HyPsd@XeTeXBigCharsfalse

```

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

```

643 \pdfstringdefPostHook#1%
644 \endgroup
645 }

```

`\Hy@pdfstringdef`

```

646 \def\Hy@pdfstringdef#1#2{%
647 \pdfstringdef\Hy@gtemp{#2}%
648 \let#1\Hy@gtemp
649 }

```

6.3 Encodings

6.3.1 XeTeX

```

650 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
651 \catcode\z@=12 %
652 \ifxetex
653 \expandafter\@firstofone
654 \else
655 \let\HyPsd@XeTeXBigCharstrue\@empty
656 \let\HyPsd@XeTeXBigCharsfalse\@empty
657 \expandafter\@gobble
658 \fi
659 {%
660 \newif\ifHyPsd@XeTeXBigChars
661 \def\HyPsd@XeTeXBigCharsfalse{%
662 \global\let\ifHyPsd@XeTeXBigChars\iffalse
663 }%
664 \def\HyPsd@XeTeXBigCharstrue{%
665 \global\let\ifHyPsd@XeTeXBigChars\iftrue
666 }%
667 \def\HyPsd@ToBigChars#1{%

```

```

668 \ifHyPsd@XeTeXBigChars
669 \EdefEscapeHex\HyPsd@UnescapedString{%
670 \expandafter\@gobbletwo\HyPsd@UnescapedString
671 }%
672 \begingroup
673 \toks@{}%
674 \escapechar=92\relax
675 \let\x\HyPsd@ToBigChar
676 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
677 \relax\relax\relax\relax\relax\relax\relax
678 \edef\x{%
679 \endgroup
680 \gdef\noexpand#1{\the\toks@}%
681 }%
682 \x
683 \fi
684 }%
685 \def\HyPsd@ToBigChar#1#2#3#4{%
686 \ifx\relax#1\relax
687 \let\x\relax
688 \else
689 \count@=#1#2#3#4\relax
690 \let\y\@empty
691 \lccode\z@=\count@
692 \ifnum\count@=40 % (
693 \let\y\@backslashchar
694 \else
695 \ifnum\count@=41 % )
696 \let\y\@backslashchar
697 \else
698 \ifnum\count@=92 % backslash
699 \let\y\@backslashchar
700 \else
701 \ifnum\count@=10 % newline
702 \edef\y##1{\string\n}%
703 \else
704 \ifnum\count@=13 % carriage return
705 \edef\y##1{\string\r}%
706 \fi
707 \fi
708 \fi
709 \fi
710 \fi
711 \lowercase{%
712 \toks@\expandafter{%
713 \the\expandafter\toks@
714 \y
715 ~\@%
716 }%
717 }%
718 \fi
719 \x
720 }%
721 }
722 \Hy@temp

```

6.3.2 Workaround for package linguex

```

723 \@ifpackageloaded{linguex}{%
724   \let\HyLinguex@OrgB\b
725   \let\HyLinguex@OrgC\c
726   \let\HyLinguex@OrgD\d
727   \def\HyLinguex@Restore{%
728     \let\b\HyLinguex@OrgB
729     \let\c\HyLinguex@OrgC
730     \let\d\HyLinguex@OrgD
731   }%
732   \AtEndOfPackage{%
733     \pdfstringdefDisableCommands{%
734       \@ifundefined{oldb}{\let\b\oldb}%
735       \@ifundefined{oldc}{\let\c\oldc}%
736       \@ifundefined{oldd}{\let\d\oldd}%
737     }%
738   }%
739 }{%
740   \let\HyLinguex@Restore\relax
741 }%

```

6.3.3 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.

```

742 \@ifundefined{T@PD1}{%
743   \input{pdlenc.def}%
744   \HyLinguex@Restore
745 }{}
746 \DeclareFontFamily{PD1}{pdf}{}
747 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
748 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

6.3.4 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`.

```

749 \def\HyPsd@InitUnicode{%
750   \@ifundefined{T@PU}{%
751     \input{puenc.def}%
752     \HyLinguex@Restore
753   }{}%
754   \DeclareFontFamily{PU}{pdf}{}%
755   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
756   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
757   \let\HyPsd@InitUnicode\relax
758 }

```

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 \TeX 's stomach, the second contains the replacement for PDF strings.

```

759 \def\texorpdfstring{%
760   \ifHy@pdfstring
761     \expandafter\@secondoftwo
762   \else
763     \expandafter\@firstoftwo
764   \fi
765 }
```

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`.

```

766 \@ifundefined{pdfstringdefPreHook}{%
767   \let\pdfstringdefPreHook\empty
768 }{}
769 \@ifundefined{pdfstringdefPostHook}{%
770   \let\pdfstringdefPostHook\@gobble
771 }{}
```

`\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 \LaTeX commands like `\@gobble` or `\@firstofone`.

```

772 \def\pdfstringdefDisableCommands{%
773   \begingroup
774     \makeatletter
775     \HyPsd@DisableCommands
776 }
```

`\HyPsd@DisableCommands`

```

777 \long\def\HyPsd@DisableCommands#1{%
778   \toks0=\expandafter{\pdfstringdefPreHook}%
779   \toks1={#1}%
780   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
781   \endgroup
782 }
```

`\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`.

```
783 \def\pdfstringdefWarn#1{%
784   \expandafter\noexpand\csname<>-string#1\endcsname
785 }
```

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

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

```
786 \begingroup
787   \catcode0=12 %
788   \def\x{\endgroup
789     \def\HyPsd@ignorespaces{%
790       \romannumeral\expandafter'\expandafter^^@%
791       \romannumeral'^^@%
792     }%
793   }%
794   \x
```

6.5.2 Babel languages

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

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

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

```
795 \def\HyPsd@BabelPatch{%
796   \let\HyOrg@languageshorthands\languageshorthands
797   \let\languageshorthands\HyPsd@LanguageShorthands
798 }
799 \RequirePackage{pdftexcmds}[2009/04/10]
800 \begingroup\expandafter\expandafter\expandafter\endgroup
801 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
802   \let\HyPsd@langshort@system\@empty
803   \def\HyPsd@LanguageShorthands#1{%
804     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
805       \HyPsd@langshort@system
806     \expandafter\@gobble
807   \else
```

```

808 \expandafter\@firstofone
809 \fi
810 {%
811 \HyOrg@languageshorthands{#1}%
812 }%
813 }%
814 \else
815 \def\HyPsd@LanguageShorthands#1{%
816 \ifnum\pdf@strcmp{#1}{system}=\z@
817 \expandafter\@gobble
818 \else
819 \expandafter\@firstofone
820 \fi
821 {%
822 \HyOrg@languageshorthands{#1}%
823 }%
824 }%
825 \fi
826 \def\Hy@temp{%
827 \@ifpackageloaded{babel}{%
828 \@ifpackagelater{babel}{2008/03/16}{%
829 \let\Hy@temp\@empty
830 }{%
831 \def\HyPsd@BabelPatch{%
832 \let\HyOrg@languageshorthands\languageshorthands
833 }%
834 }%
835 }{}%
836 }
837 \Hy@temp
838 \expandafter\AtBeginDocument\expandafter{\Hy@temp}
839 \newif\ifHy@next

Nothing to do for english.
840 \@ifundefined{danish@sh@.}{%sel}{%}{%
841 \def\HyPsd@babel@danish{%
842 \declare@shorthand{danish}{"}{|}{%}{%
843 \declare@shorthand{danish}{"}{~}{-}{%}{%
844 }%
845 }
846 \@ifundefined{dutch@sh@.}{%sel}{%}{%
847 \def\HyPsd@babel@dutch{%
848 \declare@shorthand{dutch}{"}{|}{%}{%
849 \declare@shorthand{dutch}{"}{~}{-}{%}{%
850 }%
851 }
852 \@ifundefined{finnish@sh@.}{%sel}{%}{%
853 \def\HyPsd@babel@finnish{%
854 \declare@shorthand{finnish}{"}{|}{%}{%
855 }%
856 }
857 \@ifundefined{french@sh@.}{%sel}{%}{%
858 \def\HyPsd@babel@frenchb{%
859 \def\guill@spacing{ }%
860 }%
861 }
862 \@ifundefined{german@sh@.}{%sel}{%}{%

```



```

863 \def\HyPsd@babel@german{%
864   \declare@shorthand{german}{f}{f}%
865   \declare@shorthand{german}{"}{|}%
866   \declare@shorthand{german}{"}{~}{-}%
867 }%
868 }
869 \@ifundefined{macedonian@sh@"@sel}{}{%
870 \def\HyPsd@babel@macedonian{%
871   \declare@shorthand{macedonian}{"}{|}%
872   \declare@shorthand{macedonian}{"}{~}{-}%
873 }%
874 }{}
875 \@ifundefined{ngerman@sh@"@sel}{}{%
876 \def\HyPsd@babel@ngerman{%
877   \declare@shorthand{ngerman}{"}{|}%
878   \declare@shorthand{ngerman}{"}{~}{-}%
879 }%
880 }
881 \@ifundefined{portuges@sh@"@sel}{}{%
882 \def\HyPsd@babel@portuges{%
883   \declare@shorthand{portuges}{"}{|}%
884 }%
885 }
886 \@ifundefined{russian@sh@"@sel}{}{%
887 \def\HyPsd@babel@russian{%
888   \declare@shorthand{russian}{"}{|}%
889   \declare@shorthand{russian}{"}{~}{-}%
890 }%
891 }
892 \@ifundefined{slovene@sh@"@sel}{}{%
893 \def\HyPsd@babel@slovene{%
894   \declare@shorthand{slovene}{"}{|}%
895 }%
896 }

```

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

```

897 \@ifundefined{spanish@sh@>@sel}{}{%
898 \def\HyPsd@babel@spanish{%
899   \declare@shorthand{spanish}{<<}{\guillemotleft}%
900   \declare@shorthand{spanish}{>>}{\guillemotright}%
901   \declare@shorthand{spanish}{=}{-}%
902   \declare@shorthand{spanish}{"}{~}{-}%
903   \declare@shorthand{spanish}{"!}{\textexclamdown}%
904   \declare@shorthand{spanish}{"?}{\textquestiondown}%
905 }%
906 }
907 \@ifundefined{swedish@sh@"@sel}{}{%
908 \def\HyPsd@babel@swedish{%
909   \declare@shorthand{swedish}{"}{|}%
910   \declare@shorthand{swedish}{"}{~}{-}%
911 }%
912 }
913 \@ifundefined{ukrainian@sh@"@sel}{}{%
914 \def\HyPsd@babel@ukrainian{%
915   \declare@shorthand{ukrainian}{"}{|}%
916   \declare@shorthand{ukrainian}{"}{~}{-}%
917 }%
918 }

```

```

919 \@ifundefined{usorbian@sh@{sel}}{}{}%
920 \def\HyPsd@babel@usorbian{%
921   \declare@shorthand{usorbian}{f}{f}%
922   \declare@shorthand{usorbian}{|}{|}%
923 }%
924 }

925 \@ifundefined{greek@sh@\string~@sel}{}{}%
926 \let\HyPsd@GreekPatch\@empty
927 {}{}%
928 \def\HyPsd@GreekPatch{%
929   \let\greeknumeral\HyPsd@greeknumeral
930   \let\Greeknnumeral\HyPsd@Greeknnumeral
931 }%
932 }

933 \def\HyPsd@greeknumeral#1{%
934   \HyPsd@GreekNum\@firstoftwo{#1}%
935 }

936 \def\HyPsd@Greeknnumeral#1{%
937   \HyPsd@GreekNum\@secondoftwo{#1}%
938 }

939 \def\HyPsd@GreekNum#1#2{%
940   \ifHy@unicode
941     \ifnum#2<\@ne
942       \@arabic{#2}%
943     \else
944       \ifnum#2<1000000 %
945         \HyPsd@@GreekNum#1{#2}%
946       \else
947         \@arabic{#2}%
948       \fi
949     \fi
950   \else
951     \@arabic{#2}%
952   \fi
953 }

954 \def\HyPsd@@GreekNum#1#2{%
955   \ifnum#2<\@m
956     \ifnum#2<10 %
957       \expandafter\HyPsd@GreekNumI
958       \expandafter\@gobble\expandafter#1\number#2%
959     \else
960       \ifnum#2<100 %
961         \expandafter\HyPsd@GreekNumII
962         \expandafter\@gobble\expandafter#1\number#2%
963       \else
964         \expandafter\HyPsd@GreekNumIII
965         \expandafter\@gobble\expandafter#1\number#2%
966       \fi
967     \fi
968   \ifnum#2>\z@
969     \textnumeralsigngreek
970   \fi
971   \else
972     \ifnum#2<\@M
973       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
974     \else
975       \ifnum#2<100000 %

```

```

976     \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
977     \else
978     \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
979     \fi
980     \fi
981     \fi
982 }
983 \def\HyPsd@GreekNumI#1#2#3{%
984   #1{%
985     \ifnum#3>\z@
986       \textnumeralsignlowergreek
987       \fi
988     }%
989     \expandafter#2%
990     \ifcase#3 %
991       {}{}%
992     \or\textalpha\textAlpha
993     \or\textbeta\textBeta
994     \or\textgamma\textGamma
995     \or\textdelta\textDelta
996     \or\textepsilon\textEpsilon
997     \or\textstigmagreek\textStigmagreek
998     \or\textzeta\textZeta
999     \or\texteta\textEta
1000    \or\texttheta\textTheta
1001    \else
1002      {}{}%
1003    \fi
1004  }
1005 \def\HyPsd@GreekNumII#1#2#3#4{%
1006   #1{%
1007     \ifnum#3>\z@
1008       \textnumeralsignlowergreek
1009       \fi
1010     }%
1011     \expandafter#2%
1012     \ifcase#3 %
1013       {}{}%
1014     \or\textiota\textIota
1015     \or\textkappa\textKappa
1016     \or\textlambda\textLambda
1017     \or\textmu\textMu
1018     \or\textnu\textNu
1019     \or\textxi\textXi
1020     \or\textomicron\textOmicron
1021     \or\textpi\textPi
1022     \or\textkoppagreek\textKoppagreek
1023     \else
1024       {}{}%
1025     \fi
1026     \HyPsd@GreekNumI#1#2#4%
1027  }
1028 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1029   #1{%
1030     \ifnum#3>\z@
1031       \textnumeralsignlowergreek
1032       \fi

```

```

1033 }%
1034 \expandafter#2%
1035 \ifcase#3 %
1036 {}{}%
1037 \or\textrho\textRho
1038 \or\textsigma\textSigma
1039 \or\texttau\textTau
1040 \or\textupsilon\textUpsilon
1041 \or\textphi\textPhi
1042 \or\textchi\textChi
1043 \or\textpsi\textPsi
1044 \or\textomega\textOmega
1045 \or\textsampigreek\textSampigreek
1046 \else
1047 {}{}%
1048 \fi
1049 \HyPsd@GreekNumII#1#2#4#5%
1050 }
1051 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1052 \HyPsd@GreekNumI\@firstofone#1#2%
1053 \HyPsd@@GreekNum#1{#3#4#5}%
1054 }
1055 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1056 \HyPsd@GreekNumII\@firstofone#1#2#3%
1057 \HyPsd@@GreekNum#1{#4#5#6}%
1058 }
1059 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1060 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1061 \HyPsd@@GreekNum#1{#5#6#7}%
1062 }

1063 \def\HyPsd@SpanishPatch{%
1064 \begingroup\expandafter\expandafter\expandafter\endgroup
1065 \ifx\csname es@save@dot\endcsname\relax
1066 \else
1067 \let\.\es@save@dot
1068 \fi
1069 }

```

6.5.3 CJK bookmarks

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

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

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

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

```

1070 \begingroup
1071 \catcode"7F=\active
1072 \toks@{%
1073 \let\CJK@ignorespaces\empty
1074 \def\CJK@char#1{\@gobbletwo}%
1075 \let\CJK@charx\@gobblefour
1076 \let\CJK@punctchar\@gobblefour

```

```

1077 \def\CJK@punctcharx#1{\@gobblefour}%
1078 \catcode"7F=\active
1079 \def^^7f#1^^7f#2^^7f{%
1080   \string #1\HyPsd@DecimalToOctal{#2}%
1081 }%
1082 % ... ?
1083 \ifHy@unicode
1084   \def\Hy@cjkpu{\80}%
1085 \else
1086   \let\Hy@cjkpu\@empty
1087 \fi
1088 \HyPsd@CJKActiveChars
1089 }%
1090 \count@=127 %
1091 \@whilenum\count@<255 \do{%
1092   \advance\count@ by 1 %
1093   \lccode'\~=\count@
1094   \lowercase{%
1095     \toks@\expandafter{\the\toks@ ~}%
1096   }%
1097 }%
1098 \toks@\expandafter{\the\toks@ !}%
1099 \xdef\HyPsd@CJKhook{\the\toks@}%
1100 \endgroup

```

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

```

1101 \def\HyPsd@CJKActiveChars#1{%
1102   \ifx#1!%
1103     \let\HyPsd@CJKActiveChars\relax
1104   \else
1105     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1106   \fi
1107   \HyPsd@CJKActiveChars
1108 }

```

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

```

1109 \def\HyPsd@DecimalToOctal#1{%
1110   \ifcase #1 %
1111     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1112     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1113     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1114     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1115     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1116     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1117     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1118     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1119     \or @\or A\or B\or C\or D\or E\or F\or G%
1120     \or H\or I\or J\or K\or L\or M\or N\or O%
1121     \or P\or Q\or R\or S\or T\or U\or V\or W%
1122     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1123     \or \140\or a\or b\or c\or d\or e\or f\or g%
1124     \or h\or i\or j\or k\or l\or m\or n\or o%
1125     \or p\or q\or r\or s\or t\or u\or v\or w%
1126     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1127     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1128     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%

```

```

1129 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1130 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1131 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1132 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1133 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1134 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1135 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1136 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1137 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1138 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1139 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1140 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1141 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1142 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1143 \fi
1144 }

```

6.5.4 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with \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}

1145 \def\HyPsd@inmathwarn#1#2{%
1146 \ifx#2\expandafter
1147 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1148 \HyPsd@GLYPHERR
1149 \expandafter\@gobble\string#1%
1150 >%
1151 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1152 \else
1153 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1154 \fi
1155 \else
1156 \expandafter#2%
1157 \fi
1158 }
1159 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1160 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1161 \def\HyPsd@add@accent#1#2{%
1162 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1163 #2%
1164 }%

```

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.

```

1165 \def\HyPsd@LetUnexpandableSpace#1{%
1166 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1167 }

```

\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.

```

1168 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

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

```

1169 \edef\HyPsd@XSPACE{\string#\string X}
1170 \edef\HyPsd@ITALCORR{\string#\string I}
1171 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```
1172 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1173 \def\HyPsd@@hspace#1*#2\END{%
1174   \ifx\#2\%
1175     \HyPsd@hspacetest{#1}%
1176   \else
1177     \expandafter\HyPsd@hspacetest
1178   \fi
1179 }
```

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

```
1180 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.8 Fix for AMS classes

```
1181 \ifundefined{tocsection}{%
1182   \let\HyPsd@AMSclassfix\relax
1183 }{%
1184   \def\HyPsd@AMSclassfix{%
1185     \let\tocpart\HyPsd@tocsection
1186     \let\tocchapter\HyPsd@tocsection
1187     \let\tocappendix\HyPsd@tocsection
1188     \let\tocsection\HyPsd@tocsection
1189     \let\tocsubsection\HyPsd@tocsection
1190     \let\tocsubsubsection\HyPsd@tocsection
1191     \let\tocparagraph\HyPsd@tocsection
1192   }%
1193   \def\HyPsd@tocsection#1#2#3{%
1194     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1195     #3%
1196   }%
1197 }
```

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.

```
1198 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1199 \def\HyPsd@@ref#1*#2\END{%
1200   \ifx\#2\%
1201     \HyPsd@@@ref{#1}%
1202   \else
1203     \expandafter\HyPsd@@@ref
1204   \fi
1205 }
```

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

```
1206 \def\HyPsd@@@ref#1{%
1207   \expandafter\ifx\csname r@#1\endcsname\relax
1208     ??%
```



```

1209 \else
1210 \expandafter\expandafter\expandafter
1211 \@car\csname r@#1\endcsname\@nil
1212 \fi
1213 }

```

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

```

1214 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1215 \def\HyPsd@@pageref#1*#2\END{%
1216 \ifx\#2\%
1217 \HyPsd@@@pageref{#1}%
1218 \else
1219 \expandafter\HyPsd@@@pageref
1220 \fi
1221 }

```

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

```

1222 \def\HyPsd@@@pageref#1{%
1223 \expandafter\ifx\csname r@#1\endcsname\relax
1224 ??%
1225 \else
1226 \expandafter\expandafter\expandafter\expandafter
1227 \expandafter\expandafter\expandafter\@car
1228 \expandafter\expandafter\expandafter\@gobble
1229 \csname r@#1\endcsname{}\@nil
1230 \fi
1231 }

```

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

```

1232 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1233 \def\HyPsd@@nameref#1*#2\END{%
1234 \ifx\#2\%
1235 \HyPsd@@@nameref{#1}%
1236 \else
1237 \expandafter\HyPsd@@@nameref
1238 \fi
1239 }

```

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

```

1240 \def\HyPsd@@@nameref#1{%
1241 \expandafter\ifx\csname r@#1\endcsname\relax
1242 ??%
1243 \else
1244 \expandafter\expandafter\expandafter\expandafter
1245 \expandafter\expandafter\expandafter\@car
1246 \expandafter\expandafter\expandafter\@gobbletwo
1247 \csname r@#1\endcsname{}\@nil
1248 \fi
1249 }

```

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

```
1250 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1251 \def\HyPsd@@autoref#1*#2\END{%
1252   \ifx\#2\%
1253     \HyPsd@@@autoref{#1}%
1254   \else
1255     \expandafter\HyPsd@@@autoref
1256   \fi
1257 }
```

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

```
1258 \def\HyPsd@@@autoref#1{%
1259   \expandafter\ifx\csname r@#1\endcsname\relax
1260     ??%
1261   \else
1262     \expandafter\expandafter\expandafter\HyPsd@autorefname
1263       \csname r@#1\endcsname\{-\}\{-\}\{-\}\@nil
1264     \expandafter\expandafter\expandafter
1265     \@car\csname r@#1\endcsname\@nil
1266   \fi
1267 }
```

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

```
1268 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1269   \ifx\#4\%
1270   \else
1271     \HyPsd@@autorefname#4.\@nil
1272   \fi
1273 }
```

`\HyPsd@@autorefname`

```
1274 \def\HyPsd@@autorefname#1.#2\@nil{%
1275   \@ifundefined{#1autorefname}{%
1276     \@ifundefined{#1name}{%
1277       }{%
1278         \csname#1name\endcsname\space
1279       }%
1280     }{%
1281       \csname#1autorefname\endcsname\space
1282     }%
1283 }
```

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 causes 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 don't have the meaning of `\relax`, `\HyPsd@CheckCatcodes` will produce a warning. (The command itself can be legal, but the warning is legitimate because of the position after a defining command.)

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1284 \begingroup
1285   \def\x#1#2{%
1286     \endgroup
1287     \let#1\def
1288     \def\HyPsd@DefCommand##1##2##{%
1289       #1%
1290       \expandafter\noexpand
1291       \csname\expandafter\@gobble\string##1\@empty\endcsname
1292       \@gobble
1293     }%
1294     \let#2\let
1295     \def\HyPsd@@LetCommand##1{%
1296       \expandafter\ifx\csname##1\expandafter\endcsname
1297         \csname iftrue\endcsname
1298         \pdfstringdefWarn\let
1299         \expandafter\@gobble
1300       \else
1301         \expandafter\ifx\csname##1\expandafter\endcsname
1302           \csname iffalse\endcsname
1303           \pdfstringdefWarn\let
1304           \expandafter\expandafter\expandafter\@gobble
1305         \else
1306           #2%
1307           \expandafter\noexpand
1308           \csname##1\expandafter\expandafter\expandafter\endcsname
1309         \fi
1310       \fi
1311     }%
1312   }%
1313 \expandafter\x\csname <def>-command\expandafter\endcsname
1314   \csname <let>-command\endcsname
1315 \def\HyPsd@LetCommand#1{%
1316   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1317   \expandafter\expandafter\expandafter{%
1318     \expandafter\@gobble\string#1\@empty
1319   }%

```

1320 }

6.5.11 \ifnextchar

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

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

```
1321 \def\HyPsd@ifnextchar#1{%
1322   \pdfstringdefWarn#1%
1323   \expandafter\@gobbletwo\@gobble
1324 }
```

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.

```
1325 \def\HyPsd@protected@testopt#1{%
1326   \pdfstringdefWarn#1%
1327   \@gobbletwo
1328 }
```

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:

```
1329 \def\HyPsd@Warning#1{%
1330   \begingroup
1331   \def\space{ }%
1332   \Hy@Warning{#1}%
1333   \endgroup
1334 }
```

6.6.2 Protecting spaces

```
1335 \RequirePackage{etexcmds}[2007/09/09]
1336 \ifetex@unexpanded
1337   \expandafter\@secondoftwo
1338 \else
1339   \expandafter\@firstoftwo
1340 \fi
1341 {%
```

\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`.

```

1342 \def\HyPsd@ProtectSpaces#1{%
1343   \iftrue
1344     \expandafter\HyPsd@@ProtectSpacesFi
1345     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1346   \fi
1347 }%

```

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

```

1348 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1349   \fi
1350   \ifx\scrollmode#2\scrollmode
1351     \HyPsd@RemoveMask#1\HyPsd@End#3%
1352   \else
1353     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1354     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1355   \fi
1356 }%

```

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.

```

1357 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1358   \toks@{\expandafter{#1}}%
1359   \xdef#2{\the\toks@}%
1360 }%

1361 }{%
1362   \let\HyPsd@fi\fi
1363   \def\HyPsd@ProtectSpaces#1{%
1364     \xdef#1{%
1365       \iftrue
1366         \expandafter\HyPsd@@ProtectSpacesFi
1367         \expandafter|\expandafter\@empty#1| %
1368       \HyPsd@fi
1369     }%
1370     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1371   }%
1372   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1373     \fi
1374     \etex@unexpanded{#1}%
1375     \ifx\scrollmode#2\scrollmode
1376     \else
1377       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1378     \HyPsd@fi
1379   }%
1380   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1381     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1382   }%
1383 }

```

6.6.3 Remove grouping braces

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

```

1384 \def\HyPsd@RemoveBraces#1{%
1385   \ifx\scrollmode#1\scrollmode
1386   \else
1387     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1388   \fi
1389 }

```

`\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`.

```

1390 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1391   \fi
1392   \def\Hy@temp@A{#1#2}%
1393   \def\Hy@temp@B{#3}%
1394   \ifx\Hy@temp@A\Hy@temp@B
1395     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1396       \HyPsd@String#1%
1397     }%
1398     \ifx\scrollmode#2\scrollmode
1399     \else
1400       \Hy@ReturnAfterFiFiEnd{%
1401         \HyPsd@RemoveBraces{#2}%
1402       }%
1403     \fi
1404   \else
1405     \def\Hy@temp@A{#1}%
1406     \HyPsd@AppendItalcorr\HyPsd@String
1407     \ifx\Hy@temp@A\@empty
1408       \Hy@ReturnAfterElseFiFiEnd{%
1409         \HyPsd@RemoveBraces{#2}%
1410       }%
1411     \else
1412       \HyPsd@ProtectSpaces\Hy@temp@A
1413       \HyPsd@AppendItalcorr\Hy@temp@A
1414       \Hy@ReturnAfterFiFiEnd{%
1415         \expandafter\HyPsd@RemoveBraces\expandafter
1416         {\Hy@temp@A#2}%
1417       }%
1418     \fi
1419   \fi
1420   \Hy@ReturnEnd
1421 }

```

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

```

1422 \def\HyPsd@AppendItalcorr#1{%
1423   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1424 }
1425 \def\HyPsd@@AppendItalcorr#1#2{%
1426   \expandafter\def\expandafter#2\expandafter{#2#1}%
1427 }

```

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`).

```
1428 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1429   \global\let\HyPsd@Rest\relax
1430   \ifcat\relax\noexpand#1\relax
1431     \ifx#1\protect
1432       \else
1433         \ifx#1\penalty
1434           \setbox\z@=\hbox{%
1435             \afterassignment\HyPsd@AfterCountRemove
1436             \count@=#2\HyPsd@end
1437           }%
1438         \else
1439           \ifx#1\kern
1440             \setbox\z@=\hbox{%
1441               \afterassignment\HyPsd@AfterDimenRemove
1442               \dimen@=#2\HyPsd@end
1443             }%
1444           \else
1445             \ifx#1\hskip
1446               \setbox\z@=\hbox{%
1447                 \afterassignment\HyPsd@AfterSkipRemove
1448                 \skip@=#2\HyPsd@end
1449               }%
1450             \else
1451               \HyPsd@CatcodeWarning{#1}%
1452             \fi
1453           \fi
1454         \fi
1455       \else
1456         \ifcat#1A% letter
1457           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1458             \HyPsd@String#1%
1459           }%
1460         \else
1461           \ifcat#1 % SPACE
1462             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1463               \HyPsd@String\HyPsd@SPACEOPTI
1464             }%
1465           \else
1466             \ifcat$#1%
1467               \HyPsd@CatcodeWarning{math shift}%
1468             \else
1469               \ifcat&#1%
1470                 \HyPsd@CatcodeWarning{alignment tab}%
1471               \else
```

```

1472     \else
1473     \ifcat^#1%
1474     \HyPsd@CatcodeWarning{superscript}%
1475     \else
1476     \ifcat_#1%
1477     \HyPsd@CatcodeWarning{subscript}%
1478     \else
1479     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1480     \HyPsd@String#1%
1481     }%
1482     \fi
1483     \fi
1484     \fi
1485     \fi
1486     \fi
1487     \fi
1488     \fi
1489     \ifx\HyPsd@Rest\relax
1490     \ifx\scrollmode#2\scrollmode
1491     \else
1492     \Hy@ReturnAfterFiFiEnd{%
1493     \HyPsd@CheckCatcodes#2\HyPsd@End
1494     }%
1495     \fi
1496     \else
1497     \ifx\HyPsd@Rest\@empty
1498     \else
1499     \Hy@ReturnAfterFiFiEnd{%
1500     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1501     }%
1502     \fi
1503     \fi
1504     \Hy@ReturnEnd
1505 }

```

Remove counts, dimens, skips.

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

```

1506 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1507 \gdef\HyPsd@Rest{#1}%
1508 }

```

\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.

```

1509 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1510 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@<1ex %
1511 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1512 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1513 \else
1514 \ifdim\dimen@=\z@
1515 \else
1516 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1517 \fi
1518 \gdef\HyPsd@Rest{#1}%
1519 \fi

```


1520 }

\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).

```
1521 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1522 \ifdim\ifx\HyPsd@String\@empty\z@else\skip@>1ex %
1523 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1524 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1525 \else
1526 \ifdim\skip@=\z@
1527 \else
1528 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1529 \fi
1530 \gdef\HyPsd@Rest{#1}%
1531 \fi
1532 }
```

Catcode warnings.

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

```
1533 \def\HyPsd@CatcodeWarning#1{%
1534 \HyPsd@Warning{%
1535 Token not allowed in a PDF string (%
1536 \ifHy@unicode
1537 Unicode%
1538 \else
1539 PDFDocEncoding%
1540 \fi
1541 ):%
1542 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1543 }%
1544 }
1545 \begingroup
1546 \catcode'\|=0 %
1547 \catcode'\|=12 %
1548 \gdef\HyPsd@RemoveCmdPrefix#1{%
1549 \expandafter\HyPsd@@RemoveCmdPrefix
1550 \string#1\@empty\<>-|\@empty|\@empty
1551 }%
1552 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1553 \endgroup
```

\HyPsd@RemoveSpaceWarning

```
1554 \def\HyPsd@RemoveSpaceWarning#1{%
1555 \HyPsd@Warning{%
1556 Token not allowed in a PDF string (%
1557 \ifHy@unicode
1558 Unicode%
1559 \else
1560 PDFDocEncoding%
1561 \fi
1562 ):%
1563 \MessageBreak #1\MessageBreak
1564 removed%
1565 }%
1566 }
```

\HyPsd@ReplaceSpaceWarning

```
1567 \def\HyPsd@ReplaceSpaceWarning#1{%
1568   \HyPsd@Warning{%
1569     Token not allowed in a PDF string (%
1570     \ifHy@unicode
1571       Unicode%
1572     \else
1573       PDFDocEncoding%
1574     \fi
1575   }:%
1576   \MessageBreak #1\MessageBreak
1577   replaced by space%
1578 }%
1579 }
```

6.6.5 Check for wrong glyphs

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

```
1580 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1581   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1582     \HyPsd@String#1%
1583   }%
1584   \ifx\#2\%
1585   \else
1586     \Hy@ReturnAfterFi{%
1587       \HyPsd@GlyphProcessWarning#2\@empty
1588     }%
1589   \fi
1590 }
1591 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1592   \HyPsd@@@GlyphProcessWarning#1++>%
1593   \HyPsd@GlyphProcess#2\@empty
1594 }
1595 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1596   \ifx\#2\%
1597     \HyPsd@Warning{%
1598       Glyph not defined in %
1599       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1600       removing '@backslashchar#1'%
1601     }%
1602   \else
1603     \HyPsd@Warning{%
1604       Composite letter '@backslashchar#1+#2'\MessageBreak
1605       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1606       \MessageBreak
1607       removing '@backslashchar#1'%
1608     }%
1609   \fi
1610 }
```

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.

```

1611 \def\HyPsd@spaceopti#1{ % first space
1612   \ifx\HyPsd@spaceopti#1%
1613     \040%
1614   \else
1615     #1%
1616   \fi
1617 }%

```

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.

```

1618 \def\HyPsd@Subst#1#2#3{%
1619   \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1620     \fi
1621     ##1%
1622     \ifx\scrollmode##2\scrollmode
1623     \else
1624       #2%
1625     \HyPsd@@ReplaceFi##2\END
1626   \fi
1627 }%
1628 \xdef#3{%
1629   \iftrue
1630     \expandafter\HyPsd@@ReplaceFi#3#1\END
1631   \fi
1632 }%
1633 }

```

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

```

1634 \def\HyPsd@StringSubst#1{%
1635   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1636 }

```

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.

```

1637 \def\HyPsd@doxspace#1{%
1638   \ifx#1\relax\else
1639     \ifx#1.\else
1640       \ifx#1:\else
1641         \ifx#1,\else
1642         \ifx#1;\else
1643         \ifx#1!\else
1644         \ifx#1?\else
1645         \ifx#1/\else
1646         \ifx#1-\else
1647         \ifx#1'\else
1648           \HyPsd@SPACEOPTI

```

```

1649     \fi
1650     \fi
1651     \fi
1652     \fi
1653     \fi
1654     \fi
1655     \fi
1656     \fi
1657     \fi
1658     \fi
1659     #1%
1660 }%

```

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.

```

1661 \begingroup
1662 \catcode'\|=0 %
1663 \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1664 |gdef|HyPsd@ConvertToUnicode#1{%
1665 |xdef#1{%
1666 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1667 }%
1668 |ifx#1|@empty
1669 |else
1670 |xdef#1{%
1671 \376\377%
1672 #1%
1673 }%
1674 |fi
1675 }%

```

\HyPsd@DoConvert

```

1676 |gdef|HyPsd@DoConvert#1{%
1677 |ifx#1|@empty
1678 |else
1679 |Hy@ReturnAfterFi{%
1680 |ifx#1\%%
1681 \%%
1682 |expandafter|HyPsd@DoEscape
1683 |else
1684 |HyPsd@Char{#1}%
1685 |expandafter|HyPsd@DoConvert
1686 |fi
1687 }%
1688 |fi
1689 }%

```

\HyPsd@DoEscape

```

1690 |gdef|HyPsd@DoEscape#1{%
1691 |ifx#19%
1692 |expandafter|HyPsd@GetTwoBytes

```

```

1693 | else
1694 | Hy@ReturnAfterFi{%
1695 | ifx#18%
1696 | 00%
1697 | expandafter HyPsd@GetTwoBytes
1698 | else
1699 | #1%
1700 | expandafter HyPsd@GetOneByte
1701 | fi
1702 }%
1703 | fi
1704 }%

```

\HyPsd@GetTwoBytes

```

1705 | gdef HyPsd@GetTwoBytes#1\#2#3#4{%
1706 | #1\#2#3#4%
1707 | HyPsd@DoConvert
1708 }%

```

\HyPsd@GetOneByte

```

1709 | gdef HyPsd@GetOneByte#1#2{%
1710 | #1#2%
1711 | HyPsd@DoConvert
1712 }%
1713 | endgroup

```

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

```

1714 \def HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1715 | \xdef#4{#4#1#2}%
1716 | HyPsd@@ConvertToUnicode#3\END#4%
1717 }

```

\HyPsd@Char

```

1718 \RequirePackage{intcalc}[2007/09/27]
1719 \begingroup
1720 | \catcode0=9 %
1721 | \catcode'\^=7 %
1722 | \catcode'\^^=12 %
1723 | \def\x{^^^^0000}%
1724 | expandafter\endgroup
1725 | ifx\x\@empty
1726 | \def HyPsd@Char#1{%
1727 | | \ifnum'#1<128 %
1728 | | | \@backslashchar 000#1%
1729 | | | else
1730 | | | \ifnum'#1<65536 %
1731 | | | | expandafter HyPsd@CharTwoByte\number'#1!%
1732 | | | | else
1733 | | | | expandafter\expandafter\expandafter HyPsd@CharSurrogate
1734 | | | | \intcalcSub{'#1}{65536}!%
1735 | | | | \fi
1736 | | | \fi
1737 | | }%
1738 | \def HyPsd@CharTwoByte#1!{%
1739 | | expandafter\expandafter\expandafter HyPsd@CharOctByte
1740 | | | \IntCalcDiv#1!256!!%
1741 | | | expandafter\expandafter\expandafter HyPsd@CharOctByte

```

```

1742 \IntCalcMod#1!256!!%
1743 }%
1744 \def\HyPsd@CharOctByte#1!{%
1745 \@backslashchar
1746 \IntCalcDiv#1!64!%
1747 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1748 \IntCalcMod#1!8!%
1749 }%
1750 \def\HyPsd@CharSurrogate#1!{%
1751 \@backslashchar 33%
1752 \IntCalcDiv#1!262144!%
1753 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1754 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1755 \@backslashchar 33%
1756 \expandafter\expandafter\expandafter\IntCalcAdd
1757 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1758 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1759 \IntCalcMod#1!256!!%
1760 }%
1761 \else
1762 \def\HyPsd@Char#1{%
1763 \@backslashchar 000#1%
1764 }%
1765 \fi

```

6.6.9 Support for UTF-8 input encoding

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

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

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

```

1766 \begingroup\expandafter\expandafter\expandafter\endgroup
1767 \expandafter\ifx\csname numexpr\endcsname\relax
1768 \let\HyPsd@UTFviii\relax
1769 \else
1770 \begingroup
1771 \lccode'\~='^f4\relax
1772 \lowercase{\endgroup
1773 \def\HyPsd@UTFviii{%
1774 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1775 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1776 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1777 \ifx~\HyPsd@UTFviii@ccxliv@undef
1778 \let~\HyPsd@UTFviii@ccxliv@def
1779 \fi
1780 \let\unichar\HyPsd@unichar
1781 }%
1782 }%
1783 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1784 \edef\HyPsd@UTFviii@ccxliv@def{%

```

```

1785 \noexpand\UTFviii@four@octets\string ^~f4%
1786 }%

```

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.

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

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

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

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

$$(5)$$

```

1787 \def\HyPsd@UTFviii@two#1#2{%
1788 \expandafter\HyPsd@UTFviii@@two
1789 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1790 \number'#1\expandafter| %
1791 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
1792 \number'#2 \@nil
1793 }%
1794 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1795 \expandafter\8%
1796 \number\numexpr #1-48\expandafter\relax
1797 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1798 \number\numexpr #3-8*%
1799 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1800 \number\numexpr #4-8*#3\relax
1801 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1802 \def\HyPsd@UTFviii@three#1#2#3{%
1803 \expandafter\HyPsd@UTFviii@@three
1804 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1805 \number'#1\expandafter| %
1806 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
1807 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
1808 \number'#2\expandafter| %
1809 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
1810 \number'#3 \@nil
1811 }%
1812 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1813 \expandafter\9%
1814 \number\numexpr #1-56\expandafter\relax
1815 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1816 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax

```

```

1817 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1818 \number\numexpr #6-16\expandafter\relax
1819 \number\numexpr #7-8*#6\relax
1820 }%

```

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

```

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

```

```

1821 \def\HyPsd@UTFviii@four#1#2{%
1822 \expandafter\HyPsd@@UTFviii@four\number
1823 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1824 \expandafter|\number
1825 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1826 }%
1827 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1828 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1829 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1830 \ifodd#2 %
1831 \number\numexpr(#2-1)/2\relax
1832 \else
1833 \number\numexpr#2/2\relax
1834 \fi
1835 \number\numexpr\ifodd#2 4+\fi
1836 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1837 \933%
1838 \expandafter\HyPsd@@@UTFviii@four\number
1839 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1840 }%
1841 \def\HyPsd@@@UTFviii@four#1|#2{%
1842 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1843 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1844 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1845 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1846 }%

```

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

```

1847 \def\HyPsd@unichar#1{%
1848 \ifHy@unicode
1849 \ifnum#1>"10FFFF %
1850 \HyPsd@UnicodeReplacementCharacter % illegal
1851 \else
1852 \ifnum#1>"FFFF %

```

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

```

1853 \expandafter\HyPsd@unichar\expandafter{%
1854 \number\numexpr 55296+%
1855 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1856 \relax\relax\relax
1857 }%

```

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

```

1858 \expandafter\HyPsd@unichar\expandafter{%
1859 \number\numexpr#1-9216%

```



```

1860         -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1861         \relax\relax\relax
1862     }%
1863     \else
1864         \ifnum#1>"7FF %
1865             \9%
1866             \expandafter\HyPsd@unichar@first@byte\expandafter{%
1867                 \number
1868                 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1869             }%
1870         \else
1871             \8%
1872             \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1873         \fi
1874         \expandafter\HyPsd@unichar@second@byte\expandafter{%
1875             \number
1876             \numexpr#1-256*\number
1877             \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1878         }%
1879     \fi
1880 \fi
1881 \else
1882     .% unsupported (Unicode -> PDF Doc Encoding)
1883 \fi
1884 }%
1885 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1886 \def\HyPsd@unichar@first@byte#1{%
1887     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1888     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1889         \number
1890         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1891         \relax\relax\relax
1892     }%
1893 }%
1894 \def\HyPsd@unichar@second@byte#1{%
1895     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1896     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1897         \number
1898         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1899         \relax\relax\relax
1900     }%
1901 }%
1902 \def\HyPsd@unichar@octtwo#1{%
1903     \number\dimexpr.125\dimexpr#1sp\relax\relax
1904     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1905     \relax\relax\relax
1906 }%
1907 \fi

```

7 Support of other packages

7.1 Class memoir

```

1908 \@ifclassloaded{memoir}{%
1909     \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1910 }{}

```

7.2 Package subfigure

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

```

1911 \@ifpackageloaded{subfigure}{%
1912   \@ifundefined{sub@label}{%
1913     \Hy@hypertexnamesfalse
1914   }{%
1915     \renewcommand*{\sub@label}[1]{%
1916       \@bsphack
1917       \subfig@oldlabel{#1}%
1918       \if@filesw
1919         \begingroup
1920           \edef\@currentlabstr{%
1921             \expandafter\strip@prefix\meaning\@currentlabelname
1922           }%
1923           \protected@write\@auxout{}{%
1924             \string\newlabel{sub@#1}{%
1925               {\@nameuse{@@thesub}\@capttype}}%
1926               {\thepage}%
1927             }%
1928             \expandafter\strip@period\@currentlabstr
1929             \relax.\relax\@@@%
1930           }%
1931           {\@currentHref}%
1932           }%
1933         }%
1934       }%
1935     \endgroup
1936   \fi
1937   \@esphack
1938 }%
1939 \@ifpackagelater{subfigure}{2002/03/26}{%
1940   \providecommand*{\toclevel@subfigure}{1}%
1941   \providecommand*{\toclevel@subtable}{1}%
1942 }%
1943 }%
1944 }{}

```

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:

```

1945 \@ifundefined{XR@addURL}{%
1946 }{%

```

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.

```

1947   \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
1948   \def\XR@dURL#1#2#3#4#5\\{%
1949     {#1}{#2}%
1950     \if!#4!%
1951     \else
1952       {#3}{#4}{\XR@URL}%
1953     \fi
1954   }%
1955 }

```

```

1956 \def\Hy@true{true}

```

```
1957 \def\Hy@false{false}
```

Providing dummy definitions.

```
1958 \let\literalps@out\@gobble
1959 \newcommand\pdfbookmark[3][]{ }
1960 \def\Acrobatmenu#1#2{\leavevmode#2}
1961 \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

```
1962 \let\HyperRaiseLinkHook\@empty
1963 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
1964 \def\Hy@raisedlink#1{%
1965   \ifvmode
1966     #1%
1967   \else
1968     \penalty\@M
1969     \smash{%
1970       \begingroup
1971         \let\HyperRaiseLinkLength\@tempdima
1972         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1973         \HyperRaiseLinkHook
1974         \expandafter\endgroup
1975         \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1976       }%
1977   \fi
1978 }
```

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

```
1979 \def\Hy@SaveLastskip{%
1980   \let\Hy@RestoreLastskip\relax
1981   \ifvmode
1982     \ifdim\lastskip=\z@
1983       \let\Hy@RestoreLastskip\nobreak
1984     \else
1985       \begingroup
1986         \skip@=-\lastskip
1987         \edef\x{%
1988           \endgroup
1989           \def\noexpand\Hy@RestoreLastskip{%
1990             \noexpand\ifvmode
1991               \noexpand\nobreak
1992               \vskip\the\skip@
```

```

1993         \vskip\the\lastskip\relax
1994         \noexpand\fi
1995     }%
1996 }%
1997 \x
1998 \fi
1999 \else
2000 \ifhmode
2001     \ifdim\lastskip=\z@
2002         \let\Hy@RestoreLastskip\nobreak
2003     \else
2004         \begingroup
2005         \skip@=-\lastskip
2006         \edef\x{%
2007             \endgroup
2008             \def\noexpand\Hy@RestoreLastskip{%
2009                 \noexpand\ifhmode
2010                 \noexpand\nobreak
2011                 \hskip\the\skip@
2012                 \hskip\the\lastskip\relax
2013             \noexpand\fi
2014         }%
2015     }%
2016 \x
2017 \fi
2018 \fi
2019 \fi
2020 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

2021 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2022 \def\Hy@@boolkey[#1]#2#3{%
2023     \edef\Hy@tempa{#3}%
2024     \lowercase\expandafter{%
2025         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2026     }%
2027     \ifx\Hy@tempa\@empty
2028         \let\Hy@tempa\Hy@true
2029     \fi
2030     \ifx\Hy@tempa\Hy@true
2031     \else
2032         \ifx\Hy@tempa\Hy@false
2033         \else
2034             \let\Hy@tempa\relax
2035         \fi
2036     \fi
2037     \ifx\Hy@tempa\relax
2038         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2039     \else
2040         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2041         \csname Hy@#2\Hy@tempa\endcsname
2042     \fi

```

2043 }

\Hy@WarnOptionValue

```
2044 \def\Hy@WarnOptionValue#1#2#3{%
2045   \Hy@Warning{%
2046     Unexpected value '#1'\MessageBreak
2047     of option '#2' instead of\MessageBreak
2048     #3%
2049   }%
2050 }
```

\Hy@DisableOption

```
2051 \def\Hy@DisableOption#1{%
2052   \@ifundefined{KV@Hyp@#1@default}{%
2053     \define@key{Hyp}{#1}%
2054   }{%
2055     \define@key{Hyp}{#1}[]%
2056   }%
2057   {\Hy@WarnOptionDisabled{#1}}%
2058 }
```

\Hy@WarnOptionDisabled

```
2059 \def\Hy@WarnOptionDisabled#1{%
2060   \Hy@Warning{%
2061     Option '#1' has already been used,\MessageBreak
2062     setting the option has no effect%
2063   }%
2064 }
```

\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.

```
2065 \def\Hy@CheckOptionValue#1#2#3{%
2066   \begingroup
2067   \edef\x{#1}%
2068   \@onelevel@sanitize\x
2069   \let\y=y%
2070   \def\do##1##2{%
2071     \def\z{##1}%
2072     \@onelevel@sanitize\z
2073     \ifx\x\z
2074       \let\y=n%
2075       \let\do\@gobbletwo
2076     \fi
2077   }%
2078   #3%
2079   \ifx\y y%
2080     \def\do##1##2{%
2081       * '##1'%
2082       \ifx\##2\\\else\space(##2)\fi
2083     \MessageBreak
2084   }%
2085   \Hy@Warning{%
2086     Values of option '#2':\MessageBreak
2087     #3%
2088     * An empty value disables the option.\MessageBreak
2089     Unknown value '\x'%
2090   }%
```

```

2091 \fi
2092 \endgroup
2093 }

```

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

```

2094 \def\Hy@DefNameKey#1{%
2095 \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2096 }

```

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

```

2097 \def\Hy@@@DefNameKey#1#2#3{%
2098 \define@key{Hyp}{#2}{%
2099 \edef#1{##1}%
2100 \ifx#1\@empty
2101 \else
2102 \Hy@CheckOptionValue{##1}{#2}{#3}%
2103 \fi
2104 }%
2105 \let#1\@empty
2106 }

```

`\Hy@UseNameKey`

```

2107 \def\Hy@UseNameKey#1#2{%
2108 \ifx#2\@empty
2109 \else
2110 /#1/#2%
2111 \fi
2112 }

```

9.2 Defining the options

```

2113 \define@key{Hyp}{implicit}[true]{%
2114 \Hy@boolkey{implicit}{#1}%
2115 }
2116 \define@key{Hyp}{draft}[true]{%
2117 \Hy@boolkey{draft}{#1}%
2118 }
2119 \define@key{Hyp}{final}[true]{%
2120 \Hy@boolkey{final}{#1}%
2121 }
2122 \let\KV@Hyp@nolinks\KV@Hyp@draft
2123 \def\Hy@ObsoletePaperOption#1{%
2124 \Hy@WarningNoLine{%
2125 Option ‘#1’ is no longer used%
2126 }%
2127 \define@key{Hyp}{#1}[true]{}%
2128 }
2129 \def\Hy@temp#1{%
2130 \define@key{Hyp}{#1}[true]{%
2131 \Hy@ObsoletePaperOption{#1}%
2132 }%
2133 }

```

```

2134 \Hy@temp{a4paper}
2135 \Hy@temp{a5paper}
2136 \Hy@temp{b5paper}
2137 \Hy@temp{letterpaper}
2138 \Hy@temp{legalpaper}
2139 \Hy@temp{executivepaper}

2140 \define@key{Hyp}{setpagesize}[true]{%
2141   \Hy@boolkey{setpagesize}{#1}%
2142 }
2143 \define@key{Hyp}{debug}[true]{%
2144   \Hy@boolkey{debug}{verbose}{#1}%
2145 }
2146 \define@key{Hyp}{linktocpage}[true]{%
2147   \Hy@boolkey{linktocpage}{#1}%
2148   \ifHy@linktocpage
2149     \let\Hy@linktoc\Hy@linktoc@page
2150   \else
2151     \let\Hy@linktoc\Hy@linktoc@section
2152   \fi
2153 }
2154 \chardef\Hy@linktoc@none=0 %
2155 \chardef\Hy@linktoc@section=1 %
2156 \chardef\Hy@linktoc@page=2 %
2157 \chardef\Hy@linktoc@all=3 %
2158 \ifHy@linktocpage
2159   \let\Hy@linktoc\Hy@linktoc@page
2160 \else
2161   \let\Hy@linktoc\Hy@linktoc@section
2162 \fi
2163 \define@key{Hyp}{linktoc}{%
2164   \@ifundefined{Hy@linktoc@#1}{%
2165     \Hy@Warning{%
2166       Unexpected value '#1' of\MessageBreak
2167       option 'linktoc' instead of 'none',\MessageBreak
2168       'section', 'page' or 'all'%
2169     }%
2170   }{%
2171     \expandafter\let\expandafter\Hy@linktoc
2172     \csname Hy@linktoc@#1\endcsname
2173   }%
2174 }
2175 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2176 \let\XR@ext\relax
2177 \define@key{Hyp}{verbose}[true]{%
2178   \Hy@boolkey{verbose}{#1}%
2179 }
2180 \define@key{Hyp}{typexml}[true]{%
2181   \Hy@boolkey{typexml}{#1}%
2182 }

```

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.

```

2183 \define@key{Hyp}{raiselinks}[true]{%
2184   \Hy@boolkey{raiselinks}{#1}%
2185 }

```

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

```
2186 \def\Hy@setbreaklinks#1{%
2187   \csname breaklinks#1\endcsname
2188 }

2189 \def\Hy@breaklinks@unsupported{%
2190   \ifx\Hy@setbreaklinks\@gobble
2191     \ifHy@breaklinks
2192       \Hy@WarningNoLine{%
2193         You have enabled option 'breaklinks'.\MessageBreak
2194         But driver '\Hy@driver.def' does not support this.\MessageBreak
2195         Expect trouble with the link areas of broken links%
2196       }%
2197     \fi
2198   \fi
2199 }

2200 \define@key{Hyp}{breaklinks}[true]{%
2201   \Hy@boolkey{breaklinks}{#1}%
2202   \let\Hy@setbreaklinks\@gobble
2203 }
```

Determines whether an automatic anchor is put on each page

```
2204 \define@key{Hyp}{pageanchor}[true]{%
2205   \Hy@boolkey{pageanchor}{#1}%
2206 }
```

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.

```
2207 \define@key{Hyp}{plainpages}[true]{%
2208   \Hy@boolkey{plainpages}{#1}%
2209 }
```

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

```
2210 \define@key{Hyp}{naturalnames}[true]{%
2211   \Hy@boolkey{naturalnames}{#1}%
2212 }
```

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

```
2213 \define@key{Hyp}{hypertexnames}[true]{%
2214   \Hy@boolkey{hypertexnames}{#1}%
2215 }
```

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

```
2216 \define@key{Hyp}{nesting}[true]{%
2217   \Hy@boolkey{nesting}{#1}%
2218 }

2219 \define@key{Hyp}{unicode}[true]{%
2220   \Hy@boolkey{unicode}{#1}%
2221   \ifHy@unicode
2222     \def\HyPsd@pdfencoding{unicode}%
2223   \else
2224     \def\HyPsd@pdfencoding{pdfdoc}%
2225   \fi
2226   \HyPsd@LoadUnicode
2227 }

2228 \def\HyPsd@LoadUnicode{%
2229   \@ifundefined{T@PU}{%
2230     \input{puenc.def}%
2231   }
```



```

2231 \HyLinguex@Restore
2232 }{}%
2233 \DeclareFontFamily{PU}{pdf}{}%
2234 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2235 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2236 \global\let\HyPsd@LoadUnicode\relax
2237 }
2238 \AtBeginDocument{%
2239 \ifx\HyPsd@LoadUnicode\relax
2240 \else
2241 \def\HyPsd@LoadUnicode{%
2242 \PackageError{hyperref}{}%
2243 Unicode support for bookmarks is not available.\MessageBreak
2244 Activate unicode support by using one of the options\MessageBreak
2245 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2246 in the preamble%
2247 }\@ehc
2248 \global\let\HyPsd@LoadUnicode\relax
2249 \global\Hy@unicodedefalse
2250 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2251 }%
2252 \fi
2253 }

2254 \define@key{Hyp}{pdfencoding}{%
2255 \edef\HyPsd@temp{#1}%
2256 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2257 \let\HyPsd@pdfencoding\HyPsd@temp
2258 \Hy@unicodedefalse
2259 \else
2260 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2261 \z@
2262 \else
2263 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2264 \z@
2265 \else
2266 \@ne
2267 \fi
2268 \fi
2269 \let\HyPsd@pdfencoding\HyPsd@temp
2270 \hypersetup{unicode}%
2271 \ifHy@unicode
2272 \def\HyPsd@pdfencoding{#1}%
2273 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2274 \HyPsd@LoadStringEncoding
2275 \fi
2276 \else
2277 \Hy@Warning{Cannot switch to unicode bookmarks}%
2278 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2279 \fi
2280 \else
2281 \@onelevel@sanitize\HyPsd@temp
2282 \Hy@Warning{%
2283 Values of option 'pdfencoding':\MessageBreak
2284 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2285 Ignoring unknown value '\HyPsd@temp'%
2286 }%
2287 \fi

```

```

2288 \fi
2289 }
2290 \def\HyPsd@pdfencoding@auto{auto}
2291 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2292 \def\HyPsd@pdfencoding@unicode{unicode}
2293 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2294 \def\HyPsd@LoadStringEnc{%
2295   \RequirePackage{stringenc}[2009/12/15]%
2296   \let\HyPsd@LoadStringEnc\relax
2297 }
2298 \AtBeginDocument{%
2299   \ifpackageloaded{stringenc}{%
2300     \let\HyPsd@LoadStringEnc\relax
2301   }{%
2302     \def\HyPsd@LoadStringEnc{%
2303       \Hy@WarningNoLine{%
2304         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2305         in the preamble or load the package there%
2306       }%
2307     }%
2308   }%
2309 }
2310 \newif\ifHy@setpdfversion
2311 \define@key{Hyp}{pdfversion}{%
2312   \ifundefined{Hy@pdfversion@#1}{%
2313     \PackageWarning{hyperref}{%
2314       Unsupported PDF version ‘#1’\MessageBreak
2315       Valid values: 1.2 until 1.9%
2316     }%
2317   }{%
2318     \Hy@setpdfversiontrue
2319     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2320   }%
2321 }
2322 \@namedef{Hy@pdfversion@1.2}{2}%
2323 \@namedef{Hy@pdfversion@1.3}{3}%
2324 \@namedef{Hy@pdfversion@1.4}{4}%
2325 \@namedef{Hy@pdfversion@1.5}{5}%
2326 \@namedef{Hy@pdfversion@1.6}{6}%
2327 \@namedef{Hy@pdfversion@1.7}{7}%
2328 \@namedef{Hy@pdfversion@1.8}{8}%
2329 \@namedef{Hy@pdfversion@1.9}{9}%
2330 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2331 \define@key{Hyp}{hyperref}[true]{}
2332 \define@key{Hyp}{tex4ht}[true]{%
2333   \Hy@texhttrue
2334   \setkeys{Hyp}{colorlinks=true}%
2335   \def\BeforeTeXIVht{\usepackage{color}}}%
2336 \def\Hy@driver{htex4ht}%
2337 \def\MaybeStopEarly{%
2338   \typeout{Hyperref stopped early}%
2339   \AfterBeginDocument{%
2340     \PDF@FinishDoc
2341     \gdef\PDF@FinishDoc{}%

```

```

2342 }%
2343 \endinput
2344 }%
2345 }
2346 \define@key{Hyp}{pdftex}[true]{%
2347 \def\Hy@driver{hpdftex}%
2348 }
2349 \define@key{Hyp}{nativepdf}[true]{%
2350 \def\Hy@driver{hdvips}%
2351 }
2352 \define@key{Hyp}{dvipdfm}[true]{%
2353 \def\Hy@driver{hdvipdfm}%
2354 }
2355 \define@key{Hyp}{dvipdfmx}[true]{%
2356 \def\Hy@driver{hdvipdfm}%
2357 }
2358 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2359 \expandafter\ifx\csname if#1\expandafter\endcsname
2360 \csname iftrue\endcsname
2361 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2362 \else
2363 \chardef\SpecialDvipdfmxOutlineOpen\z@
2364 \fi
2365 }
2366 \define@key{Hyp}{xetex}[true]{%
2367 \def\Hy@driver{hxetex}%
2368 }
2369 \define@key{Hyp}{pdfmark}[true]{%
2370 \def\Hy@driver{hdvips}%
2371 }
2372 \define@key{Hyp}{dvips}[true]{%
2373 \def\Hy@driver{hdvips}%
2374 }
2375 \define@key{Hyp}{hypertex}[true]{%
2376 \def\Hy@driver{hypertex}%
2377 }
2378 \let\Hy@MaybeStopNow\relax
2379 \define@key{Hyp}{vtex}[true]{%
2380 \begingroup\expandafter\expandafter\expandafter\endgroup
2381 \expandafter\ifx\csname OpMode\endcsname\relax
2382 \@latex@error{Non-VTeX processor}{}%
2383 \global\let\Hy@MaybeStopNow\endinput
2384 \endinput
2385 \else
2386 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2387 \def\Hy@driver{hvtex}%
2388 \else
2389 \ifnum\OpMode=10\relax
2390 \def\Hy@driver{hvtexhtm}%
2391 \def\MaybeStopEarly{%
2392 \typeout{Hyperref stopped early}%
2393 \AfterBeginDocument{%
2394 \PDF@FinishDoc
2395 \gdef\PDF@FinishDoc{}}%
2396 }%
2397 \endinput
2398 }%

```

```

2399 \else
2400 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2401 \global\let\Hy@MaybeStopNow\endinput
2402 \endinput
2403 \fi
2404 \fi
2405 \fi
2406 }
2407 \define@key{Hyp}{vtexpdfmark}[true]{%
2408 \begingroup\expandafter\expandafter\expandafter\endgroup
2409 \expandafter\ifx\csname OpMode\endcsname\relax
2410 \latex@error{Non-VTeX processor}{}%
2411 \let\Hy@MaybeStopNow\endinput
2412 \endinput
2413 \else
2414 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2415 \def\Hy@driver{hvtexmrk}%
2416 \else
2417 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2418 \let\Hy@MaybeStopNow\endinput
2419 \endinput
2420 \fi
2421 \fi
2422 }
2423 \define@key{Hyp}{dviwindo}[true]{%
2424 \def\Hy@driver{hdviwind}%
2425 \setkeys{Hyp}{colorlinks}%
2426 \PassOptionsToPackage{dviwindo}{color}%
2427 }
2428 \define@key{Hyp}{dvipsone}[true]{%
2429 \def\Hy@driver{hdvipson}%
2430 }
2431 \define@key{Hyp}{textures}[true]{%
2432 \def\Hy@driver{htexture}%
2433 }
2434 \define@key{Hyp}{latex2html}[true]{%
2435 \AtBeginDocument{\@@latextohtmlX}%
2436 }

```

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

```

2437 \define@key{Hyp}{ps2pdf}[true]{%
2438 \def\Hy@driver{hdvips}%
2439 \providecommand*\pdfborder{0 0 1}%
2440 }

```

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.

```

2441 \define@key{Hyp}{hyperfigures}[true]{%
2442 \Hy@boolkey[hyperfigures]{figures}{#1}%
2443 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2444 \define@key{Hyp}{hyperfootnotes}[true]{%
2445 \Hy@boolkey[hyperfootnotes]{#1}%
2446 }

```

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

```

2447 \def\back@none{none}
2448 \def\back@section{section}
2449 \def\back@page{page}
2450 \def\back@slide{slide}
2451 \define@key{Hyp}{backref}[section]{%
2452   \lowercase{\def\Hy@tempa{#1}}}%
2453   \ifx\Hy@tempa\@empty
2454     \let\Hy@tempa\back@section
2455   \fi
2456   \ifx\Hy@tempa\Hy@false
2457     \let\Hy@tempa\back@none
2458   \fi
2459   \ifx\Hy@tempa\back@slide
2460     \let\Hy@tempa\back@section
2461   \fi
2462   \ifx\Hy@tempa\back@page
2463     \PassOptionsToPackage{hyperpageref}{backref}%
2464     \Hy@backreftrue
2465   \else
2466     \ifx\Hy@tempa\back@section
2467       \PassOptionsToPackage{hyperref}{backref}%
2468       \Hy@backreftrue
2469     \else
2470       \ifx\Hy@tempa\back@none
2471         \Hy@backreffalse
2472       \else
2473         \Hy@WarnOptionValue{#1}{backref}{%
2474           'section', 'slide', 'page', 'none',\MessageBreak
2475           or 'false'}%
2476       \fi
2477     \fi
2478   \fi
2479 }
2480 \define@key{Hyp}{pagebackref}[true]{%
2481   \edef\Hy@tempa{#1}}%
2482   \lowercase\expandafter{%
2483     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2484   }%
2485   \ifx\Hy@tempa\@empty
2486     \let\Hy@tempa\Hy@true
2487   \fi
2488   \ifx\Hy@tempa\Hy@true
2489     \PassOptionsToPackage{hyperpageref}{backref}%
2490     \Hy@backreftrue
2491   \else
2492     \ifx\Hy@tempa\Hy@false
2493       \Hy@backreffalse
2494     \else
2495       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2496     \fi
2497   \fi
2498 }

```

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

```

2499 \define@key{Hyp}{hyperindex}[true]{%
2500   \Hy@boolkey{hyperindex}{#1}%
2501 }

```

Configuration of encap char.

```
2502 \define@key{Hyp}{encap}{\|}{%  
2503 \def\HyInd@EncapChar{#1}%  
2504 }
```

12 Language options

The \autoref feature depends on the language.

```
2505 \def\HyLang@afrikaans{%  
2506 \def\equationautorefname{Vergelyking}%  
2507 \def\footnoteautorefname{Voetnota}%  
2508 \def\itemautorefname{Item}%  
2509 \def\figureautorefname{Figuur}%  
2510 \def\tableautorefname{Tabel}%  
2511 \def\partautorefname{Deel}%  
2512 \def\appendixautorefname{Bylae}%  
2513 \def\chapterautorefname{Hoofstuk}%  
2514 \def\sectionautorefname{Afdeling}%  
2515 \def\subsectionautorefname{Subafdeling}%  
2516 \def\subsubsectionautorefname{Subsubafdeling}%  
2517 \def\paragraphautorefname{Paragraaf}%  
2518 \def\subparagraphautorefname{Subparagraaf}%  
2519 \def\FancyVerbLineautorefname{Lyn}%  
2520 \def\theoremautorefname{Teorema}%  
2521 \def\pageautorefname{Bladsy}%  
2522 }  
2523 \def\HyLang@english{%  
2524 \def\equationautorefname{Equation}%  
2525 \def\footnoteautorefname{footnote}%  
2526 \def\itemautorefname{item}%  
2527 \def\figureautorefname{Figure}%  
2528 \def\tableautorefname{Table}%  
2529 \def\partautorefname{Part}%  
2530 \def\appendixautorefname{Appendix}%  
2531 \def\chapterautorefname{chapter}%  
2532 \def\sectionautorefname{section}%  
2533 \def\subsectionautorefname{subsection}%  
2534 \def\subsubsectionautorefname{subsubsection}%  
2535 \def\paragraphautorefname{paragraph}%  
2536 \def\subparagraphautorefname{subparagraph}%  
2537 \def\FancyVerbLineautorefname{line}%  
2538 \def\theoremautorefname{Theorem}%  
2539 \def\pageautorefname{page}%  
2540 }  
2541 \def\HyLang@french{%  
2542 \def\equationautorefname{'Equation}%  
2543 \def\footnoteautorefname{note}%  
2544 \def\itemautorefname{item}%  
2545 \def\figureautorefname{Figure}%  
2546 \def\tableautorefname{Tableau}%  
2547 \def\partautorefname{Partie}%  
2548 \def\appendixautorefname{Appendice}%  
2549 \def\chapterautorefname{chapitre}%  
2550 \def\sectionautorefname{section}%  
2551 \def\subsectionautorefname{sous-section}%  
2552 \def\subsubsectionautorefname{sous-sous-section}%
```

```

2553 \def\paragraphautorefname{paragraphe}%
2554 \def\subparagraphautorefname{sous-paragraphe}%
2555 \def\FancyVerbLineautorefname{ligne}%
2556 \def\theoremautorefname{Th\'eor\`eme}%
2557 \def\pageautorefname{page}%
2558 }
2559 \def\HyLang@german{%
2560 \def\equationautorefname{Gleichung}%
2561 \def\footnoteautorefname{Fu\ss note}%
2562 \def\itemautorefname{Punkt}%
2563 \def\figureautorefname{Abbildung}%
2564 \def\tableautorefname{Tabelle}%
2565 \def\partautorefname{Teil}%
2566 \def\appendixautorefname{Anhang}%
2567 \def\chapterautorefname{Kapitel}%
2568 \def\sectionautorefname{Abschnitt}%
2569 \def\subsectionautorefname{Unterabschnitt}%
2570 \def\subsubsectionautorefname{Unterunterabschnitt}%
2571 \def\paragraphautorefname{Absatz}%
2572 \def\subparagraphautorefname{Unterabsatz}%
2573 \def\FancyVerbLineautorefname{Zeile}%
2574 \def\theoremautorefname{Theorem}%
2575 \def\pageautorefname{Seite}%
2576 }
2577 \def\HyLang@italian{%
2578 \def\equationautorefname{Equazione}%
2579 \def\footnoteautorefname{nota}%
2580 \def\itemautorefname{punto}%
2581 \def\figureautorefname{Figura}%
2582 \def\tableautorefname{Tabella}%
2583 \def\partautorefname{Parte}%
2584 \def\appendixautorefname{Appendice}%
2585 \def\chapterautorefname{Capitolo}%
2586 \def\sectionautorefname{sezione}%
2587 \def\subsectionautorefname{sottosezione}%
2588 \def\subsubsectionautorefname{sottosottosezione}%
2589 \def\paragraphautorefname{paragrafo}%
2590 \def\subparagraphautorefname{sottoparagrafo}%
2591 \def\FancyVerbLineautorefname{linea}%
2592 \def\theoremautorefname{Teorema}%
2593 \def\pageautorefname{Pag.\@}%
2594 }
2595 \def\HyLang@magyar{%
2596 \def\equationautorefname{Egyenlet}%
2597 \def\footnoteautorefname{l\'abjegyzet}%
2598 \def\itemautorefname{Elem}%
2599 \def\figureautorefname{'\`A bra}%
2600 \def\tableautorefname{T\'abl\'azat}%
2601 \def\partautorefname{R\'esz}%
2602 \def\appendixautorefname{F\'uggel\'ek}%
2603 \def\chapterautorefname{fejezet}%
2604 \def\sectionautorefname{szakasz}%
2605 \def\subsectionautorefname{alszakasz}%
2606 \def\subsubsectionautorefname{alalszakasz}%
2607 \def\paragraphautorefname{bekezd\'es}%
2608 \def\subparagraphautorefname{albekezd\'es}%
2609 \def\FancyVerbLineautorefname{sor}%

```

```

2610 \def\theoremautorefname{T\`etel}%
2611 \def\pageautorefname{oldal}%
2612 }
2613 \def\HyLang@portuges{%
2614 \def\equationautorefname{Equa\c c\~ao}%
2615 \def\footnoteautorefname{Nota de rodap\`e}%
2616 \def\itemautorefname{Item}%
2617 \def\figureautorefname{Figura}%
2618 \def\tableautorefname{Tabela}%
2619 \def\partautorefname{Parte}%
2620 \def\appendixautorefname{Ap\`endice}%
2621 \def\chapterautorefname{Cap\`itulo}%
2622 \def\sectionautorefname{Se\c c\~ao}%
2623 \def\subsectionautorefname{Subse\c c\~ao}%
2624 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2625 \def\paragraphautorefname{par\`agrafo}%
2626 \def\subparagraphautorefname{subpar\`agrafo}%
2627 \def\FancyVerbLineautorefname{linha}%
2628 \def\theoremautorefname{Teorema}%
2629 \def\pageautorefname{P\`agina}%
2630 }

```

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the `\equationautorefname`, `\theoremautorefname` and the `\FancyVerbLineautorefname`. But those three, and also the `\footnoteautorefname` are not *too* often referenced. Another rather weak point is the `\appendixautorefname`.

```

2631 \def\HyLang@russian{%

```

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the `\theoremautorefname`?

```

2632 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2633 % \def\equationautorefname{%
2634 % \cyr\cyrv\cyrery\cyr\cyrz\cyre\cyrn\cyr\cyre
2635 % }%

```

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

```

2636 \def\footnoteautorefname{%
2637 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr.\ \cyrp\cyr\cyr\cyr.%
2638 }%

```

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`”

```

2639 % \def\footnoteautorefname{%
2640 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr\cyr\cyrch\cyrn\cyro\cyre\ %
2641 % \cyrp\cyr\cyr\cyr\cyr\cyrch\cyra\cyrn\cyr\cyre
2642 % }%

```

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

```

2643 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%

```


2644 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autorefname{auto}” etc.

2645 \def\itemautorefname{\cyr\cyrp.}%

2646 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

2647 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%

2648 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

2649 \def\partautorefname{\cyr\cyrch.}%

2650 \def\chapterautorefname{\cyr\cyrg\cyrl.}%

2651 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

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

2652 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%

2653 % \def\appendixautorefname{%

2654 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre

2655 % }%

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

2656 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

2657 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

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

2658 \def\paragraphautorefname{\cyr\cyrp.}%

2659 \def\subparagraphautorefname{\cyr\cyrp.}%

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autorefname{auto}” etc.

2660 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

2661 % \def\subparagraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

2662 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

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

2663 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%

2664 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

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

2665 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

```
2666 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2667 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cym\cyr.}%
```

```
2668 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cym\cyr.}%
```

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

```
2669 \def\pageautorefname{\cyr\cyr.}%
```

```
2670 }
```

```
2671 \def\HyLang@spanish{%
```

```
2672 \def\equationautorefname{Ecuaci'on}%
```

```
2673 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
2674 \def\itemautorefname{Elemento}%
```

```
2675 \def\figureautorefname{Figura}%
```

```
2676 \def\tableautorefname{Tabla}%
```

```
2677 \def\partautorefname{Parte}%
```

```
2678 \def\appendixautorefname{Ap'endice}%
```

```
2679 \def\chapterautorefname{Cap'itulo}%
```

```
2680 \def\sectionautorefname{Secci'on}%
```

```
2681 \def\subsectionautorefname{Subsecci'on}%
```

```
2682 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
2683 \def\paragraphautorefname{P'arrafo}%
```

```
2684 \def\subparagraphautorefname{Subp'arrafo}%
```

```
2685 \def\FancyVerbLineautorefname{L'inea}%
```

```
2686 \def\theoremautorefname{Teorema}%
```

```
2687 \def\pageautorefname{P'agina}%
```

```
2688 }
```

```
2689 \def\HyLang@vietnamese{%
```

```
2690 \def\equationautorefname{Ph\uhorn{ }ohorn{ }ng tr'inh}%
```

```
2691 \def\footnoteautorefname{Ch'u th'ich}%
```

```
2692 \def\itemautorefname{m\du{c}%
```

```
2693 \def\figureautorefname{H'inh}%
```

```
2694 \def\tableautorefname{B'h{a}ng}%
```

```
2695 \def\partautorefname{Ph'\acircumflex{n}%
```

```
2696 \def\appendixautorefname{Ph\du{ }l\du{c}%
```

```
2697 \def\chapterautorefname{ch\uhorn{ }ohorn{ }ng}%
```

```
2698 \def\sectionautorefname{m\du{c}%
```

```
2699 \def\subsectionautorefname{m\du{c}%
```

```
2700 \def\subsubsectionautorefname{m\du{c}%
```

```
2701 \def\paragraphautorefname{\dj{ }o\da{n}%
```

```
2702 \def\subparagraphautorefname{\dj{ }o\da{n}%
```

```
2703 \def\FancyVerbLineautorefname{d'ong}%
```

```
2704 \def\theoremautorefname{DJ\di{ }nh l'y}%
```

```
2705 \def\pageautorefname{Trang}%
```

```
2706 }
```

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

```
2707 \def\HyLang@addto#1#2{%
```

```
2708 #2%
```

```
2709 \@temptokena{#2}%
```

```
2710 \ifx#1\relax
```

```
2711 \let#1\@empty
```

```
2712 \fi
```

```
2713 \ifx#1\undefined
```

```

2714 \edef#1{\the\@temptokena}%
2715 \else
2716 \toks@\expandafter{#1}%
2717 \edef#1{\the\toks@\the\@temptokena}%
2718 \fi
2719 \@temptokena{}\toks@\@temptokena
2720 }

2721 \def\HyLang@DeclareLang#1#2#3{%
2722 \begingroup
2723 \edef\x##1##2{%
2724 \noexpand\ifx##2\relax
2725 \errmessage{No definitions for language #2' found!}%
2726 \noexpand\fi
2727 \endgroup
2728 \noexpand\define@key{Hyp}{#1}[]{%
2729 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2730 ##3%
2731 }%
2732 }%
2733 \expandafter\x\csname extras#1\expandafter\endcsname
2734 \csname HyLang@#2\endcsname
2735 }

2736 \HyLang@DeclareLang{english}{english}{}
2737 \HyLang@DeclareLang{UKenglish}{english}{}
2738 \HyLang@DeclareLang{british}{english}{}
2739 \HyLang@DeclareLang{USenglish}{english}{}
2740 \HyLang@DeclareLang{american}{english}{}
2741 \HyLang@DeclareLang{german}{german}{}
2742 \HyLang@DeclareLang{austrian}{german}{}
2743 \HyLang@DeclareLang{ngerman}{german}{}
2744 \HyLang@DeclareLang{naustrian}{german}{}
2745 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2746 \HyLang@DeclareLang{brazil}{portuges}{}
2747 \HyLang@DeclareLang{brazilian}{portuges}{}
2748 \HyLang@DeclareLang{portuguese}{portuges}{}
2749 \HyLang@DeclareLang{spanish}{spanish}{}
2750 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2751 \HyLang@DeclareLang{french}{french}{}
2752 \HyLang@DeclareLang{frenchb}{french}{}
2753 \HyLang@DeclareLang{francais}{french}{}
2754 \HyLang@DeclareLang{acadian}{french}{}
2755 \HyLang@DeclareLang{canadien}{french}{}
2756 \HyLang@DeclareLang{italian}{italian}{}
2757 \HyLang@DeclareLang{magyar}{magyar}{}
2758 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2759 \define@key{Hyp}{vietnamese}[]{}%
2760 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2761 \AtEndOfPackage{%
2762 \@ifundefined{T@PU}{}{}%
2763 \input{pvnenc.def}%
2764 }%
2765 }%
2766 }

2767 \define@key{Hyp}{vietnam}[]{}%
2768 \HyLang@addto\extravietnam\HyLang@vietnamese

```

```

2769 \AtEndOfPackage{%
2770   \@ifundefined{T@PU}{-}{%
2771     \input{puvnenc.def}%
2772   }%
2773 }%
2774 }

```

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

```

2775 \define@key{Hyp}{arabic}[]{%
2776   \AtEndOfPackage{%
2777     \@ifundefined{T@PU}{-}{%
2778       \input{puarenc.def}%
2779     }%
2780   }%
2781 }

```

13 Options to change appearance of links

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

```

2782 \define@key{Hyp}{colorlinks}[true]{%
2783   \Hy@boolkey{colorlinks}{#1}%
2784 }
2785 \define@key{Hyp}{ocgcolorlinks}[true]{%
2786   \Hy@boolkey{ocgcolorlinks}{#1}%
2787 }
2788 \AtBeginDocument{%
2789   \begingroup
2790   \@ifundefined{OBJ@OCG@view}{%
2791     \ifHy@ocgcolorlinks
2792       \Hy@Warning{%
2793         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2794         using ‘colorlinks’ instead%
2795       }%
2796     \fi
2797   }{}%
2798   \endgroup
2799 }
2800 \define@key{Hyp}{frenchlinks}[true]{%
2801   \Hy@boolkey{frenchlinks}{#1}%
2802 }

```

14 Bookmarking

```

2803 \begingroup\expandafter\expandafter\expandafter\endgroup
2804 \expandafter\ifx\csname chapter\endcsname\relax
2805   \def\toclevel@part{0}%
2806 \else
2807   \def\toclevel@part{-1}%
2808 \fi
2809 \def\toclevel@chapter{0}
2810 \def\toclevel@section{1}
2811 \def\toclevel@subsection{2}
2812 \def\toclevel@subsubsection{3}
2813 \def\toclevel@paragraph{4}
2814 \def\toclevel@subparagraph{5}

```

```

2815 \def\toclevel@figure{0}
2816 \def\toclevel@table{0}
2817 \@ifpackageloaded{listings}{%
2818   \providecommand*\theHlstlisting{\thelstlisting}%
2819   \providecommand*\toclevel@lstlisting{0}%
2820 }{}
2821 \@ifpackageloaded{listing}{%
2822   \providecommand*\theHlisting{\thelisting}%
2823   \providecommand*\toclevel@listing{0}%
2824 }{}

2825 \define@key{Hyp}{bookmarks}[true]{%
2826   \Hy@boolkey{bookmarks}{#1}%
2827 }

2828 \define@key{Hyp}{bookmarksopen}[true]{%
2829   \Hy@boolkey{bookmarksopen}{#1}%
2830 }

```

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.

```

2831 \let\Hy@bookmarksdepth\c@tocdepth
2832 \define@key{Hyp}{bookmarksdepth}[]{%
2833   \begingroup
2834     \edef\x{#1}%
2835     \ifx\x\empty
2836       \global\let\Hy@bookmarksdepth\c@tocdepth
2837     \else
2838       \@ifundefined{toclevel@\x}{%
2839         \@onelevel@sanitize\x
2840         \edef\y{\expandafter\@car\x\@nil}%
2841         \ifcase 0\expandafter\ifx\y-1\fi
2842           \expandafter\ifnum\expandafter'\y>47 %
2843             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2844           \Hy@Warning{Unknown document division name (\x)}%
2845         \else
2846           \setbox\z@=\hbox{%
2847             \count@=\x
2848             \xdef\Hy@bookmarksdepth{\the\count@}%
2849           }%
2850         \fi
2851       }{%
2852         \setbox\z@=\hbox{%
2853           \count@=\csname toclevel@\x\endcsname
2854           \xdef\Hy@bookmarksdepth{\the\count@}%
2855         }%
2856       }%
2857     \fi
2858   \endgroup
2859 }

```

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

```
2860 \define@key{Hyp}{bookmarksopenlevel}{%
2861   \def\@bookmarksopenlevel{#1}%
2862 }
2863 \def\@bookmarksopenlevel{\maxdimen}
2864 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2865 \define@key{Hyp}{bookmarkstype}{%
2866   \def\Hy@bookmarkstype{#1}%
2867 }
2868 \def\Hy@bookmarkstype{toc}
```

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

```
2869 \define@key{Hyp}{bookmarksnumbered}[true]{%
2870   \Hy@boolkey{bookmarksnumbered}{#1}%
2871 }
```

Option CJKbookmarks enables the patch for CJK bookmarks.

```
2872 \define@key{Hyp}{CJKbookmarks}[true]{%
2873   \Hy@boolkey{CJKbookmarks}{#1}%
2874 }
2875 \def\Hy@temp#1{%
2876   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2877 }
2878 \def\Hy@@temp#1#2#3{%
2879   \define@key{Hyp}{#2color}{%
2880     \HyColor@HyperrefColor{##1}#1%
2881   }%
2882   \def#1{#3}%
2883 }
2884 \Hy@temp{link}{red}
2885 \Hy@temp{anchor}{black}
2886 \Hy@temp{cite}{green}
2887 \Hy@temp{file}{cyan}
2888 \Hy@temp{url}{magenta}
2889 \Hy@temp{menu}{red}
2890 \Hy@temp{run}{\@filecolor}
2891 \define@key{Hyp}{pagecolor}{%
2892   \Hy@WarningPageColor
2893 }
2894 \def\Hy@WarningPageColor{%
2895   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2896   \global\let\Hy@WarningPageColor\relax
2897 }
2898 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2899 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2900 \let\@baseurl\@empty
2901 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2902 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2903 \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.

```

2904 \let\@pdfpagetransition\relax
2905 \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.

```

2906 \let\@pdfpageduration\relax
2907 \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.

```

2908 \newif\ifHy@useHidKey
2909 \Hy@useHidKeyfalse
2910 \define@key{Hyp}{pdfpagehidden}[true]{%
2911   \Hy@boolkey{pdfpagehidden}{#1}%
2912   \ifHy@pdfpagehidden
2913     \global\Hy@useHidKeytrue
2914   \fi
2915 }

```

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).

```

2916 \def\Hy@ColorList{cite,file,link,menu,run,url}
2917 \@for\Hy@temp:=\Hy@ColorList\do{%
2918   \edef\Hy@temp{%
2919     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2920       \noexpand\Hy@Color@HyperrefBorderColor
2921         {##1}%
2922       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2923       {hyperref}%
2924       {\Hy@temp bordercolor}%
2925     }%
2926   }%
2927   \Hy@temp
2928 }
2929 \define@key{Hyp}{pagebordercolor}{%
2930   \Hy@WarningPageBorderColor
2931 }
2932 \def\Hy@WarningPageBorderColor{%
2933   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2934   \global\let\Hy@WarningPageBorderColor\relax
2935 }
2936 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2937 \Hy@DefNameKey{pdfhighlight}{%
2938   \do{/I}{Invert}%
2939   \do{/N}{None}%
2940   \do{/O}{Outline}%
2941   \do{/P}{Push}%
2942 }
2943 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}

```

```

2944 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2945 \def\Hy@setpdfborder{%
2946   \ifx\@pdfborder\@empty
2947     \else
2948       /Border[\@pdfborder]%
2949     \fi
2950   \ifx\@pdfborderstyle\@empty
2951     \else
2952       /BS<<\@pdfborderstyle>>%
2953     \fi
2954 }
2955 \Hy@DefNameKey{pdfpagemode}{%
2956   \do{UseNone}{}%
2957   \do{UseOutlines}{}%
2958   \do{UseThumbs}{}%
2959   \do{FullScreen}{}%
2960   \do{UseOC}{PDF 1.5}%
2961   \do{UseAttachments}{PDF 1.6}%
2962 }
2963 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2964   \do{UseNone}{}%
2965   \do{UseOutlines}{}%
2966   \do{UseThumbs}{}%
2967   \do{FullScreen}{}%
2968   \do{UseOC}{PDF 1.5}%
2969   \do{UseAttachments}{PDF 1.6}%
2970 }
2971 \Hy@DefNameKey{pdfdirection}{%
2972   \do{L2R}{Left to right}%
2973   \do{R2L}{Right to left}%
2974 }
2975 \Hy@DefNameKey{pdfviewarea}{%
2976   \do{MediaBox}{}%
2977   \do{CropBox}{}%
2978   \do{BleedBox}{}%
2979   \do{TrimBox}{}%
2980   \do{ArtBox}{}%
2981 }
2982 \Hy@DefNameKey{pdfviewclip}{%
2983   \do{MediaBox}{}%
2984   \do{CropBox}{}%
2985   \do{BleedBox}{}%
2986   \do{TrimBox}{}%
2987   \do{ArtBox}{}%
2988 }
2989 \Hy@DefNameKey{pdfprintarea}{%
2990   \do{MediaBox}{}%
2991   \do{CropBox}{}%
2992   \do{BleedBox}{}%
2993   \do{TrimBox}{}%
2994   \do{ArtBox}{}%
2995 }
2996 \Hy@DefNameKey{pdfprintclip}{%
2997   \do{MediaBox}{}%
2998   \do{CropBox}{}%
2999   \do{BleedBox}{}%
3000   \do{TrimBox}{}%

```



```

3001 \do{ArtBox}{}%
3002 }
3003 \Hy@DefNameKey{pdfprintscaling}{%
3004 \do{AppDefault}{}%
3005 \do{None}{}%
3006 }
3007 \Hy@DefNameKey{pdfduplex}{%
3008 \do{Simplex}{}%
3009 \do{DuplexFlipShortEdge}{}%
3010 \do{DuplexFlipLongEdge}{}%
3011 }
3012 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3013 \do{true}{}%
3014 \do{false}{}%
3015 }
3016 \define@key{Hyp}{pdfprintpagerange}{%
3017 \def\@pdfprintpagerange{#1}%
3018 }
3019 \Hy@DefNameKey{pdfnumcopies}{%
3020 \do{2}{two copies}%
3021 \do{3}{three copies}%
3022 \do{4}{four copies}%
3023 \do{5}{five copies}%
3024 }
3025 \define@key{Hyp}{pdfusetitle}[true]{%
3026 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3027 }
3028 \def\HyXeTeX@CheckUnicode{%
3029 \ifxetex
3030 \ifHy@unicode
3031 \else
3032 \Hy@WarningNoLine{%
3033 XeTeX driver only supports unicode.\MessageBreak
3034 Enabling option 'unicode'%
3035 }%
3036 \setkeys{Hyp}{unicode}%
3037 \fi
3038 \else
3039 \let\HyXeTeX@CheckUnicode\relax
3040 \fi
3041 }
3042 \define@key{Hyp}{pdftitle}{%
3043 \HyXeTeX@CheckUnicode
3044 \HyPsd@XeTeXBigCharstrue
3045 \pdfstringdef\@pdftitle{#1}%
3046 }
3047 \define@key{Hyp}{pdfauthor}{%
3048 \HyXeTeX@CheckUnicode
3049 \HyPsd@XeTeXBigCharstrue
3050 \pdfstringdef\@pdfauthor{#1}%
3051 }
3052 \define@key{Hyp}{pdfproducer}{%
3053 \HyXeTeX@CheckUnicode
3054 \HyPsd@XeTeXBigCharstrue
3055 \pdfstringdef\@pdfproducer{#1}%
3056 }
3057 \define@key{Hyp}{pdfcreator}{%

```

```

3058 \HyXeTeX@CheckUnicode
3059 \HyPsd@XeTeXBigCharstrue
3060 \pdfstringdef\@pdfcreator{#1}%
3061 }
3062 \define@key{Hyp}{pdfcreationdate}{%
3063 \begingroup
3064 \Hy@unicodedefalse
3065 \pdfstringdef\@pdfcreationdate{#1}%
3066 \endgroup
3067 }
3068 \define@key{Hyp}{pdfmoddate}{%
3069 \begingroup
3070 \Hy@unicodedefalse
3071 \pdfstringdef\@pdfmoddate{#1}%
3072 \endgroup
3073 }
3074 \define@key{Hyp}{pdfsubject}{%
3075 \HyXeTeX@CheckUnicode
3076 \HyPsd@XeTeXBigCharstrue
3077 \pdfstringdef\@pdfsubject{#1}%
3078 }
3079 \define@key{Hyp}{pdfkeywords}{%
3080 \HyXeTeX@CheckUnicode
3081 \HyPsd@XeTeXBigCharstrue
3082 \pdfstringdef\@pdfkeywords{#1}%
3083 }
3084 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3085 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3086 \let\setpdfinkmargin\@gobble
3087 \def\calculate@pdfview#1 #2\{%
3088 \def\@pdfview{#1}%
3089 \ifx\#2\%
3090 \def\@pdfviewparams{-32768}%
3091 \else
3092 \def\@pdfviewparams{#2}%
3093 \fi
3094 }
3095 \begingroup\expandafter\expandafter\expandafter\endgroup
3096 \expandafter\ifx\csname numexpr\endcsname\relax
3097 \def\Hy@number#1{%
3098 \expandafter\@firstofone\expandafter{\number#1}%
3099 }%
3100 \else
3101 \def\Hy@number#1{%
3102 \the\numexpr#1\relax
3103 }%
3104 \fi
3105 \define@key{Hyp}{pdfstartpage}{%
3106 \ifx\#1\%
3107 \def\@pdfstartpage{}%
3108 \else
3109 \edef\@pdfstartpage{\Hy@number{#1}}%
3110 \fi
3111 }%
3112 \define@key{Hyp}{pdfstartview}{%
3113 \ifx\#1\%
3114 \def\@pdfstartview{}%

```

```

3115 \else
3116 \hypercalcbpdef\@pdfstartview{ /#1 }%
3117 \fi
3118 }
3119 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3120 \define@key{Hyp}{pdftoolbar}[true]{%
3121 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3122 }
3123 \define@key{Hyp}{pdfmenubar}[true]{%
3124 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3125 }
3126 \define@key{Hyp}{pdfwindowui}[true]{%
3127 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3128 }
3129 \define@key{Hyp}{pdffitwindow}[true]{%
3130 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3131 }
3132 \define@key{Hyp}{pdfcenterwindow}[true]{%
3133 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3134 }
3135 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3136 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3137 }
3138 \define@key{Hyp}{pdfa}[true]{%
3139 \Hy@boolkey[pdfa]{#1}%
3140 }
3141 \define@key{Hyp}{pdfnewwindow}[true]{%
3142 \def\Hy@temp{#1}%
3143 \ifx\Hy@temp\@empty
3144 \Hy@newwindowsetfalse
3145 \else
3146 \Hy@newwindowsettrue
3147 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3148 \fi
3149 }
3150 \def\Hy@SetNewWindow{%
3151 \ifHy@newwindowset
3152 /NewWindow %
3153 \ifHy@newwindow true\else false\fi
3154 \fi
3155 }
3156 \Hy@DefNameKey{pdfpagelayout}{%
3157 \do{SinglePage}{}%
3158 \do{OneColumn}{}%
3159 \do{TwoColumnLeft}{}%
3160 \do{TwoColumnRight}{}%
3161 \do{TwoPageLeft}{PDF 1.5}%
3162 \do{TwoPageRight}{PDF 1.5}%
3163 }
3164 \define@key{Hyp}{pdflang}{%
3165 \def\@pdflang{#1}%
3166 }
3167 \define@key{Hyp}{pdfpagelabels}[true]{%
3168 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3169 }
3170 \define@key{Hyp}{pdfescapeform}[true]{%
3171 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%

```

3172 }

Default values:

```

3173 \def\@linkbordercolor{1 0 0}
3174 \def\@urlbordercolor{0 1 1}
3175 \def\@menubordercolor{1 0 0}
3176 \def\@filebordercolor{0 .5 .5}
3177 \def\@runbordercolor{0 .7 .7}
3178 \def\@citebordercolor{0 1 0}
3179 \def\@pdfhighlight{/I}
3180 \def\@pdftitle{}
3181 \def\@pdfauthor{}
3182 \let\@pdfproducer\relax
3183 \def\@pdfcreator{LaTeX with hyperref package}
3184 \def\@pdfcreationdate{}
3185 \def\@pdfmoddate{}
3186 \def\@pdfsubject{}
3187 \def\@pdfkeywords{}
3188 \def\@pdfpagescrop{}
3189 \def\@pdfstartview{/Fit }
3190 \def\@pdfstartpage{1}
3191 \def\@pdfprintpagerange{}
3192 \def\@pdflang{}
3193 \let\PDF@SetupDoc\@empty
3194 \let\PDF@FinishDoc\@empty
3195 \let\phantomsection\@empty
3196 \let\special@paper\@empty
3197 \def\HyperDestNameFilter#1{#1}
3198 \AtBeginDocument{%
3199   \begingroup
3200     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3201     \dimen@=\x\relax
3202     \ifdim\dimen@>\z@
3203       \else
3204         \dimen@=11in\relax
3205         \Hy@WarningNoLine{%
3206           Height of page (\expandafter\string\x) %
3207           is invalid (\the\x),\MessageBreak
3208           using 11in%
3209         }%
3210         \fi
3211         \dimen@=0.99626401\dimen@
3212         \xdef\Hy@pageheight{\strip@pt\dimen@}%
3213       \endgroup
3214   }
3215 \def\HyInd@EncapChar{\|}
3216 \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.

```

3217 \let\hyper@normalise\ExecuteOptions
3218 \let\ExecuteOptions\hypersetup
3219 \Hy@RestoreCatcodes
3220 \InputIfFileExists{hyperref.cfg}{-}{}
3221 \Hy@SetCatcodes
3222 \let\ExecuteOptions\hyper@normalise
3223 \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`.

```
3224 \RequirePackage{kvoptions}[2009/07/21]
3225 \SetupKeyvalOptions{family=Hyp}
3226 \DeclareLocalOptions{%
3227   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3228 }
```

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

```
3229 \@ifpackageloaded{tex4ht}{%
3230   \ifpackagewith{hyperref}{tex4ht}{%
3231     \PassOptionsToPackage{tex4ht}{hyperref}%
3232   }%
3233 }{}
3234 \let\ReadBookmarks\relax
3235 \ProcessKeyvalOptions{Hyp}
```

After processing options.

```
3236 \AtBeginDocument{%
3237   \ifHy@draft
3238     \let\hyper@@anchor\@gobble
3239     \gdef\hyper@link#1#2#3{#3}%
3240     \let\hyper@anchorstart\@gobble
3241     \let\hyper@anchorend\@empty
3242     \let\hyper@linkstart\@gobbletwo
3243     \let\hyper@linkend\@empty
3244     \def\hyper@linkurl#1#2{#1}%
3245     \def\hyper@linkfile#1#2#3{#1}%
3246     \def\hyper@link@{#1}#2#3{}%
3247     \def\Acrobatmenu#1#2{\leavevmode#2}%
3248     \let\PDF@SetupDoc\@empty
3249     \let\PDF@FinishDoc\@empty
3250     \let\@fifthoffive\@secondoftwo
3251     \let\@secondoffive\@secondoftwo
3252     \let\ReadBookmarks\relax
3253     \let\WriteBookmarks\relax
3254     \Hy@WarningNoLine{ draft mode on}%
3255   \fi
3256   \Hy@DisableOption{draft}%
3257   \Hy@DisableOption{nolinks}%
3258   \Hy@DisableOption{final}%
3259 }
```

15.1 PDF/A

```
3260 \Hy@DisableOption{pdfa}
3261 \ifHy@pdfa
3262   \setkeys{Hyp}{pdfversion=1.4}%
3263   \def\Hy@Acrobatmenu#1#2{%
3264     \leavevmode
3265     \begin{group}
3266       \edef\x{#1}%
3267       \@onelevel@sanitize\x
3268       \ifx\x\Hy@NextPage
```

```

3269     \let\y=Y%
3270   \else
3271     \ifx\x\Hy@PrevPage
3272       \let\y=Y%
3273   \else
3274     \ifx\x\Hy@FirstPage
3275       \let\y=Y%
3276   \else
3277     \ifx\x\Hy@LastPage
3278       \let\y=Y%
3279   \else
3280     \let\y=N%
3281   \fi
3282 \fi
3283 \fi
3284 \fi
3285 \expandafter\endgroup
3286 \ifx\y Y%
3287 \else
3288   \PackageError{hyperref}{%
3289     PDF/A: Named action '#1' is not permitted%
3290   }\@ehc
3291   {#2}%
3292   \expandafter\@gobble
3293 \fi
3294 }%
3295 \def\Hy@temp#1{%
3296   \expandafter\def\csname Hy@#1\endcsname{#1}%
3297   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3298 }%
3299 \Hy@temp{NextPage}%
3300 \Hy@temp{PrevPage}%
3301 \Hy@temp{FirstPage}%
3302 \Hy@temp{LastPage}%
3303 \else
3304   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3305 \fi

```

15.2 Patch for babel's \texttilde

Babel does not define \texttilde in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, \texttilde is defined in babel manner.

```

3306 \Hy@nextfalse
3307 \ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3308 \ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3309 \ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3310 \ifHy@next
3311   \let\texttilde\~%
3312 \fi
3313 \ifHy@figures
3314   \Hy@Info{Hyper figures ON}%
3315 \else
3316   \Hy@Info{Hyper figures OFF}%
3317 \fi
3318 \ifHy@nesting
3319   \Hy@Info{Link nesting ON}%
3320 \else

```

```

3321 \Hy@Info{Link nesting OFF}%
3322 \fi
3323 \ifHy@hyperindex
3324 \Hy@Info{Hyper index ON}%
3325 \else
3326 \Hy@Info{Hyper index OFF}%
3327 \fi
3328 \ifHy@plainpages
3329 \Hy@Info{Plain pages ON}%
3330 \else
3331 \Hy@Info{Plain pages OFF}%
3332 \fi
3333 \ifHy@backref
3334 \Hy@Info{Backreferencing ON}%
3335 \else
3336 \Hy@Info{Backreferencing OFF}%
3337 \fi
3338 \ifHy@typexml
3339 \AtEndOfPackage{%
3340 \RequirePackage{color}%
3341 \RequirePackage{nameref}%
3342 }%
3343 \fi
3344 \Hy@DisableOption{typexml}
3345 \ifHy@implicit
3346 \typeout{Implicit mode ON; LaTeX internals redefined}%
3347 \else
3348 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3349 \def\MaybeStopEarly{%
3350 \typeout{Hyperref stopped early}%
3351 \AfterBeginDocument{%
3352 \PDF@FinishDoc
3353 \gdef\PDF@FinishDoc{}%
3354 }%
3355 \endinput
3356 }%
3357 \AtBeginDocument{%
3358 \let\autoref\ref
3359 \let\autopageref\pageref
3360 \ifx\@pdfpagemode\@empty
3361 \gdef\@pdfpagemode{UseNone}%
3362 \fi
3363 \global\Hy@backreffalse
3364 }%
3365 \AtEndOfPackage{%
3366 \global\let\ReadBookmarks\relax
3367 \global\let\WriteBookmarks\relax
3368 }%
3369 \fi
3370 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

3371 \AtEndOfPackage{%
3372 \ifpackageloaded{tex4ht}{%
3373 \def\Hy@driver{htex4ht}%
3374 \Hy@texhttrue

```

3375 }{}%

Some drivers can be detected. Check for these drivers, whether the given driver option is ok. Otherwise force the right driver or use the default driver.

```
3376 \ifx\Hy@driver\@empty
3377 \else
3378 \def\Hy@temp{hpdftex}%
3379 \ifpdf
3380 \ifx\Hy@driver\Hy@temp
3381 \else
3382 \Hy@WarningNoLine{%
3383   Wrong driver '\Hy@driver.def';\MessageBreak
3384   pdfTeX is running in PDF mode.\MessageBreak
3385   Forcing driver '\Hy@temp.def'%
3386 }%
3387 \let\Hy@driver\Hy@temp
3388 \fi
3389 \else
3390 \ifx\Hy@driver\Hy@temp
3391 \Hy@WarningNoLine{%
3392   Wrong driver '\Hy@driver.def';\MessageBreak
3393   pdfTeX is not running in PDF mode.\MessageBreak
3394   Using default driver%
3395 }%
3396 \let\Hy@driver\@empty
3397 \fi
3398 \fi
3399 \fi
3400 \ifx\Hy@driver\@empty
3401 \else
3402 \def\Hy@temp{hxdetex}%
3403 \ifxdetex
3404 \ifx\Hy@driver\Hy@temp
3405 \else
3406 \Hy@WarningNoLine{%
3407   Wrong driver '\Hy@driver.def';\MessageBreak
3408   XeTeX is running.\MessageBreak
3409   Forcing driver '\Hy@temp.def' for XeTeX%
3410 }%
3411 \let\Hy@driver\Hy@temp
3412 \fi
3413 \fi
3414 \fi
3415 \ifx\Hy@driver\@empty
3416 \else
3417 \def\Hy@temp{hvtexhtm}%
3418 \ifvtexhtml
3419 \ifx\Hy@driver\Hy@temp
3420 \else
3421 \Hy@WarningNoLine{%
3422   Wrong driver '\Hy@driver.def';\MessageBreak
3423   VTeX is running in HTML mode.\MessageBreak
3424   Forcing driver '\Hy@temp.def'%
3425 }%
3426 \let\Hy@driver\Hy@temp
3427 \fi
3428 \else
3429 \ifx\Hy@driver\Hy@temp
```



```

3430 \Hy@WarningNoLine{%
3431   Wrong driver '\Hy@driver.def';\MessageBreak
3432   VTeX is not running in HTML mode.\MessageBreak
3433   Using default driver%
3434 }%
3435 \let\Hy@driver\@empty
3436 \fi
3437 \fi
3438 \fi

```

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

```

3439 \ifx\Hy@driver\@empty
3440 \providecommand*\Hy@defaultdriver{hypertex}%
3441 \ifpdf
3442 \def\Hy@driver{hpdftex}%
3443 \else
3444 \ifxetex
3445 \def\Hy@driver{hxetex}%
3446 \else
3447 \ifvtexhtml
3448 \def\Hy@driver{hvtexhtm}%
3449 \def\MaybeStopEarly{%
3450 \typeout{Hyperref stopped early}%
3451 \AfterBeginDocument{%
3452 \PDF@FinishDoc
3453 \gdef\PDF@FinishDoc{}}%
3454 }%
3455 \endinput
3456 }%
3457 \else
3458 \ifvtexpdf
3459 \def\Hy@driver{hvtex}%
3460 \else
3461 \ifvtexps
3462 \def\Hy@driver{hvtex}%
3463 \else
3464 \let\Hy@driver\Hy@defaultdriver
3465 \fi
3466 \fi
3467 \fi
3468 \fi
3469 \fi
3470 \ifx\Hy@driver\Hy@defaultdriver
3471 \def\Hy@temp{hdvwind}%
3472 \ifx\Hy@temp\Hy@driver
3473 \setkeys{Hyp}{colorlinks}%
3474 \PassOptionsToPackage{dviwindo}{color}%
3475 \fi
3476 \fi
3477 \typeout{*hyperref using default driver \Hy@driver*}%
3478 \else
3479 \typeout{*hyperref using driver \Hy@driver*}%
3480 \fi
3481 \input{\Hy@driver.def}%
3482 \let\@unprocessedoptions\relax
3483 \Hy@RestoreCatcodes
3484 }

```

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

```

3485 \newif\ifHy@DvipdfmxOutlineOpen
3486 \ifxetex
3487   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3488   \else
3489     \Hy@DvipdfmxOutlineOpentruer
3490   \fi
3491 \fi
3492 \begingroup\expandafter\expandafter\expandafter\endgroup
3493 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3494 \else
3495   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3496     \Hy@DvipdfmxOutlineOpentruer
3497   \fi
3498 \fi
3499 \Hy@DisableOption{tex4ht}
3500 \Hy@DisableOption{pdftex}
3501 \Hy@DisableOption{nativepdf}
3502 \Hy@DisableOption{dvipdfm}
3503 \Hy@DisableOption{dvipdfmx}
3504 \Hy@DisableOption{dvipdfmx-outline-open}
3505 \Hy@DisableOption{pdfmark}
3506 \Hy@DisableOption{dvips}
3507 \Hy@DisableOption{hypertex}
3508 \Hy@DisableOption{vtex}
3509 \Hy@DisableOption{vtexpdfmark}
3510 \Hy@DisableOption{dviwindo}
3511 \Hy@DisableOption{dvipsone}
3512 \Hy@DisableOption{textures}
3513 \Hy@DisableOption{latex2html}
3514 \Hy@DisableOption{ps2pdf}
3515 \Hy@DisableOption{xetex}
3516 \AtEndOfPackage{%
3517   \Hy@DisableOption{pdfversion}%
3518 }

```

15.2.2 Bookmarks

```

3519 \def\WriteBookmarks{0}
3520 \def\@bookmarkopenstatus#1{%
3521   \ifHy@bookmarksopen

```

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

```

3522   \ifnum#1<\expandafter\@firstofone\expandafter
3523     {\number\@bookmarkopenlevel} % explicit space
3524   \else
3525     -%
3526   \fi
3527 \else
3528   -%
3529 \fi
3530 }
3531 \ifHy@bookmarks
3532   \Hy@Info{Bookmarks ON}%
3533   \ifx\@pdfpagemode\@empty
3534     \def\@pdfpagemode{UseOutlines}%

```

```

3535 \fi
3536 \else
3537 \def\@bookmarkopenstatus#1{%
3538 \Hy@Info{Bookmarks OFF}%
3539 \AtEndOfPackage{%
3540 \global\let\ReadBookmarks\relax
3541 \global\let\WriteBookmarks\relax
3542 }%
3543 \ifx\@pdfpagemode\@empty
3544 \def\@pdfpagemode{UseNone}%
3545 \fi
3546 \fi
3547 \Hy@DisableOption{bookmarks}

```

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

```

3548 \def\Hy@CatcodeWrapper#1{%
3549 \def\Hy@EndWrap{%
3550 \def\TMP@EnsureCode##1##2{%
3551 \edef\Hy@EndWrap{%
3552 \Hy@EndWrap
3553 \catcode##1\the\catcode##1\relax
3554 }%
3555 \catcode##1##2\relax
3556 }%
3557 \TMP@EnsureCode{10}{12}% ^^J
3558 \TMP@EnsureCode{33}{12}% !
3559 \TMP@EnsureCode{34}{12}% "
3560 \TMP@EnsureCode{36}{3}% $ (math)
3561 \TMP@EnsureCode{38}{4}% & (alignment)
3562 \TMP@EnsureCode{39}{12}% '
3563 \TMP@EnsureCode{40}{12}% (
3564 \TMP@EnsureCode{41}{12}% )
3565 \TMP@EnsureCode{42}{12}% *
3566 \TMP@EnsureCode{43}{12}% +
3567 \TMP@EnsureCode{44}{12}% ,
3568 \TMP@EnsureCode{45}{12}% -
3569 \TMP@EnsureCode{46}{12}% .
3570 \TMP@EnsureCode{47}{12}% /
3571 \TMP@EnsureCode{58}{12}% :
3572 \TMP@EnsureCode{59}{12}% ;
3573 \TMP@EnsureCode{60}{12}% <
3574 \TMP@EnsureCode{61}{12}% =
3575 \TMP@EnsureCode{62}{12}% >
3576 \TMP@EnsureCode{63}{12}% ?
3577 \TMP@EnsureCode{91}{12}% [
3578 \TMP@EnsureCode{93}{12}% ]
3579 \TMP@EnsureCode{94}{7}% ^ (superscript)
3580 \TMP@EnsureCode{95}{8}% _ (subscript)
3581 \TMP@EnsureCode{96}{12}% '
3582 \TMP@EnsureCode{124}{12}% |
3583 \TMP@EnsureCode{126}{13}% ~ (active)
3584 ##1\relax
3585 \Hy@EndWrap
3586 }

```

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

```

3587 \AtBeginDocument{%
3588 \ifHy@ocgcolorlinks

```

```

3589 \setkeys{Hyp}{colorlinks}%
3590 \ifHy@pdfa
3591   \Hy@Warning{%
3592     PDF/A: Optional Content Groups are prohibited,\MessageBreak
3593     using 'colorlinks' instead of 'ocgcolorlinks'%
3594   }%
3595   \Hy@ocgcolorlinksfalse
3596 \fi
3597 \fi
3598 \ifHy@ocgcolorlinks
3599 \else
3600   \Hy@DisableOption{ocgcolorlinks}%
3601 \fi
3602 \ifHy@colorlinks
3603   \def\@pdfborder{0 0 0}%
3604   \let\@pdfborderstyle\@empty
3605   \ifHy@typexml
3606   \else
3607     \Hy@CatcodeWrapper{%
3608       \RequirePackage{color}%
3609     }%
3610   \fi
3611   \def\Hy@colorlink#1{%
3612     \begingroup
3613       \HyColor@UseColor#1%
3614     }%
3615   \def\Hy@endcolorlink{\endgroup}%
3616   \Hy@Info{Link coloring ON}%
3617 \else
3618   \ifHy@frenchlinks
3619     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3620     \def\Hy@endcolorlink{\endgroup}%
3621     \Hy@Info{French linking ON}%
3622   \else
3623     \def\Hy@colorlink#1{\begingroup}%
3624     \def\Hy@endcolorlink{\endgroup}%
3625     \Hy@Info{Link coloring OFF}%
3626   \fi
3627 \fi
3628 \Hy@DisableOption{colorlinks}%
3629 \Hy@DisableOption{frenchlinks}%
3630 \ifHy@texht
3631   \long\def\@firstoffive#1#2#3#4#5{#1}%
3632   \long\def\@secondoffive#1#2#3#4#5{#2}%
3633   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3634   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3635   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3636   \providecommand*\@safe@activestruel{}%
3637   \providecommand*\@safe@activesfalse{}%
3638   \def\T@cref#1{%
3639     \Hy@safe@activestruel
3640     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3641     \Hy@safe@activesfalse
3642   }%
3643   \def\T@pageref#1{%
3644     \Hy@safe@activestruel

```

```

3645 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3646 \Hy@safe@activesfalse
3647 }%
3648 \else
3649 \ifHy@typexml
3650 \else
3651 \Hy@CatcodeWrapper{%
3652 \RequirePackage{nameref}%
3653 }%
3654 \fi
3655 \fi
3656 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3657 \DeclareRobustCommand\pageref{%
3658 \@ifstar\@pagerefstar\T@pageref
3659 }%
3660 }
3661 \AfterBeginDocument{%
3662 \ifHy@texht
3663 \else
3664 \Hy@CatcodeWrapper{%
3665 \ReadBookmarks
3666 }%
3667 \fi
3668 }
3669 \ifHy@backref
3670 \RequirePackage{backref}%
3671 \else
3672 \let\Hy@backout\@gobble
3673 \fi
3674 \Hy@DisableOption{backref}
3675 \Hy@DisableOption{pagebackref}
3676 \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.

```

3677 \begingroup
3678 \endlinechar=-1 %
3679 \catcode'\^A=14 %
3680 \catcode'\^M\active
3681 \catcode'\%\active
3682 \catcode'\#\active
3683 \catcode'\_\active
3684 \catcode'\$\active
3685 \catcode'\&\active
3686 \gdef\hyper@normalise{^A
3687 \begingroup
3688 \catcode'\^M\active
3689 \def^^M{ }^^A
3690 \catcode'\%\active
3691 \let%\@percentchar

```

```

3692 \let\%\@percentchar
3693 \catcode'\#\active
3694 \def#{\hyper@hash}^^A
3695 \def\#{\hyper@hash}^^A
3696 \@makeother\&^^A
3697 \edef&{\string&}^^A
3698 \edef\&{\string&}^^A
3699 \edef\textunderscore{\string_}^^A
3700 \let\_ \textunderscore
3701 \catcode'\_ \active
3702 \let\_ \textunderscore
3703 \let~\hyper@tilde
3704 \let\~\hyper@tilde
3705 \let\textasciitilde\hyper@tilde
3706 \let\\ \@backslashchar
3707 \edef$\string$}^^A
3708 \Hy@safe@activetrue
3709 \hyper@n@rmalise
3710 }^^A
3711 \catcode'\#=6 ^^A
3712 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3713 \gdef\hyper@n@rmalise#1#2{^^A
3714 \def\Hy@tempa{#2}^^A
3715 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3716 \Hy@ReturnAfterElseFi{^^A
3717 \hyper@@normalise{#1}^^A
3718 }^^A
3719 \else
3720 \Hy@ReturnAfterFi{^^A
3721 \hyper@@normalise{#1}{#2}^^A
3722 }^^A
3723 \fi
3724 }^^A
3725 \gdef\hyper@@normalise#1#2{^^A
3726 \edef\Hy@tempa{^^A
3727 \endgroup
3728 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
3729 }^^A
3730 \Hy@tempa
3731 }^^A
3732 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
3733 #1^^A
3734 \ifx\limits#2\limits
3735 \else
3736 \Hy@ReturnAfterFi{^^A
3737 \Hy@RemovePercentCr #2\@nil
3738 }^^A
3739 \fi
3740 }^^A
3741 \endgroup
3742 \providecommand*\hyper@chars{%
3743 \let\#\hyper@hash
3744 \let\%\@percentchar
3745 \Hy@safe@activetrue
3746 }

3747 \def\hyperlink#1#2{%
3748 \hyper@@link{#1}{#2}%

```

```

3749 }
3750 \DeclareRobustCommand*{\href}{%
3751   \ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3752 }
3753 \def\Hy@href#{%
3754   \hyper@normalise\href@
3755 }
3756 \begingroup
3757   \catcode'\$=6 %
3758   \catcode'\#=12 %
3759   \gdef\href$1{\expandafter\href@split$1##\\}%
3760   \gdef\href@split$1#$2#$3\{\%
3761     \hyper@@link{$1}{$2}%
3762   }%
3763 \endgroup

```

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

```

3764 \RequirePackage{url}
3765 \let\HyOrg@url\url
3766 \def\Hurl{\begingroup \Url}
3767 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
3768 \def\nolinkurl@#1{\Hurl{#1}}
3769 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
3770 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3771 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
3772 \providecommand\hyper@image[2]{#2}
3773 \def\hypertarget#1#2{%
3774   \ifHy@nesting
3775     \hyper@@anchor{#1}{#2}%
3776   \else
3777     \hyper@@anchor{#1}{\relax}#2%
3778   \fi
3779 }

```

\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.

```

3780 \DeclareRobustCommand*{\hyperref}{%
3781   \@ifnextchar[\Hy@babelnormalise\label@hyperref]{\@hyperref
3782 }
3783 \def\Hy@babelnormalise#1[#2]{%
3784   \begingroup
3785     \Hy@safe@activetrue
3786     \edef\Hy@tempa{%
3787       \endgroup
3788       \noexpand#1[#2]}%
3789   }%
3790   \Hy@tempa
3791 }
3792 \def\@hyperref{\hyper@normalise\@hyperref}
3793 \def\@hyperref#1#2#3{%
3794   \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
3795   \expandafter\tryhyper@link\ref@one\{#1}%

```

```

3796 }
3797 \def\tryhyper@link#1\#2{%
3798 \hyper@@link{#2}{#1}%
3799 }

3800 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
3801 \def\@hyperdef#1#2#3{%, category, name, text
3802 \ifx\#1\%
3803 \def\Hy@AnchorName{#2}%
3804 \else
3805 \def\Hy@AnchorName{#1.#2}%
3806 \fi
3807 \ifHy@nesting
3808 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3809 \else
3810 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
3811 \fi
3812 }

```

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

```

3813 \def\label@hyperref[#1]{%
3814 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3815 }%
3816 \def\label@@hyperref#1#2#3{%
3817 \ifx#1\relax
3818 \protect\G@refundefinedtrue
3819 \@latex@warning{%
3820 Hyper reference ‘#2’ on page \thepage \space undefined%
3821 }%
3822 \hyper@@link{}{??}{#3}%
3823 \else
3824 \hyper@@link{\expandafter\@fifthoffive#1}%
3825 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3826 \fi
3827 }
3828 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3829 % anchor text
3830 \@bsphack
3831 \ifx\#2\%
3832 \def\Hy@AnchorName{#3}%
3833 \else
3834 \def\Hy@AnchorName{#2.#3}%
3835 \fi
3836 \if@filesw
3837 \protected@write\@auxout{}{%
3838 \string\newlabel{#1}{\{ }\{ }\{ \Hy@AnchorName\} }\}%
3839 }%
3840 \fi
3841 \@esphack
3842 \ifHy@nesting
3843 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3844 \else
3845 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3846 \fi
3847 }

```


17 Underlying basic hypertext macros

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

```
3848 \def\hyper@@link{\let\Hy@reserved@a\relax
3849 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3850 }
3851 \def\hyper@link@[#1]#2#3#4{%
3852 \begingroup
3853 \protected@edef\Hy@tempa{#2}%
3854 \Hy@safe@activetrue
3855 \edef\x{#3}%
3856 \ifx\Hy@tempa\@empty
3857 \toks0{\hyper@link{#1}}%
3858 \else
3859 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3860 \fi
3861 \toks2{%
3862 \Hy@safe@activesfalse
3863 #4%
3864 }%
3865 \edef\Hy@tempa{the\toks2}%
3866 \edef\x{\endgroup
3867 \ifx\Hy@tempa\@empty
3868 \noexpand\Hy@Warning{Suppressing empty link}%
3869 \else
3870 the\toks0 {\x}{the\toks2}%
3871 \fi
3872 }%
3873 \x
3874 }
```

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.

```
3875 \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.

```
3876 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3877 }
```

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

```

3878 \def\@pdftempwordfile{file}%
3879 \def\@pdftempwordrun{run}%
3880 \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:

```

3881 \ifx\\#6\\%
3882 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3883 \else
3884 \ifx\\#4\\%
3885 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3886 \else

```

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

```

3887 \def\@pdftempa{#4}%
3888 \ifx\@pdftempa\@pdftempwordfile
3889 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3890 \else

```

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

```

3891 \ifx\@pdftempa\@pdftempwordrun
3892 \ifHy@pdfa
3893 \PackageError{hyperref}{%
3894 PDF/A: Launch action is prohibited%
3895 }\@ehc
3896 \begingroup
3897 \leavevmode
3898 #2%
3899 \endgroup
3900 \else
3901 \expandafter\@hyper@launch#7\\{#3}{#2}%
3902 \fi
3903 \else

```

otherwise its a URL

```

3904 \hyper@linkurl{#3}{#7\ifx\\#2\\else\hyper@hash#2\fi}%
3905 \fi
3906 \fi
3907 \fi
3908 \fi
3909 }

```

By default, turn run: into file:

```

3910 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3911 \hyper@linkurl{#2}{%
3912 \Hy@linkfileprefix
3913 #1%
3914 \ifx\\#3\\%
3915 \else
3916 \hyper@hash
3917 #3%
3918 \fi
3919 }%
3920 }

```

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

```

3921 \def\@hyper@linkfile file:#1\#2#3{%
3922     %file url,link string, name
3923     \filename@parse{#1}%
3924     \ifx\filename@ext\relax
3925         \edef\filename@ext{\XR@ext}%
3926     \fi
3927     \def\use@file{\filename@area\filename@base.\filename@ext}%
3928     \ifx\filename@ext\XR@ext
3929         \hyper@linkfile{#2}{\use@file}{#3}%
3930     \else
3931         \ifx\@baseurl\@empty
3932             \hyper@linkurl{#2}{%
3933                 \Hy@linkfileprefix\use@file\ifx\\#3\\else\hyper@hash#3\fi
3934             }%
3935         \else
3936             \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
3937         \fi
3938     \fi
3939 }

```

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.

```

3940 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3941 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3942     \ifx\\#1\\%
3943         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3944     \else
3945         \def\anchor@spot{#2#3}%
3946         \let\put@me@back\@empty
3947         \ifx\relax#2\relax
3948             \else
3949                 \ifHy@nesting
3950                     \else
3951                         \ifcat a\noexpand#2\relax
3952                             \else
3953                                 \ifcat 0\noexpand#2 \relax
3954                                     \else
3955                                         \typeout{Anchor start is not alphanumeric %
3956                                         on input line\the\inputlineno%
3957                                         }%
3958                                         \let\anchor@spot\@empty
3959                                         \def\put@me@back{#2#3}%
3960                                     \fi
3961                                 \fi
3962                             \fi
3963                         \fi
3964                     \ifHy@activeanchor
3965                         \anchor@spot
3966                     \else
3967                         \hyper@anchor{#1}%
3968                     \fi
3969                 \expandafter\put@me@back

```

```

3970 \fi
3971 \let\anchor@spot\@empty
3972 }

```

18 Compatibility with the *LT_{EX}2html* 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.

```

3973 \let\htmladdimg\hyperimage
3974 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3975 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3976 \def\htmlref#1#2{% anchor text, label
3977   \label@hyperref[{#2}]{#1}%
3978 }

```

This is really too much. The *LT_{EX}2html* 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.

```

3979 \def\@latextohtmlX{%
3980   \let\hhyperref\hyperref
3981   \def\hyperref##1##2##3##4{% anchor text for HTML
3982     % text to print before label in print
3983     % label
3984     % post-label text in print
3985     ##2\ref{##4}##3%
3986   }%
3987 }

```

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.

```

3988 \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
3989 \def\HyField@NewFlag#1#2{%
3990   \lowercase{\HyField@NewOption{#2}}%

```

```

3991 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3992 }

```

\HyField@NewFlagOnly

```

3993 \def\HyField@NewFlagOnly#1#2{%
3994 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3995 }

```

\HyField@NewOption #1: option name

```

3996 \def\HyField@NewOption#1{%
3997 \expandafter\newif\csname ifFld@#1\endcsname
3998 \define@key{Field}{#1}[true]{%
3999 \lowercase{\Field@boolkey{##1}}{#1}%
4000 }%
4001 }

```

\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

```

4002 \def\HyField@NewBitsetFlag#1#2#3#4{%
4003 \begingroup
4004 \count@=#4\relax
4005 \advance\count@\m@ne
4006 \def\x##1{%
4007 \endgroup
4008 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4009 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4010 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4011 (\number#4) #2%
4012 }%
4013 \else
4014 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4015 \csname HyField@#3@##1\endcsname
4016 /#2%
4017 }%
4018 \fi
4019 }%
4020 \expandafter\x\expandafter{\the\count@}%
4021 }

```

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

```

4022 \def\HyField@UseFlag#1#2{%
4023 \lowercase{\HyField@@UseFlag{#2}}{#1}%
4024 }

```

\HyField@@UseFlag

```

4025 \def\HyField@@UseFlag#1#2{%
4026 \bitsetSetValue{HyField@#2}{%
4027 \csname HyField@#2@#1\endcsname
4028 }{%
4029 \csname ifFld@#1\endcsname 1\else 0\fi
4030 }%
4031 }

```

```

\HyField@SetFlag The bit set is HyField@#1
4032 \def\HyField@SetFlag#1#2{%
4033 \lowercase{\HyField@@SetFlag{#2}}{#1}%
4034 }

\HyField@@SetFlag
4035 \def\HyField@@SetFlag#1#2{%
4036 \bitsetSetValue{HyField@#2}{%
4037 \csname HyField@#2@#1\endcsname
4038 }{1}%
4039 }

\HyField@PrintFlags
4040 \def\HyField@PrintFlags#1#2{%
4041 \ifHy@verbose
4042 \begingroup
4043 \let\Hy@temp\@empty
4044 \let\MessageBreak\relax
4045 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4046 \bitsetGetSetBitList{HyField@#1}\do{%
4047 \edef\Hy@temp{%
4048 \Hy@temp
4049 \csname HyField@#1@\x\endcsname\MessageBreak
4050 }%
4051 }%
4052 \edef\x{\endgroup
4053 \noexpand\Hy@Info{%
4054 Field flags: %
4055 \expandafter\ifx\@car#1\@nil S\else/\fi
4056 #1 %
4057 \bitsetGetDec{HyField@#1} %
4058 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4059 \Hy@temp
4060 for #2%
4061 }%
4062 }\x
4063 \fi
4064 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4065 \HyField@NewFlag{Ff}{ReadOnly}{1}
4066 \HyField@NewFlag{Ff}{Required}{2}
4067 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4068 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4069 \HyField@NewFlag{Ff}{Radio}{16}
4070 \HyField@NewFlag{Ff}{Pushbutton}{17}
4071 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4072 \HyField@NewFlag{Ff}{Multiline}{13}
4073 \HyField@NewFlag{Ff}{Password}{14}
4074 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4075 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4

```

4076 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
 4077 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
 4078 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

“Table 8.79 field flags specific to choice fields”

4079 \HyField@NewFlag{Ff}{Combo}{18}
 4080 \HyField@NewFlag{Ff}{Edit}{19}
 4081 \HyField@NewFlag{Ff}{Sort}{20}
 4082 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
 4083 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
 4084 \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.

```
4085 \newif\ifFld@popdown
4086 \define@key{Field}{popdown}[true]{%
4087   \lowercase{\Field@boolkey{#1}}{popdown}%
4088 }
```

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.

```
4089 \HyField@NewFlag{F}{Invisible}{1}
4090 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4091 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4092 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4093 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4094 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4095 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4096 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4097 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4098 \ifHy@pdfa
4099   \def\HyField@PDFAFlagWarning#1#2{%
4100     \Hy@Warning{%
4101       PDF/A: Annotation flag ‘#1’ must\MessageBreak
4102       be set to ‘#2’%
4103     }%
4104   }%
4105   \Fld@invisiblefalse
4106   \def\Fld@invisibletrue{%
4107     \HyField@PDFAFlagWarning{invisible}{false}%
4108   }%
4109   \Fld@hiddenfalse
4110   \def\Fld@hiddentrue{%
4111     \HyField@PDFAFlagWarning{hidden}{false}%
4112   }%
4113   \Fld@printtrue
4114   \def\Fld@printfalse{%
4115     \HyField@PDFAFlagWarning{print}{true}%
4116   }%
4117   \Fld@nozoomtrue
4118   \def\Fld@nozoomfalse{%
4119     \HyField@PDFAFlagWarning{nozoom}{true}%
4120   }%
4121   \Fld@norotatetrue
```

```

4122 \def\Fld@norotatefalse{%
4123   \HyField@PDFAFldWarning{norotate}{true}%
4124 }%
4125 \Fld@noviewfalse
4126 \def\Fld@noviewtrue{%
4127   \HyField@PDFAFldWarning{noview}{false}%
4128 }%
4129 \fi

```

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

```

4130 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4131 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4132 \HyField@NewFlag{Submit}{GetMethod}{4}
4133 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4134 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4135 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4136 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4137 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4138 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4139 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4140 \HyField@NewFlag{Submit}{ExclFKey}{12}
4141 \HyField@NewFlag{Submit}{EmbedForm}{14}

4142 \define@key{Field}{export}{%
4143   \lowercase{\def\Hy@temp{#1}}%
4144   \@ifundefined{Fld@export@Hy@temp}{%
4145     \@onelevel@sanitize\Hy@temp
4146     \PackageError{hyperref}{%
4147       Unknown export format ‘\Hy@temp’.\MessageBreak
4148       Known formats are ‘FDF’, ‘HTML’, ‘XFDF’, and ‘PDF’%
4149     }\@ehc
4150   }{%
4151     \let\Fld@export\Hy@temp
4152   }%
4153 }
4154 \def\Fld@export{fdf}
4155 \@namedef{Fld@export@fdf}{0}%
4156 \@namedef{Fld@export@html}{1}%
4157 \@namedef{Fld@export@xdf}{2}%
4158 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4159 \def\HyField@FlagsSubmit{%
4160   \bitsetReset{HyField@Submit}%
4161   \ifcase\@nameuse{Fld@export@Fld@export} %
4162     % FDF
4163     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4164     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4165     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4166     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4167     \HyField@UseFlag{Submit}{CanonicalFormat}%
4168     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4169     \HyField@UseFlag{Submit}{ExclFKey}%
4170     \HyField@UseFlag{Submit}{EmbedForm}%
4171   \or % HTML
4172     \HyField@SetFlag{Submit}{ExportFormat}%

```



```

4173 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4174 \HyField@UseFlag{Submit}{GetMethod}%
4175 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4176 \HyField@UseFlag{Submit}{CanonicalFormat}%
4177 \or % XFDF
4178 \HyField@SetFlag{Submit}{XFDF}%
4179 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4180 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4181 \HyField@UseFlag{Submit}{CanonicalFormat}%
4182 \or % PDF
4183 \HyField@SetFlag{Submit}{SubmitPDF}%
4184 \HyField@UseFlag{Submit}{GetMethod}%
4185 \fi
4186 \HyField@PrintFlags{Submit}{submit button field}%
4187 \bitsetIsEmpty{HyField@Submit}{%
4188 \def\Fld@submitflags{%
4189 }{%
4190 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
4191 }%
4192 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4193 \def\HyField@FlagsAnnot#1{%
4194 \bitsetReset{HyField@F}%
4195 \HyField@UseFlag{F}{Invisible}%
4196 \HyField@UseFlag{F}{Hidden}%
4197 \HyField@UseFlag{F}{Print}%
4198 \HyField@UseFlag{F}{NoZoom}%
4199 \HyField@UseFlag{F}{NoRotate}%
4200 \HyField@UseFlag{F}{NoView}%
4201 \HyField@UseFlag{F}{Locked}%
4202 \HyField@UseFlag{F}{ToggleNoView}%
4203 \HyField@UseFlag{F}{LockedContents}%
4204 \HyField@PrintFlags{F}{#1}%
4205 \bitsetIsEmpty{HyField@F}{%
4206 \def\Fld@annotflags{%
4207 }{%
4208 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
4209 }%
4210 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4211 \def\HyField@FlagsPushButton{%
4212 \HyField@FlagsAnnot{push button field}%
4213 \bitsetReset{HyField@Ff}%
4214 \HyField@UseFlag{Ff}{ReadOnly}%
4215 \HyField@UseFlag{Ff}{Required}%
4216 \HyField@UseFlag{Ff}{NoExport}%
4217 \HyField@SetFlag{Ff}{PushButton}%
4218 \HyField@PrintFlags{Ff}{push button field}%
4219 \bitsetIsEmpty{HyField@Ff}{%
4220 \def\Fld@flags{%

```

```

4221 }{%
4222     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4223 }%
4224 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

4225 \def\HyField@FlagsCheckBox{%
4226     \HyField@FlagsAnnot{check box field}%
4227     \bitsetReset{HyField@Ff}%
4228     \HyField@UseFlag{Ff}{ReadOnly}%
4229     \HyField@UseFlag{Ff}{Required}%
4230     \HyField@UseFlag{Ff}{NoExport}%
4231     \HyField@PrintFlags{Ff}{check box field}%
4232     \bitsetIsEmpty{HyField@Ff}{%
4233         \def\Fld@flags{%
4234             }{%
4235                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4236             }%
4237         }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4238 \def\HyField@FlagsRadioButton{%
4239     \HyField@FlagsAnnot{radio button field}%
4240     \bitsetReset{HyField@Ff}%
4241     \HyField@UseFlag{Ff}{ReadOnly}%
4242     \HyField@UseFlag{Ff}{Required}%
4243     \HyField@UseFlag{Ff}{NoExport}%
4244     \HyField@UseFlag{Ff}{NoToggleToOff}%
4245     \HyField@SetFlag{Ff}{Radio}%
4246     \HyField@UseFlag{Ff}{RadiosInUnison}%
4247     \HyField@PrintFlags{Ff}{radio button field}%
4248     \bitsetIsEmpty{HyField@Ff}{%
4249         \def\Fld@flags{%
4250             }{%
4251                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4252             }%
4253         }

```

19.1.7 Text fields

\HyField@FlagsText

```

4254 \def\HyField@FlagsText{%
4255     \HyField@FlagsAnnot{text field}%
4256     \bitsetReset{HyField@Ff}%
4257     \HyField@UseFlag{Ff}{ReadOnly}%
4258     \HyField@UseFlag{Ff}{Required}%
4259     \HyField@UseFlag{Ff}{NoExport}%
4260     \HyField@UseFlag{Ff}{Multiline}%
4261     \HyField@UseFlag{Ff}{Password}%
4262     \HyField@UseFlag{Ff}{FileSelect}%
4263     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4264     \HyField@UseFlag{Ff}{DoNotScroll}%

```

```

4265 \ifFld@comb
4266 \ifcase0\ifFld@multiline
4267 \else\ifFld@password
4268 \else\ifFld@fileselect
4269 \else 1\fi\fi\fi\relax
4270 \PackageError{hyperref}{%
4271   Field option 'comb' cannot used together with\MessageBreak
4272   'multiline', 'password', or 'fileselect'%
4273 } \@ehc
4274 \else
4275 \HyField@UseFlag{Ff}{Comb}%
4276 \fi
4277 \fi
4278 \HyField@UseFlag{Ff}{RichText}%
4279 \HyField@PrintFlags{Ff}{text field}%
4280 \bitsetIsEmpty{HyField@Ff}{%
4281 \def\Fld@flags{%
4282 }{%
4283 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4284 }%
4285 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

4286 \def\HyField@FlagsChoice{%
4287 \HyField@FlagsAnnot{choice field}%
4288 \bitsetReset{HyField@Ff}%
4289 \HyField@UseFlag{Ff}{ReadOnly}%
4290 \HyField@UseFlag{Ff}{Required}%
4291 \HyField@UseFlag{Ff}{NoExport}%
4292 \HyField@UseFlag{Ff}{Combo}%
4293 \ifFld@combo
4294 \HyField@UseFlag{Ff}{Edit}%
4295 \fi
4296 \HyField@UseFlag{Ff}{Sort}%
4297 \HyField@UseFlag{Ff}{MultiSelect}%
4298 \ifFld@combo
4299 \ifFld@edit
4300 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4301 \fi
4302 \fi
4303 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4304 \HyField@PrintFlags{Ff}{choice field}%
4305 \bitsetIsEmpty{HyField@Ff}{%
4306 \def\Fld@flags{%
4307 }{%
4308 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4309 }%
4310 }

```

19.2 Choice field

```
4311 \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.

```

4312 \def\HyField@PDFChoices#1{%
4313   \begingroup
4314   \gdef\Fld@choices{}%
4315   \def\HyTmp@optlist{}%
4316   \let\HyTmp@optitem\relax
4317   \count@=0 %
4318   \kv@parse{#1}{%
4319     \Hy@pdfstringdef\kv@key\kv@key
4320     \ifx\kv@value\relax
4321       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4322         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4323       \else
4324         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4325       \fi
4326     \else
4327       \Hy@pdfstringdef\kv@value\kv@value
4328       \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4329     \fi
4330   \edef\HyTmp@optlist{%
4331     \HyTmp@optlist
4332     \HyTmp@optitem{\the\count@}{\kv@key}0%
4333   }%
4334   \advance\count@ by 1 %
4335   \@gobbletwo
4336 }%
4337 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4338 \ifFld@multiselect
4339   \HyField@@PDFChoices{DV}\Fld@default
4340   \HyField@@PDFChoices{V}\Fld@value
4341 \else
4342   \ifx\Fld@default\relax
4343   \else
4344     \pdfstringdef\Hy@gtemp\Fld@default
4345     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4346   \fi
4347   \ifx\Fld@value\relax
4348   \else
4349     \pdfstringdef\Hy@gtemp\Fld@value
4350     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4351   \fi
4352 \fi
4353 \endgroup
4354 }
```

\HyField@@PDFChoices

```

4355 \def\HyField@@PDFChoices#1#2{%
4356   \ifx#2\relax
4357   \else
4358     \count@=0 %
4359     \def\HyTmp@optitem##1##2##3{%
4360       \def\HyTmp@key{##2}%
4361       \ifx\HyTmp@key\Hy@gtemp
4362         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4363           \HyTmp@optlist
4364           \HyTmp@optitem{##1}{##2}1%
4365         }%

```

```

4366 \let\HyTmp@found=Y%
4367 \else
4368 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4369 \HyTmp@optlist
4370 \HyTmp@optitem{##1}{##2}##3%
4371 }%
4372 \fi
4373 }%
4374 \expandafter\comma@parse\expandafter{#2}{%
4375 \pdfstringdef\Hy@gtemp\comma@entry
4376 \let\HyTmp@found=N %
4377 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4378 \HyTmp@optlist
4379 \ifx\HyTmp@found Y%
4380 \advance\count@ by 1 %
4381 \else
4382 \@onelevel@sanitize\comma@entry
4383 \PackageWarning{hyperref}{%
4384 \string\ChoiceBox: Ignoring value '\comma@entry',%
4385 \MessageBreak
4386 it cannot be found in the choices%
4387 }%
4388 \fi
4389 \@gobble
4390 }%
4391 \def\HyTmp@optitem##1##2##3{%
4392 \ifnum##3=1 %
4393 (##2)%
4394 \fi
4395 }%
4396 \ifcase\count@
4397 \or
4398 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4399 \else
4400 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4401 \ifx#1V%
4402 \def\HyTmp@optitem##1##2##3{%
4403 \ifnum##3=1 %
4404 \@firstofone{ ##1}%
4405 \fi
4406 }%
4407 \edef\HyTmp@optlist{\HyTmp@optlist}%
4408 \xdef\Fld@choices{%
4409 \Fld@choices
4410 /I[\expandafter\@firstofone\HyTmp@optlist]%
4411 }%
4412 \fi
4413 \fi
4414 \fi
4415 }

```

19.3 Forms

\HyField@SetKeys

```

4416 \def\HyField@SetKeys{%
4417 \setkeys{Field}%
4418 }

```

```

4419 \newif\ifFld@checked
4420 \newif\ifFld@disabled
4421 \Fld@checkedfalse
4422 \Fld@disabledfalse
4423 \newcount\Fld@menulength
4424 \newdimen\Fld@Width
4425 \newdimen\Fld@charsize
4426 \Fld@charsize=10\p@
4427 \def\Fld@maxlen{0}
4428 \def\Fld@align{0}
4429 \def\Fld@color{0 0 0 rg}
4430 \def\Fld@bcolor{1 1 1}
4431 \def\Fld@bordercolor{1 0 0}
4432 \def\Fld@bordersep{1\p@}
4433 \def\Fld@borderwidth{1}
4434 \def\Fld@borderstyle{S}
4435 \def\Fld@cbsymbol{4}
4436 \def\Fld@radiosymbol{H}
4437 \def\Fld@rotation{0}
4438 \def\Fld@Form{\@ifnextchar[{\@Form}{\@Form[]}}
4439 \def\Fld@endForm{\@endForm}
4440 \newif\ifForm@html
4441 \Form@htmlfalse
4442 \def\Fld@Form@boolkey#1#2{%
4443   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4444 }
4445 \define@key{Form}{action}{%
4446   \hyper@normalise\Hy@DefFormAction{#1}%
4447 }
4448 \def\Hy@DefFormAction{\def\Fld@action}
4449 \def\Fld@enc@html{html}
4450 \define@key{Form}{encoding}{%
4451   \def\Hy@tempa{#1}%
4452   \ifx\Hy@tempa\enc@html
4453     \Form@htmltrue
4454     \def\Fld@export{html}%
4455   \else
4456     \typeout{hyperref: form 'encoding' key set to #1 %
4457     -- unknown type%
4458   }%
4459   \Form@htmlfalse
4460   \fi
4461 }
4462 \define@key{Form}{method}{%
4463   \lowercase{\def\Hy@temp{#1}}%
4464   \@ifundefined{Form@method@\Hy@temp}{%
4465     \@onelevel@sanitize\Hy@temp
4466     \PackageError{hyperref}{%
4467       Unknown method '\Hy@temp'.\MessageBreak
4468       Known values are 'post' and 'get'%
4469     }\@ehc
4470   }{%
4471     \let\Fld@method\Hy@temp
4472     \ifcase\@nameuse{Form@method@\Hy@temp} %
4473       \Fld@getmethodfalse
4474     \else
4475       \Fld@getmethodtrue

```

```

4476 \fi
4477 }%
4478 }
4479 \def\Form@method{}
4480 \@namedef{Form@method@post}{0}
4481 \@namedef{Form@method@get}{1}
4482 \def\Field@boolkey#1#2{%
4483 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4484 }
4485 \newtoks\Field@toks
4486 \Field@toks={ }%
4487 \def\Field@addtoks#1#2{%
4488 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4489 \@processme
4490 }
4491 \def\Fld@checkequals#1=#2=#3\\{%
4492 \def\@currDisplay{#1}%
4493 \ifx\\#2\\%
4494 \def\@currValue{#1}%
4495 \else
4496 \def\@currValue{#2}%
4497 \fi
4498 }
4499 \define@key{Field}{loc}{%
4500 \def\Fld@loc{#1}%
4501 }
4502 \define@key{Field}{checked}[true]{%
4503 \lowercase{\Field@boolkey{#1}}{checked}%
4504 }
4505 \define@key{Field}{disabled}[true]{%
4506 \lowercase{\Field@boolkey{#1}}{disabled}%
4507 }
4508 \define@key{Field}{accesskey}{%
4509 \Field@addtoks{accesskey}{#1}%
4510 }
4511 \define@key{Field}{tabkey}{%
4512 \Field@addtoks{tabkey}{#1}%
4513 }
4514 \define@key{Field}{name}{%
4515 \def\Fld@name{#1}%
4516 }
4517 \define@key{Field}{width}{%
4518 \def\Fld@width{#1}%
4519 \Field@Width#1\setbox0=\hbox{m}%
4520 }
4521 \define@key{Field}{maxlen}{%
4522 \def\Fld@maxlen{#1}%
4523 }
4524 \define@key{Field}{menulength}{%
4525 \Fld@menulength=#1\relax
4526 }
4527 \define@key{Field}{height}{%
4528 \def\Fld@height{#1}%
4529 }
4530 \define@key{Field}{charsize}{%
4531 \Fld@charsize#1%
4532 }

```

```

4533 \define@key{Field}{borderwidth}{%
4534   \def\Fld@borderwidth{#1}%
4535 }
4536 \define@key{Field}{borderstyle}{%
4537   \def\Fld@borderstyle{#1}%
4538 }
4539 \define@key{Field}{bordersep}{%
4540   \def\Fld@bordersep{#1}%
4541 }
4542 \define@key{Field}{default}{%
4543   \def\Fld@default{#1}%
4544 }
4545 \define@key{Field}{align}{%
4546   \def\Fld@align{#1}%
4547 }
4548 \define@key{Field}{value}{%
4549   \def\Fld@value{#1}%
4550 }
4551 \define@key{Field}{checkboxsymbol}{%
4552   \Fld@DingDef\Fld@cbsymbol{#1}%
4553 }
4554 \define@key{Field}{radiosymbol}{%
4555   \Fld@DingDef\Fld@radiosymbol{#1}%
4556 }
4557 \def\Fld@DingDef#1#2{%
4558   \def\Fld@temp{}%
4559   \Fld@@DingDef#2\ding{ }\@nil
4560   \let#1\Fld@temp
4561 }
4562 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4563   \expandafter\def\expandafter\Fld@temp\expandafter{%
4564     \Fld@temp
4565     #1%
4566   }%
4567   \ifx\\#3\\%
4568     \expandafter\@gobble
4569   \else
4570     \begingroup
4571     \lccode'0=#2\relax
4572     \lowercase{\endgroup
4573       \expandafter\def\expandafter\Fld@temp\expandafter{%
4574         \Fld@temp
4575         0%
4576       }%
4577     }%
4578     \expandafter\@firstofone
4579   \fi
4580   {%
4581     \Fld@@DingDef#3\@nil
4582   }%
4583 }
4584 \define@key{Field}{rotation}{%
4585   \def\Fld@rotation{#1}%
4586 }
4587 \define@key{Field}{backgroundcolor}{%
4588   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4589 }

```



```

4590 \define@key{Field}{bordercolor}{%
4591   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4592 }
4593 \define@key{Field}{color}{%
4594   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4595 }

4596 \def\Fld@onclick@code{}
4597 \def\Fld@format@code{}
4598 \def\Fld@validate@code{}
4599 \def\Fld@calculate@code{}
4600 \def\Fld@keystroke@code{}
4601 \def\Fld@onfocus@code{}
4602 \def\Fld@onblur@code{}
4603 \def\Fld@onmousedown@code{}
4604 \def\Fld@onmouseup@code{}
4605 \def\Fld@onenter@code{}
4606 \def\Fld@onexit@code{}
4607 \def\Hy@temp#1{%
4608   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4609 }
4610 \def\Hy@@temp#1#2{%
4611   \ifHy@pdfa
4612     \define@key{Field}{#2}{%
4613       \PackageError{hyperref}{%
4614         PDF/A: Additional action ‘#2’ is prohibited%
4615       }\@ehc
4616     }%
4617   \else
4618     \define@key{Field}{#2}{%
4619       \def#1{##1}%
4620     }%
4621   \fi
4622 }
4623 \Hy@temp{keystroke}
4624 \Hy@temp{format}
4625 \Hy@temp{validate}
4626 \Hy@temp{calculate}
4627 \Hy@temp{onfocus}
4628 \Hy@temp{onblur}
4629 \Hy@temp{onenter}
4630 \Hy@temp{onexit}
4631 \def\Hy@temp#1{%
4632   \define@key{Field}{#1}{%
4633     \Field@addtoks{#1}{##1}%
4634   }%
4635 }
4636 \Hy@temp{onselect}
4637 \Hy@temp{onchange}
4638 \Hy@temp{ondblclick}
4639 \Hy@temp{onmousedown}
4640 \Hy@temp{onmouseup}
4641 \Hy@temp{onmouseover}
4642 \Hy@temp{onmousemove}
4643 \Hy@temp{onmouseout}
4644 \Hy@temp{onkeypress}
4645 \Hy@temp{onkeydown}
4646 \Hy@temp{onkeyup}

```

```

4647 \ifHy@pdfa
4648 \define@key{Field}{onclick}{%
4649 \PackageError{hyperref}{%
4650 PDF/A: Action 'onclick' is prohibited%
4651 }\@ehc
4652 }%
4653 \else
4654 \define@key{Field}{onclick}{%
4655 \def\Fld@onclick@code{#1}%
4656 \Field@addtoks{onclick}{#1}%
4657 }%
4658 \fi

4659 \DeclareRobustCommand\TextField{%
4660 \@ifnextchar[{\@TextField}{\@TextField[]}%
4661 }
4662 \DeclareRobustCommand\ChoiceMenu{%
4663 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4664 }
4665 \DeclareRobustCommand\CheckBox{%
4666 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4667 }
4668 \DeclareRobustCommand\PushButton{%
4669 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4670 }
4671 \DeclareRobustCommand\Gauge{%
4672 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4673 }
4674 \DeclareRobustCommand\Submit{%
4675 \@ifnextchar[{\@Submit}{\@Submit[]}%
4676 }
4677 \DeclareRobustCommand\Reset{%
4678 \@ifnextchar[{\@Reset}{\@Reset[]}%
4679 }
4680 \def\LayoutTextField#1#2{% label, field
4681 #1 #2%
4682 }
4683 \def\LayoutChoiceField#1#2{% label, field
4684 #1 #2%
4685 }
4686 \def\LayoutCheckField#1#2{% label, field
4687 #1 #2%
4688 }
4689 \def\LayoutPushButtonField#1{% button
4690 #1%
4691 }
4692 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4693 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4694 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4695 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4696 \def\MakeButtonField#1{%
4697 \sbox0{%
4698 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4699 }%
4700 \@tempdima\ht0 %
4701 \advance\@tempdima by \Fld@borderwidth bp %
4702 \advance\@tempdima by \Fld@borderwidth bp %
4703 \ht0\@tempdima

```

```

4704 \@tempdima\dp0 %
4705 \advance\@tempdima by \Fld@borderwidth bp %
4706 \advance\@tempdima by \Fld@borderwidth bp %
4707 \dp0\@tempdima
4708 \box0\relax
4709 }
4710 \def\DefaultHeightofSubmit{14pt}
4711 \def\DefaultWidthofSubmit{2cm}
4712 \def\DefaultHeightofReset{14pt}
4713 \def\DefaultWidthofReset{2cm}
4714 \def\DefaultHeightofCheckBox{\baselineskip}
4715 \def\DefaultWidthofCheckBox{\baselineskip}
4716 \def\DefaultHeightofChoiceMenu{\baselineskip}
4717 \def\DefaultWidthofChoiceMenu{\baselineskip}
4718 \def\DefaultHeightofText{\baselineskip}
4719 \def\DefaultHeightofTextMultiline{4\baselineskip}
4720 \def\DefaultWidthofText{3cm}
4721 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4722 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4723 \def\DefaultOptionsofPushButton{print}
4724 \def\DefaultOptionsofCheckBox{print}
4725 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4726 \def\DefaultOptionsofListBox{print}
4727 \def\DefaultOptionsofComboBox{print,edit,sort}
4728 \def\DefaultOptionsofPopdownBox{print}
4729 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4730 \ifHy@figures
4731 \Hy@Info{Hyper figures ON}%
4732 \else
4733 \Hy@Info{Hyper figures OFF}%
4734 \fi
4735 \ifHy@nesting
4736 \Hy@Info{Link nesting ON}%
4737 \else
4738 \Hy@Info{Link nesting OFF}%
4739 \fi
4740 \ifHy@hyperindex
4741 \Hy@Info{Hyper index ON}%
4742 \else
4743 \Hy@Info{Hyper index OFF}%
4744 \fi
4745 \ifHy@backref
4746 \Hy@Info{backreferencing ON}%
4747 \else
4748 \Hy@Info{backreferencing OFF}%
4749 \fi
4750 \ifHy@colorlinks
4751 \Hy@Info{Link coloring ON}%
4752 \else
4753 \Hy@Info{Link coloring OFF}%
4754 \fi
4755 \ifHy@ocgcolorlinks

```

```

4756 \Hy@Info{Link coloring with OCG ON}%
4757 \else
4758 \Hy@Info{Link coloring with OCG OFF}%
4759 \fi
4760 \ifHy@pdfa
4761 \Hy@Info{PDF/A mode ON}%
4762 \else
4763 \Hy@Info{PDF/A mode OFF}%
4764 \fi

```

21 Low-level utility macros

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

```

4765 \edef\hyper@hash{\string#}
4766 \edef\hyper@tilde{\string~}
4767 \edef\hyper@quote{\string"}
4768 \let\@currentHref\@empty
4769 \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.

```

4770 \AfterBeginDocument{%
4771 \Hy@pdfstringtrue
4772 \PDF@SetupDoc
4773 \let\PDF@SetupDoc\@empty
4774 \Hy@DisableOption{pdfpagescrop}%
4775 \Hy@DisableOption{pdfpagemode}%
4776 \Hy@DisableOption{pdfnonfullscreenpagemode}%
4777 \Hy@DisableOption{pdfdirection}%
4778 \Hy@DisableOption{pdfviewarea}%
4779 \Hy@DisableOption{pdfviewclip}%
4780 \Hy@DisableOption{pdfprintarea}%
4781 \Hy@DisableOption{pdfprintclip}%
4782 \Hy@DisableOption{pdfprintscaling}%
4783 \Hy@DisableOption{pdfduplex}%
4784 \Hy@DisableOption{pdfpicktraybypdfsize}%
4785 \Hy@DisableOption{pdfprintpagerange}%
4786 \Hy@DisableOption{pdfnumcopies}%
4787 \Hy@DisableOption{pdfstartview}%
4788 \Hy@DisableOption{pdfstartpage}%
4789 \Hy@DisableOption{pdftoolbar}%
4790 \Hy@DisableOption{pdfmenubar}%
4791 \Hy@DisableOption{pdfwindowui}%
4792 \Hy@DisableOption{pdfitwindow}%
4793 \Hy@DisableOption{pdfcenterwindow}%
4794 \Hy@DisableOption{pdfdisplaydoctitle}%
4795 \Hy@DisableOption{pdfpagelayout}%
4796 \Hy@DisableOption{pdflang}%
4797 \Hy@DisableOption{baseurl}%
4798 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4799 \Hy@pdfstringfalse
4800 }

```

Ignore star from referencing macros:

```

4801 \let\NoHy@OrgRef\ref
4802 \def\ref{%
4803 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4804 }

```

```

4805 \let\NoHy@OrgPageRef\pageref
4806 \def\pageref{%
4807   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4808 }

```

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.

```

4809 \def\NoHyper{%
4810   \def\hyper@link@{##1}##2##3##4{##4}%
4811   \def\hyper@@anchor##1{%
4812     \global\let\hyper@livelink\hyper@link
4813     \gdef\hyper@link##1##2##3{##3}%
4814     \def\hyper@anchorstart##1{%
4815       \let\hyper@anchorend\@empty
4816       \def\hyper@linkstart##1##2{%
4817         \let\hyper@linkend\@empty
4818         \def\hyper@linkurl##1##2{##1}%
4819         \def\hyper@linkfile##1##2##3{##1}%
4820         \def\hyper@link@{##1}##2##3{%
4821           \let\Hy@backout\@gobble
4822         }
4823       \def\stop@hyper{%
4824         \def\hyper@link@{##1}##2##3##4{##4}%
4825         \let\Hy@backout\@gobble
4826         \def\hyper@@anchor##1{%
4827           \def\hyper@link##1##2##3{##3}%
4828           \def\hyper@anchorstart##1{%
4829             \let\hyper@anchorend\@empty
4830             \def\hyper@linkstart##1##2{%
4831               \let\hyper@linkend\@empty
4832               \def\hyper@linkurl##1##2{##1}%
4833               \def\hyper@linkfile##1##2##3{##1}%
4834               \def\hyper@link@{##1}##2##3{%
4835             }
4836             \def\endNoHyper{%
4837               \global\let\hyper@link\hyper@livelink
4838             }
4839           }

```

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:

```

4840 \*nohyperref
4841 \let\hyper@@anchor\@gobble
4842 \def\hyper@link##1##2##3{##3}%

```

```

4843 \let\hyper@anchorstart\@gobble
4844 \let\hyper@anchorend\@empty
4845 \let\hyper@linkstart\@gobbletwo
4846 \let\hyper@linkend\@empty
4847 \def\hyper@linkurl#1#2{#1}%
4848 \def\hyper@linkfile#1#2#3{#1}%
4849 \def\hyper@link@{#1}#2#3{#1}%
4850 \let\PDF@SetupDoc\@empty
4851 \let\PDF@FinishDoc\@empty
4852 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4853 \def\Acrobatmenu#1#2{\leavevmode#2}
4854 \let\pdfstringdefDisableCommands\@gobbletwo
4855 \let\texorpdfstring\@firstoftwo
4856 \let\pdfbookmark\@undefined
4857 \newcommand\pdfbookmark[3]{}{}
4858 \let\phantomsection\@empty
4859 \let\hypersetup\@gobble
4860 \let\hyperbaseurl\@gobble
4861 \let\href\@gobble
4862 \let\hyperdef\@gobbletwo
4863 \let\hyperlink\@gobble
4864 \let\hypertarget\@gobble
4865 \def\hyperref{%
4866   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4867 }
4868 \long\def\@gobbleopt[#1]{}
4869 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

4870 \let\NoHy@OrgRef\ref
4871 \def\ref{%
4872   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4873 }
4874 \let\NoHy@OrgPageRef\pageref
4875 \def\pageref{%
4876   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4877 }
4878 \let\hyperref\@empty

```

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}`

```

4879 \*package
4880 \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.

```

4881 \if@filesw
4882   \ifHy@typexml
4883     \immediate\closeout\@mainaux
4884     \immediate\openout\@mainaux\jobname.aux\relax
4885     \immediate\write\@auxout{<relaxxml>\relax}%

```

```

4886 \fi
4887 \immediate\write\@auxout{%
4888   \string\ifx\string\hyper@anchor\string\@undefined^^J%
4889   \global\let\string\oldcontentsline\string\contentsline^^J%
4890   \gdef\string\contentsline%
4891     \string#1\string#2\string#3\string#4{%
4892     \string\oldcontentsline%
4893     {\string#1}{\string#2}{\string#3}}^^J%
4894   \global\let\string\oldnewlabel\string\newlabel^^J%
4895   \gdef\string\newlabel\string#1\string#2{%
4896     \string\newlabelxx{\string#1}\string#2}^^J%
4897   \gdef\string\newlabelxx%
4898     \string#1\string#2\string#3\string#4\string#5\string#6{%
4899     \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

```

4900 \string\AtEndDocument{%
4901   \let\string\contentsline\string\oldcontentsline^^J%
4902   \let\string\newlabel\string\oldnewlabel^^J%

```

```

4903     \string\else^^J%
4904     \global\let\string\hyper@last\relax^^J%
4905     \string\fi^^J%
4906   }%
4907   \fi

```

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.

25 Title strings

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

```

4927 \ifHy@usetitle
4928   \let\HyOrg@title\title
4929   \let\HyOrg@author\author
4930   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
4931   \def\Hy@scanopttitle[#1]{%
4932     \gdef\Hy@title{#1}%
4933     \HyOrg@title{#1}%
4934   }%
4935   \def\Hy@scantitle#1{%
4936     \gdef\Hy@title{#1}%
4937     \HyOrg@title{#1}%
4938   }%
4939   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4940   \def\Hy@scanoptauthor[#1]{%
4941     \gdef\Hy@author{#1}%
4942     \HyOrg@author{#1}%
4943   }%
4944   \def\Hy@scanauthor#1{%
4945     \gdef\Hy@author{#1}%
4946     \HyOrg@author{#1}%
4947   }%

```

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

```

4948 \begingroup
4949   \def\process@me#1\@nil#2{%
4950     \expandafter\let\expandafter\x\csname @#2\endcsname
4951     \edef\y{\expandafter\strip@prefix\meaning\x}%
4952     \def\c##1##2\@nil{%
4953       \ifx\\##1\\%
4954       \else
4955         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4956           \expandafter{x}%
4957       \fi
4958     }%
4959     \expandafter\c\y\relax#1\@nil
4960   }%
4961   \expandafter\process@me\string\@latex@\@nil{title}%
4962   \expandafter\process@me\string\@latex@\@nil{author}%
4963 \endgroup
4964 \fi
4965 \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.

```

4966 \def\Hy@UseMaketitleString#1{%

```



```

4967 \@ifundefined{Hy@#1}{\{%
4968   \begingroup
4969   \let\Hy@saved@hook\pdfstringdefPreHook
4970   \pdfstringdefDisableCommands{%
4971     \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4972     \let\newline\\%
4973   }%
4974   \expandafter\ifx\csname @pdf#1\endcsname\@empty
4975     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4976       \csname Hy@#1\endcsname\@empty
4977     }%
4978   \fi
4979   \global\let\pdfstringdefPreHook\Hy@saved@hook
4980 \endgroup
4981 }%
4982 }
4983 \def\Hy@newline@title#1{ #1}
4984 \def\Hy@newline@author#1{, #1}
4985 \def\Hy@UseMaketitleInfos{%
4986   \Hy@UseMaketitleString{title}%
4987   \Hy@UseMaketitleString{author}%
4988 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4989 \RequirePackage{atbegshi}[2007/09/09]
4990 \def\Hy@EveryPageHook{}
4991 \def\Hy@EveryPageBoxHook{}
4992 \def\Hy@FirstPageHook{}
4993 \AtBeginShipout{%
4994   \Hy@EveryPageHook
4995   \ifx\Hy@EveryPageBoxHook\@empty
4996   \else
4997     \setbox\AtBeginShipoutBox=\vbox{%
4998       \offinterlineskip
4999       \Hy@EveryPageBoxHook
5000       \box\AtBeginShipoutBox
5001     }%
5002   \fi
5003 }
5004 \AtBeginShipoutFirst{%
5005   \Hy@FirstPageHook
5006 }
5007 \g@addto@macro\Hy@FirstPageHook{%
5008   \PDF@FinishDoc
5009 \gdef\PDF@FinishDoc{}%
5010 }

```

27.1 PDF /PageLabels

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

```

5011 \ifHy@pagelabels
5012 \begingroup\expandafter\expandafter\expandafter\endgroup
5013 \expandafter\ifx\csname thepage\endcsname\relax
5014 \Hy@pagelabelsfalse
5015 \Hy@WarningNoLine{%
5016   Option 'pdfpagelabels' is turned off\MessageBreak
5017   because \string\thepage\space is undefined%
5018 }%
5019 \csname fi\endcsname
5020 \csname iffalse\expandafter\endcsname
5021 \fi

```

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

```

5022 \def\thispdfpagelabel#1{%
5023   \gdef\HyPL@thisLabel{#1}%
5024 }%
5025 \global\let\HyPL@thisLabel\relax

```

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

```

5026 \def\HyPL@Labels{}%

```

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

```

5027 \newcount\Hy@abspage
5028 \Hy@abspage=0 %

```

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

```

5029 \def\HyPL@LastType{init}%
5030 \def\HyPL@LastNumber{0}%
5031 \def\HyPL@LastPrefix{}%

```

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

```

5032 \def\HyPL@arabic{D}%
5033 \def\HyPL@Roman{R}%
5034 \def\HyPL@roman{r}%
5035 \def\HyPL@Alph{A}%
5036 \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.

```

5037 \def\HyPL@EveryPage{%
5038   \begingroup
5039   \ifx\HyPL@thisLabel\relax
5040     \let\HyPL@page\thepage
5041   \else
5042     \let\HyPL@page\HyPL@thisLabel
5043     \global\let\HyPL@thisLabel\relax
5044   \fi
5045   \let\HyPL@Type\relax
5046   \ifnum\the\c@page>0 %
5047     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5048   \fi
5049   \let\Hy@temp Y%
5050   \ifx\HyPL@Type\HyPL@LastType
5051   \else
5052     \let\Hy@temp N%
5053   \fi

```

```

5054 \ifx\HyPL@Type\relax
5055 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5056 \else
5057 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5058 \fi
5059 \ifx\HyPL@Prefix\HyPL@LastPrefix
5060 \else
5061 \let\Hy@temp N%
5062 \fi
5063 \if Y\Hy@temp
5064 \advance\c@page by -1 %
5065 \ifnum\HyPL@LastNumber=\the\c@page\relax
5066 \else
5067 \let\Hy@temp N%
5068 \fi
5069 \Hy@StepCount\c@page
5070 \fi
5071 \if N\Hy@temp
5072 \ifx\HyPL@Type\relax
5073 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5074 \else
5075 \HyPL@StorePageLabel{%
5076 \ifx\HyPL@Prefix\@empty
5077 \else
5078 /P(\HyPL@Prefix)%
5079 \fi
5080 /S/\csname HyPL\HyPL@Type\endcsname
5081 \ifnum\the\c@page=1 %
5082 \else
5083 \space/St \the\c@page
5084 \fi
5085 }%
5086 \fi
5087 \fi
5088 \xdef\HyPL@LastNumber{\the\c@page}%
5089 \global\let\HyPL@LastType\HyPL@Type
5090 \global\let\HyPL@LastPrefix\HyPL@Prefix
5091 \endgroup
5092 \Hy@GlobalStepCount\Hy@abspage
5093 }%

```

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

```

5094 \def\HyPL@CheckThePage#1\@nil{%
5095 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5096 }%

```

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

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

```

5097 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5098 \def\Hy@tempa{#4}%
5099 \def\Hy@tempb{\csname\endcsname\c@page}%
5100 \ifx\Hy@tempa\Hy@tempb
5101 \expandafter\ifx\csname HyPL#3\endcsname\relax
5102 \else

```

```

5103     \def\HyPL@Type{#3}%
5104     \def\HyPL@Prefix{#2}%
5105     \fi
5106   \else
5107     \begingroup
5108     \let\Hy@next\endgroup
5109     \let\HyPL@found\@undefined
5110     \def\arabic{\HyPL@Format{arabic}}%
5111     \def\Roman{\HyPL@Format{Roman}}%
5112     \def\roman{\HyPL@Format{roman}}%
5113     \def\Alph{\HyPL@Format{Alph}}%
5114     \def\alph{\HyPL@Format{alph}}%
5115     \protected@edef\Hy@temp{#1}%
5116     \ifx\HyPL@found\relax
5117       \toks@{\expandafter{\Hy@temp}}%
5118       \edef\Hy@next{\endgroup
5119         \noexpand\HyPL@@@CheckThePage\the\toks@
5120         \noexpand\HyPL@found\relax\noexpand\@nil
5121       }%
5122     \fi
5123     \Hy@next
5124   \fi
5125 }%

```

`\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`.

```

5126 \def\HyPL@Format#1#2{%
5127   \ifx\HyPL@found\@undefined
5128     \expandafter\ifx\csname c@#2\endcsname\c@page
5129       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5130     \else
5131       \expandafter\noexpand\csname#1\endcsname{#2}%
5132     \fi
5133   \else
5134     \expandafter\noexpand\csname#1\endcsname{#2}%
5135   \fi
5136 }%

```

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

```

5137 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5138   \def\Hy@tempa{#3}%
5139   \def\Hy@tempb{\HyPL@found\relax}%
5140   \ifx\Hy@tempa\Hy@tempb
5141     \def\HyPL@Type{#2}%
5142     \def\HyPL@Prefix{#1}%
5143   \fi
5144 }%

```

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

```

5145 \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`.

```

5146 \def\HyPL@Useless{0<</S/D>>}%
5147 \@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.

```

5148 \def\HyPL@SetPageLabels{%
5149   \@onelevel@sanitize\HyPL@Labels
5150   \ifx\HyPL@Labels\empty
5151   \else
5152     \ifx\HyPL@Labels\HyPL@Useless
5153     \else
5154       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5155     \fi
5156   \fi
5157 }%

5158 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5159 \fi

Option 'pdfpagelabels' has been used and is now disabled.
5160 \Hy@DisableOption{pdfpagelabels}
5161 \</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`

```

5162 \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.

```

5163 \< *vTeX>
5164 \providecommand*{\XR@ext}{pdf}
5165 \edef\Hy@VTeXversion{%
5166   \ifx\VTeXversion\@undefined
5167     \z@
5168   \else
5169     \ifx\VTeXversion\relax
5170     \z@
5171   \else
5172     \VTeXversion
5173   \fi
5174 \fi
5175 }
5176 \begingroup
5177 \ifnum\Hy@VTeXversion<660 %
5178   \gdef\Hy@PutCatalog#1{%
5179     \Hy@WarningNoLine{%
5180       VTeX 6.59g or above required for pdfpagelabels%
5181     }%
5182   }%
5183 \else
5184   \gdef\Hy@PutCatalog#1{%
5185     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5186   }%
5187   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%

```

```

5188 \ifx\#2\%
5189 \else
5190 \immediate\special{!pdfpagelabels #2}%
5191 \fi
5192 }%
5193 \fi
5194 \endgroup
5195 \</vtx>

5196 \<pdfTeX | vTeX>

```

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

```

5197 \ifHy@pagelabels
5198 \def\HyPL@StorePageLabel#1{%
5199 \toks@{\expandafter{\HyPL@Labels}}%
5200 \xdef\HyPL@Labels{%
5201 \the\toks@
5202 \the\Hy@absPage<<#1>>%
5203 }%
5204 }%

```

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

```

5205 \RequirePackage{atveryend}[2009/12/07]%
5206 \AtVeryEndDocument{%
5207 \HyPL@SetPageLabels
5208 }%

5209 \fi
5210 \</pdfTeX | vTeX>

```

27.1.2 xetex

```

5211 \<xetex>
5212 \HyPsd@LoadUnicode
5213 \Hy@unicodetrue
5214 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5215 \else
5216 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5217 \fi
5218 \HyPsd@LoadStringEncoding
5219 \define@key{Hyp}{unicode}[true]{%
5220 \Hy@boolkey{unicode}{#1}%
5221 \ifHy@unicode
5222 \else
5223 \Hy@Warning{%
5224 XeTeX driver only supports 'unicode=true'.\MessageBreak
5225 Ignoring option setting 'unicode=false'%
5226 }%
5227 \Hy@unicodetrue
5228 \fi
5229 }
5230 \define@key{Hyp}{pdfencoding}{%
5231 \edef\HyPsd@temp{#1}%
5232 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5233 \let\HyPsd@pdfencoding\HyPsd@temp
5234 \else

```

```

5235 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5236 \let\HyPsd@pdfencoding\HyPsd@temp
5237 \else
5238 \HyWarning{%
5239 XeTeX driver only supports 'pdfencoding=unicode|auto.%
5240 \MessageBreak
5241 Ignoring option setting 'pdfencoding=\HyPsd@temp'%
5242 }%
5243 \fi
5244 \fi
5245 }
5246 \let\HyXeTeX@CheckUnicode\relax
5247 \</xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

5248 \<*pdfmarkbase>
5249 \begingroup
5250 \toks@\expandafter{\Hy@FirstPageHook}%
5251 \xdef\Hy@FirstPageHook{%
5252 \noexpand\headerps@out{%
5253 systemdict /pdfmark known%
5254 {%
5255 userdict /?pdfmark systemdict /exec get put%
5256 }{%
5257 userdict /?pdfmark systemdict /pop get put %
5258 userdict /pdfmark systemdict /cleartomark get put%
5259 }%
5260 ifelse%
5261 }%
5262 \the\toks@
5263 }%
5264 \endgroup
5265 \</pdfmarkbase>

\Hy@PutCatalog

5266 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5267 \<*pdfmarkbase>
5268 \def\Hy@PutCatalog#1{%
5269 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5270 }
5271 \</pdfmarkbase>

5272 \<*pdfmarkbase | dvipdfm | xetex>
5273 \ifHy@pagelabels

```

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

```

5274 \def\HyPL@StorePageLabel#1{%
5275 \if@filesw
5276 \begingroup
5277 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5278 \immediate\write\@mainaux{%
5279 \string\HyPL@Entry{\Hy@tempa}%
5280 }%
5281 \endgroup
5282 \fi
5283 }%

```

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.

```

5284 \AfterBeginDocument{%
5285   \if@filesw
5286     \immediate\write\@mainaux{%
5287       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5288     }%
5289   \fi
5290   \ifx\HyPL@Labels\@empty
5291     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5292   \else
5293     \HyPL@SetPageLabels
5294   \fi
5295   \let\HyPL@Entry\@gobble
5296 }%
```

`\HyPL@Entry`

```

5297 \def\HyPL@Entry#1{%
5298   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5299     \HyPL@Labels
5300     #1%
5301   }%
5302 }%

5303 \fi
5304 </pdfmarkbase | dvipdfm | xetex>
5305 <*package>
5306 \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 it's up to you to make sure these are legal PDF and HTML names. The ‘hypertexnames=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

```

5307 \def\Hy@CounterExists#1{%
5308   \begingroup\expandafter\expandafter\expandafter\endgroup
5309   \expandafter\ifx\csname c@#1\endcsname\relax
5310     \expandafter\@gobble
5311   \else
5312     \begingroup\expandafter\expandafter\expandafter\endgroup
5313     \expandafter\ifx\csname the#1\endcsname\relax
```



```

5314 \expandafter\expandafter\expandafter\@gobble
5315 \else
5316 \expandafter\expandafter\expandafter\@firstofone
5317 \fi
5318 \fi
5319 }
5320 \Hy@CounterExists{section}{%
5321 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5322 }
5323 \Hy@CounterExists{part}{%
5324 \newcommand\theHpart{\arabic{part}}}%
5325 }
5326 \ifundefined{thechapter}{%
5327 \newcommand\theHsection {\arabic{section}}}%
5328 \newcommand\theHfigure {\arabic{figure}}}%
5329 \newcommand\theHtable {\arabic{table}}}%
5330 }{%
5331 \newcommand\theHchapter {\arabic{chapter}}}%
5332 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
5333 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
5334 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
5335 }
5336 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5337 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5338 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5339 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5340 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5341 \newcommand\theHthm {\theHsection.\arabic{thm}}

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But \item occurs inside \trivlist, so check if its a real \item before incrementing counters.

```

5342 \let\H@item\item
5343 \newcounter{Item}
5344 \def\theHItem{\arabic{Item}}
5345 \def\item{%
5346 \@hyper@itemfalse
5347 \if@nmbrlist\@hyper@itemtrue\fi
5348 \H@item
5349 }
5350 \newcommand\theHenumi {\theHItem}
5351 \newcommand\theHenumii {\theHItem}
5352 \newcommand\theHenumiii {\theHItem}
5353 \newcommand\theHenumiv {\theHItem}
5354 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5355 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5356 \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.

```

5357 \let\H@refstepcounter\refstepcounter
5358 \edef\name@of@eq{equation}%
5359 \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.

```

5360 \newif\if@hyper@item
5361 \newif\if@skiphyperref
5362 \@hyper@itemfalse
5363 \@skiphyperreffalse
5364 \def\refstepcounter#1{%
5365   \ifHy@pdfstring
5366   \else
5367     \H@refstepcounter{#1}%
5368     \edef\This@name{#1}%
5369     \ifx\This@name\name@of@slide
5370     \else
5371       \if@skiphyperref
5372       \else
5373         \if@hyper@item
5374         \stepcounter{Item}%
5375         \hyper@refstepcounter{Item}%
5376         \@hyper@itemfalse
5377       \else
5378         \hyper@refstepcounter{#1}%
5379       \fi
5380     \fi
5381   \fi
5382 \fi
5383 }

```

AMS_{La}TeX 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.

```

5384 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5385 \def\hyper@refstepcounter#1{%
5386   \edef\This@name{#1}%
5387   \ifx\This@name\name@of@eq
5388   \@ifundefined{theHequation}{%
5389     \make@stripped@name{\theequation}%
5390     \let\theHequation\newname
5391   }{}%
5392 \fi
5393 \@ifundefined{theH#1}{%
5394   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5395 }{}%
5396 \hyper@makecurrent{#1}%
5397 \ifmeasuring@
5398 \else
5399   \Hy@raisedlink{%
5400     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5401   }%
5402 \fi
5403 }

```

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`.

```

5404 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

5405 \expandafter\ifx\csname chapter\endcsname\relax
5406   \def\Hy@chapterstring{section}%
5407 \else
5408   \def\Hy@chapterstring{chapter}%
5409 \fi
5410 \def\Hy@appendixstring{appendix}
5411 \def\Hy@chapapp{\Hy@chapterstring}
5412 \let\HyOrg@appendix\appendix
5413 \def\appendix{%
5414   \@ifundefined{chapter}%
5415     {\gdef\theHsection{\Alph{section}}}%
5416     {\gdef\theHchapter{\Alph{chapter}}}%
5417   \xdef\Hy@chapapp{\Hy@appendixstring}%
5418   \HyOrg@appendix
5419 }

```

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

```

5420 \def\hyper@makecurrent#1{%
5421   \begingroup
5422     \edef\Hy@param{#1}%
5423     \ifx\Hy@param\Hy@chapterstring
5424       \let\Hy@param\Hy@chapapp
5425     \fi
5426     \ifHy@hypertextnames
5427       \let\@number\@firstofone
5428       \@ifundefined{latin@Alph}{-}{%
5429         \ifx\@Alph\greek@Alph
5430           \def\@Alph{Alph\@arabic}%
5431         \fi
5432       }%
5433       \ifx\@Alph\@Alph@bul
5434         \def\@Alph{Alph\@arabic}%
5435       \fi
5436       \ifx\@alph\@alph@bul
5437         \def\@alph{alph\@arabic}%
5438       \fi
5439       \ifHy@naturalnames
5440         \let\textlatin\@firstofone
5441         \xdef\@currentHlabel{\csname the#1\endcsname}%
5442       \else
5443         \xdef\@currentHlabel{%
5444           \csname
5445             the%
5446             \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5447             #1%
5448           \endcsname
5449         }%
5450       \fi
5451       \xdef\@currentHref{%
5452         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5453       }%
5454     \else
5455       \Hy@GlobalStepCount\Hy@linkcounter
5456       \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5457     \fi
5458   \endgroup

```

```

5459 }

5460 \@ifpackageloaded{fancyvrb}{%
5461   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5462     \def\FV@StepLineNo{%
5463       \FV@SetLineNo
5464       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5465       \FV@StepLineNo
5466     }%
5467   }%
5468 }{-}

```

29 Package lastpage support

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

```

\lastpage@putlabel

5469 \AtBeginDocument{%
5470   \@ifclassloaded{revtex4}{%
5471     \@namedef{ver@lastpage.sty}{1994/06/25}%
5472   }{-}%
5473   \@ifpackageloaded{lastpage}{%
5474     \ifHy@pageanchor
5475     \else
5476       \Hy@WarningNoLine{%
5477         The \string\pageref{LastPage} link doesn't work\MessageBreak
5478         with disabled option 'pageanchor'%
5479       }%
5480     \fi
5481     \def\lastpage@putlabel{%
5482       \addtocounter{page}{-1}%
5483       \if@filesw
5484         \begingroup
5485           \let\@number\@firstofone
5486           \ifHy@pageanchor
5487             \ifHy@hypertextnames
5488               \ifHy@plainpages
5489                 \def\Hy@temp{\arabic{page}}%
5490               \else
5491                 \Hy@unicodefalse
5492                 \pdfstringdef\Hy@temp{\thepage}%
5493             \fi
5494           \else
5495             \def\Hy@temp{\the\Hy@pagecounter}%
5496           \fi
5497         \fi
5498         \immediate\write\@auxout{%
5499           \string\newlabel
5500           {LastPage}{{-}{\thepage}}{-}{%
5501             \ifHy@pageanchor page.\Hy@temp\fi}{-}}%

```

```

5502     }%
5503     \endgroup
5504     \fi
5505     \addtocounter{page}{1}%
5506 }%
5507 \@ifclassloaded{revtex4}{%
5508     \begingroup
5509     \toks@{\expandafter{\lastpage@putlabel}%
5510     \edef\x{\endgroup
5511         \def\noexpand\lastpage@putlabel{%
5512             \noexpand\stepcounter{page}%
5513             \the\toks@
5514             \noexpand\addtocounter{page}\noexpand\m@ne
5515         }%
5516     }%
5517     \x
5518     }{}%
5519 }{}%
5520 }
5521 \</package>
5522 \<*check>
5523 \checkpackage{lastpage}[1994/06/25]
5524 \checkcommand\def\lastpage@putlabel{%
5525     \addtocounter{page}{-1}%
5526     \immediate\write\@auxout{%
5527         \string\newlabel{LastPage}{\the\thepage}}%
5528     }%
5529     \addtocounter{page}{1}%
5530 }
5531 \</check>
5532 \<*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.

```

5533 \def\hypergetref#1{\getrefbykeydefault{#1}{\{}}{??}}
5534 \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:

```

5535 \@ifpackageloaded{titlesec}{%
5536     \def\ttl@Hy@steplink#1{%
5537         \Hy@GlobalStepCount\Hy@linkcounter
5538         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5539         \def\ttl@Hy@saveanchor{%
5540             \Hy@raisedlink{%
5541                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5542             }%
5543         }%
5544     }%

```

```

5545 \def\ttl@Hy@refstepcounter#1{%
5546   \let\ttl@b\Hy@raisedlink
5547   \def\Hy@raisedlink##1{%
5548     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5549   }%
5550   \refstepcounter{#1}%
5551   \let\Hy@raisedlink\ttl@b
5552 }%
5553 {}

```

Package titletoc support:

```

5554 \@ifpackageloaded{titletoc}{%
5555   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5556 }{}

```

32 Package varioref support

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

```

5557 \def\Hy@varioref@undefined{???}{??}{-}{-}}
5558 \@ifpackageloaded{varioref}{%
5559   \def\vref@pagenum#1#2{%
5560     \@ifundefined{r@#2}{%
5561       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5562     }{}%
5563     \edef#1{\getpagerefnumber{#2}}%
5564   }%
5565 }{}

```

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

```

5566 \@ifpackageloaded{longtable}{%
5567   \begingroup
5568   \def\y{\LT@array}%
5569   \@ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5570   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5571     \expandafter\endgroup
5572     \expandafter\def\y[##1]##2{%
5573       \H@refstepcounter{#1}%
5574       \hyper@makecurrent{table}%
5575       \let\Hy@LT@currentHlabel\@currentHlabel
5576       \let\Hy@LT@currentHref\@currentHref
5577       #2\@sharp###3#4%
5578     }%
5579   }%
5580   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

5581 \begingroup
5582 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%

```

```

5583 \endgroup
5584 \def\LT@start{%
5585   #1%
5586   \let\@currentHlabel\Hy@LT@currentHlabel
5587   \let\@currentHref\Hy@LT@currentHref
5588   \Hy@raisedlink{%
5589     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5590   }%
5591   \ifvoid\LT@firsthead\copy
5592   #2%
5593   }%
5594   }%
5595 \expandafter\x\LT@start\@nil
5596 }{}

```

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.

```

5597 \let\new@refstepcounter\refstepcounter
5598 \let\H@equation\equation
5599 \let\H@endequation\endequation

5600 \ifpackageloaded{amsmath}{%
5601   \long\def\Hy@temp{%
5602     \incr@eqnum
5603     \mathdisplay@push
5604     \st@rredfalse \global\@eqnswtrue
5605     \mathdisplay{equation}%
5606   }%
5607   \ifx\Hy@temp\equation
5608     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5609       \csname iftrue\endcsname
5610   \else
5611     \long\def\equation{%
5612       \mathdisplay@push
5613       \st@rredfalse \global\@eqnswtrue
5614       \mathdisplay{equation}%
5615       \incr@eqnum
5616     }%
5617   \fi
5618 \fi
5619 }{}%

5620 \def\equation{%
5621   \let\refstepcounter\H@refstepcounter
5622   \H@equation
5623   \@ifundefined{theHequation}{%
5624     \make@stripped@name{\theequation}%
5625     \let\theHequation\newname
5626   }{}%
5627   \hyper@makecurrent{equation}%
5628   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5629   \let\refstepcounter\new@refstepcounter

```

```

5630 }%
5631 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5632 }

```

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.

```

5633 \newif\if@eqnstar
5634 \@eqnstarfalse
5635 \let\H@eqnarray\eqnarray
5636 \let\H@endeqnarray\endeqnarray
5637 \def\eqnarray{%
5638   \let\Hy@reserved@a\relax
5639   \def\@currentHref{}%
5640   \H@eqnarray
5641   \if@eqnstar
5642   \else
5643     \ifx\\ \@currentHref\\%
5644     \else
5645       \ifundefined{theHequation}{%
5646         \make@stripped@name{theequation}%
5647         \let\theHequation\newname
5648       }{}%
5649       \hyper@makecurrent{equation}%
5650       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5651     \fi
5652   \fi
5653 }
5654 \def\endeqnarray{%
5655   \H@endeqnarray
5656 }

```

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.

```

5657 \@namedef{eqnarray*}{%
5658   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5659 }
5660 \@namedef{endeqnarray*}{%
5661   \nonumber\endeqnarray\@eqnstarfalse
5662 }

```

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

```

5663 \ifundefined{subeqnarray}{ }{}%
5664 \let\H@subeqnarray\subeqnarray
5665 \let\H@endsubeqnarray\endsubeqnarray
5666 \def\subeqnarray{%
5667   \let\Hy@reserved@a\relax
5668   \H@subeqnarray
5669   \ifundefined{theHequation}{%
5670     \make@stripped@name{theequation}%
5671     \let\theHequation\newname
5672   }{}%
5673   \hyper@makecurrent{equation}%
5674   \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5675 }%
5676 \def\endsubeqnarray{%

```



```

5677 \H@endsubeqnarray
5678 }%
5679 \newcommand\theHsubequation{\theHequation\alph{subequation}}}%
5680 }

```

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

```

5681 \def\make@stripped@name#1{%
5682 \begingroup
5683 \escapechar\m@ne
5684 \global\let\newname\@empty
5685 \protected@edef\Hy@tempa{#1}%
5686 \edef\@tempb{%
5687 \noexpand\@tfor\noexpand\Hy@tempa:=%
5688 \expandafter\strip@prefix\meaning\Hy@tempa
5689 }%
5690 \@tempb\do{%
5691 \if{\Hy@tempa\else
5692 \if}\Hy@tempa\else
5693 \xdef\newname{\newname\Hy@tempa}%
5694 \fi
5695 \fi
5696 }%
5697 \endgroup
5698 }

```

Support for amsmath's subequations:

```

5699 \begingroup\expandafter\expandafter\expandafter\endgroup
5700 \expandafter\ifx\csname subequations\endcsname\relax
5701 \else
5702 \let\HyOrg@subequations\subequations
5703 \def\subequations{%
5704 \stepcounter{equation}%
5705 \protected@edef\theHparentequation{%
5706 \@ifundefined{theHequation}\theequation\theHequation
5707 }%
5708 \addtocounter{equation}{-1}%
5709 \HyOrg@subequations
5710 \def\theHequation{\theHparentequation\alph{equation}}}%
5711 \ignorespaces
5712 }%
5713 \fi

```

Support for package amsthm (Daniel Müllner):

```

5714 \@ifpackageloaded{amsthm}{%
5715 \def\@thm#1#2#3{%
5716 \ifhmode
5717 \unskip\unskip\par
5718 \fi
5719 \normalfont
5720 \trivlist
5721 \let\thmheadnl\relax
5722 \let\thm@swap\@gobble
5723 \thm@notefont{\fontseries\mddefault\upshape}%
5724 \thm@headpunct{.}% add period after heading
5725 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5726 \thm@space@setup
5727 #1% style overrides
5728 \@topsep \thm@preskip % used by thm head

```

```

5729 \topsepadd \thm@postskip          % used by \@endparenv
5730 \def\dth@counter{#2}%
5731 \ifx\@empty\dth@counter
5732   \def\@tempa{%
5733     \@oparg{\@begintheorem{#3}{}}{}%
5734   }%
5735 \else
5736   \H@refstepcounter{#2}%
5737   \hyper@makecurrent{#2}%
5738   \def\@tempa{%
5739     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
5740   }%
5741 \fi
5742 \@tempa
5743 }%
5744 \dth@everypar={%
5745   \@minipagefalse
5746   \global\@newlistfalse
5747   \@noparitemfalse
5748   \if@inlabel
5749     \global\@inlabelfalse
5750     \begingroup
5751     \setbox\z@\lastbox
5752     \ifvoid\z@
5753       \kern-\itemindent
5754     \fi
5755   \endgroup
5756   \ifx\@empty\dth@counter
5757   \else
5758     \Hy@raisedlink{%
5759       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5760     }%
5761   \fi
5762   \unhbox\@labels
5763 \fi
5764 \if@nobreak
5765   \@nobreakfalse \clubpenalty\@M
5766 \else
5767   \clubpenalty\@clubpenalty \everypar{}%
5768 \fi
5769 }%
5770 }{}

```

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.

```

5771 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5772 \ifHy@hyperfootnotes
5773   \newcounter{Hfootnote}%
5774   \let\H@@footnotetext\@footnotetext
5775   \let\H@@footnotemark\@footnotemark
5776   \def\@xfootnotenext[#1]{%

```

```

5777 \begingroup
5778 \csname c@\@mpfn\endcsname #1\relax
5779 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5780 \endgroup
5781 \ifx\@footnotetext\@mpfootnotetext
5782 \expandafter\H@\@mpfootnotetext
5783 \else
5784 \expandafter\H@\@footnotetext
5785 \fi
5786 }%
5787 \def\@xfootnotemark[#1]{%
5788 \begingroup
5789 \c@footnote #1\relax
5790 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5791 \endgroup
5792 \H@\@footnotemark
5793 }%
5794 \let\H@\@mpfootnotetext\@mpfootnotetext
5795 \long\def\@mpfootnotetext#1{%
5796 \H@\@mpfootnotetext{%
5797 \ifHy@nesting
5798 \expandafter\hyper@@anchor\expandafter{%
5799 \Hy@footnote@currentHref
5800 }{#1}%
5801 \else
5802 \Hy@raisedlink{%
5803 \expandafter\hyper@@anchor\expandafter{%
5804 \Hy@footnote@currentHref
5805 }{\relax}%
5806 }#1%
5807 \fi
5808 }%
5809 }%
5810 \long\def\@footnotetext#1{%
5811 \H@\@footnotetext{%
5812 \ifHy@nesting
5813 \expandafter\hyper@@anchor\expandafter{%
5814 \Hy@footnote@currentHref
5815 }{#1}%
5816 \else
5817 \Hy@raisedlink{%
5818 \expandafter\hyper@@anchor\expandafter{%
5819 \Hy@footnote@currentHref
5820 }{\relax}%
5821 }%
5822 \let\@currentHlabel\Hy@footnote@currentHlabel
5823 \let\@currentHref\Hy@footnote@currentHref
5824 \let\@currentlabelname\@empty
5825 #1%
5826 \fi
5827 }%
5828 }%

```

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.

```

5829 \def\@footnotemark{%

```

```

5830 \leavevmode
5831 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5832 \stepcounter{Hfootnote}%
5833 \global\let\Hy@saved@currentHlabel\@currentHlabel
5834 \global\let\Hy@saved@currentHref\@currentHref
5835 \hyper@makecurrent{Hfootnote}%
5836 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5837 \global\let\Hy@footnote@currentHref\@currentHref
5838 \global\let\@currentHlabel\Hy@saved@currentHlabel
5839 \global\let\@currentHref\Hy@saved@currentHref
5840 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5841 \@makefnmark
5842 \hyper@linkend
5843 \ifhmode\spacefactor\x@sf\fi
5844 \relax
5845 }%

```

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

```

5846 \@ifpackageloaded{longtable}{%
5847 \CheckCommand*{\LT@p@ftntext}[1]{%
5848 \edef\@tempa{%
5849 \the\LT@p@ftn
5850 \noexpand\footnotetext[\the\c@footnote]%
5851 }%
5852 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5853 }%
5854 \long\def\LT@p@ftntext#1{%
5855 \edef\@tempa{%
5856 \the\LT@p@ftn
5857 \begingroup
5858 \noexpand\c@footnote=\the\c@footnote\relax
5859 \noexpand\protected@xdef
5860 \noexpand\@thefnmark{\noexpand\thempfn}%
5861 \noexpand\protected@xdef\noexpand\@thefnmark{%
5862 \noexpand\thempfn
5863 }%
5864 \expandafter\expandafter\expandafter\noexpand
5865 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5866 \expandafter\expandafter\expandafter{%
5867 \expandafter\Hy@footnote@currentHref\expandafter
5868 }\expandafter{\Hy@footnote@currentHlabel}%
5869 }%
5870 \global\LT@p@ftn\expandafter{%
5871 \@tempa{#1}%
5872 \endgroup
5873 }%
5874 }%
5875 \long\def\Hy@LT@footnotetext#1#2#3{%
5876 \H@@footnotetext{%
5877 \ifHy@nesting
5878 \hyper@@@anchor{#1}{#3}%
5879 \else
5880 \Hy@raisedlink{%
5881 \hyper@@@anchor{#1}{\relax}%
5882 }%

```

```

5883 \def\@currentHlabel{#2}%
5884 \def\@currentHref{#1}%
5885 \let\@currentlabelname\@empty
5886 #3%
5887 \fi
5888 }%
5889 }%
5890 }{}%

```

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

```

5891 \@ifpackageloaded{fancyvrb}{%
5892 \def\V@@@footnotetext{%
5893 \insert\footins\bgroup
5894 \csname reset@font\endcsname
5895 \footnotesize
5896 \interlinepenalty\interfootnotelinepenalty
5897 \splittopskip\footnotesep
5898 \splitmaxdepth\dp\strutbox
5899 \floatingpenalty \@MM
5900 \hsize\columnwidth
5901 \@parboxrestore
5902 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5903 \@makefnmark}%
5904 \rule{\z@}{\footnotesep}%
5905 \bgroup
5906 \aftergroup\V@@@footnotetext
5907 \Hy@raisedlink{%
5908 \expandafter\hyper@@anchor\expandafter{%
5909 \Hy@footnote@currentHref
5910 }{\relax}}%
5911 }%
5912 \let\@currentHlabel\Hy@footnote@currentHlabel
5913 \let\@currentHref\Hy@footnote@currentHref
5914 \let\@currentlabelname\@empty
5915 \ignorespaces
5916 }%
5917 }{}%

```

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.

```

5918 \let\HyOrg@maketitle\maketitle
5919 \def\maketitle{%
5920 \let\Hy@saved@footnotemark\@footnotemark
5921 \let\Hy@saved@footnotetext\@footnotetext
5922 \let\@footnotemark\H@@footnotemark
5923 \let\@footnotetext\H@@footnotetext
5924 \@ifnextchar[\Hy@maketitle@optarg{% ]
5925 \HyOrg@maketitle
5926 \Hy@maketitle@end
5927 }%
5928 }%
5929 \def\Hy@maketitle@optarg[#1]{%
5930 \HyOrg@maketitle[{#1}]%
5931 \Hy@maketitle@end
5932 }%
5933 \def\Hy@maketitle@end{%
5934 \ifx\@footnotemark\H@@footnotemark
5935 \let\@footnotemark\Hy@saved@footnotemark

```

```

5936 \fi
5937 \ifx\@footnotetext\H@@footnotetext
5938 \let\@footnotetext\Hy@saved@footnotetext
5939 \fi
5940 }%

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

5941 \def\realfootnote{%
5942 \@ifnextchar[\@xfootnote{%
5943 \stepcounter{\@mpfn}%
5944 \protected@xdef\@thefnmark{\thempfn}%
5945 \H@@footnotemark\H@@footnotetext
5946 }%
5947 }%

5948 \fi
5949 \Hy@DisableOption{hyperfootnotes}

5950 \endpackage
5951 \ifcheck
5952 \checklatex
5953 \checkcommand\def\@xfootnotenext[#1]{%
5954 \begingroup
5955 \csname c@\@mpfn\endcsname #1\relax
5956 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5957 \endgroup
5958 \@footnotetext
5959 }
5960 \checkcommand\def\@xfootnotemark[#1]{%
5961 \begingroup
5962 \c@footnote #1\relax
5963 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5964 \endgroup
5965 \@footnotemark
5966 }
5967 \checkcommand\def\@footnotemark{%
5968 \leavevmode
5969 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5970 \@makefnmark
5971 \ifhmode\spacefactor\@x@sf\fi
5972 \relax
5973 }
5974 \ifcheck
5975 \endpackage

```

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.

```

5976 \def\caption{%
5977 \ifx\@caption\@undefined
5978 \latexerror{\noexpand\caption outside float}\@ehd
5979 \expandafter\@gobble
5980 \else
5981 \H@refstepcounter\@caption
5982 \let\Hy@tempa\@caption
5983 \ifundefined{float@caption}{%

```

```

5984 }{%
5985   \expandafter\ifx\csname @float@c@\@capttype\endcsname
5986     \float@caption
5987     \let\Hy@tempa\Hy@float@caption
5988   \fi
5989 }%
5990 \expandafter\@firstofone
5991 \fi
5992 {\@dblarg{\Hy@tempa\@capttype}}%
5993 }
5994 \long\def\@caption#1[#2]#3{%
5995   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5996     \csname iftrue\endcsname
5997     \global\let\@currentHref\hc@currentHref
5998   \else
5999     \hyper@makecurrent{\@capttype}%
6000   \fi
6001   \@ifundefined{NR@gettitle}{%
6002     \def\@currentlabelname{#2}%
6003   }{%
6004     \NR@gettitle{#2}%
6005   }%
6006   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6007     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6008   }%
6009   \begingroup
6010     \@parboxrestore
6011     \if@minipage
6012       \setminipage
6013     \fi
6014     \normalsize
6015     \expandafter\ifx\csname if@capstart\expandafter\endcsname
6016       \csname iftrue\endcsname
6017       \global\@capstartfalse
6018       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6019     \else
6020       \@makecaption{\csname fnum@#1\endcsname}{%
6021         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6022   \ifHy@nesting
6023     \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
6024   \else
6025     \Hy@raisedlink{%
6026       \expandafter\hyper@@@anchor\expandafter{%
6027         \@currentHref
6028       }\relax}%
6029   }%
6030   #3%
6031   \fi
6032 }%
6033 \fi
6034 \par
6035 \endgroup
6036 }

```

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.

```

6037 \let\Hy@float@caption\@caption
6038 \@ifpackageloaded{float}{%
6039   \def\Hy@float@caption{%
6040     \ifx\Hy@float@currentHref\@undefined
6041       \hyper@makecurrent{\@capttype}%
6042       \global\let\Hy@float@currentHref\@currentHref
6043     \else
6044       \let\@currentHref\Hy@float@currentHref
6045     \fi
6046     \float@caption
6047   }%
6048   \let\HyOrg@float@makebox\float@makebox
6049   \renewcommand{\float@makebox}[1]{%
6050     \HyOrg@float@makebox{%
6051       #1\relax
6052     \ifx\Hy@float@currentHref\@undefined
6053     \else
6054       \expandafter\hyper@@anchor\expandafter{%
6055         \Hy@float@currentHref
6056       }\relax}%
6057     \global\let\Hy@float@currentHref\@undefined
6058     \fi
6059   }%
6060 }%
6061 }{}

6062 </package>
6063 <*check>
6064 \checklatex[1999/06/01 - 2000/06/01]
6065 \checkcommand\def\caption{%
6066   \ifx\@capttype\@undefined
6067     \@latex@error{\noexpand\caption outside float}\@ehd
6068     \expandafter\@gobble
6069   \else
6070     \refstepcounter{\capttype
6071     \expandafter\@firstofone
6072   \fi
6073   {\@dblarg{\@caption\@capttype}}}%
6074 }
6075 \checkcommand\long\def\@caption#1[#2]#3{%
6076   \par
6077   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6078     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
6079   }%
6080 \begingroup
6081   \@parboxrestore
6082   \if@minipage
6083     \@setminipage
6084   \fi
6085   \normalsize
6086   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6087 \endgroup
6088 }
6089 </check>
6090 <*package>

```


37 Bibliographic references

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

However, 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.

```

6091 \def\hyper@natlinkstart#1{%
6092   \Hy@backout{#1}%
6093   \hyper@linkstart{cite}{cite.#1}%
6094   \def\hyper@nat@current{#1}%
6095 }
6096 \def\hyper@natlinkend{%
6097   \hyper@linkend
6098 }
6099 \def\hyper@natlinkbreak#1#2{%
6100   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6101 }
6102 \def\hyper@natanchorstart#1{%
6103   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6104 }
6105 \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.

```

6106 \ifundefined{NAT@parse}{%
6107   \providecommand*\@extra@binfo{}%
6108   \providecommand*\@extra@b@citeb{}%
6109   \def\bibcite#1#2{%
6110     \@newl@bel{b}{#1\@extra@binfo}{%
6111       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6112     }%
6113   }%
6114   \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.”.

```

6115 \let\Hy@bibcite\bibcite
6116 \begingroup
6117   \ifundefined{bbl@cite@choice}{}%
6118     \g@addto@macro\bbl@cite@choice{%
6119       \let\bibcite\Hy@bibcite
6120     }%
6121   }%
6122 \endgroup

```

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

```

6123 \providecommand*\@BIBLABEL{\@biblabel}%
6124 \def\@lbibitem[#1]#2{%
6125   \@skiphyperreftrue
6126   \H@item[%
6127     \ifx\Hy@raisedlink\@empty

```

```

6128     \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6129     \@BIBLABEL{#1}%
6130     \hyper@anchorend
6131   \else
6132     \Hy@raisedlink{%
6133       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6134     }%
6135     \@BIBLABEL{#1}%
6136   \fi
6137   \hfill
6138 }%
6139 \@skiphyperreffalse
6140 \if@filesw
6141   \begingroup
6142     \let\protect\noexpand
6143     \immediate\write\@auxout{%
6144       \string\bibcite{#2}{#1}%
6145     }%
6146   \endgroup
6147 \fi
6148 \ignorespaces
6149 }%

```

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

```

6150 \def\@bibitem#1{%
6151   \@skiphyperrefftrue\H@item\@skiphyperreffalse
6152   \Hy@raisedlink{%
6153     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6154   }%
6155   \if@filesw
6156     \begingroup
6157       \let\protect\noexpand
6158       \immediate\write\@auxout{%
6159         \string\bibcite{#1}{\the\value{\@listctr}}%
6160       }%
6161     \endgroup
6162   \fi
6163   \ignorespaces
6164 }%
6165 }{}

6166 </package>
6167 <*check>
6168 \checklatex
6169 \checkcommand\def\@lbibitem[#1]#2{%
6170   \item[\@biblabel{#1}\hfill]%
6171   \if@filesw
6172     {%
6173       \let\protect\noexpand
6174       \immediate\write\@auxout{%
6175         \string\bibcite{#2}{#1}%
6176       }%
6177     }%
6178   \fi
6179   \ignorespaces
6180 }
6181 \checkcommand\def\@bibitem#1{%

```

```

6182 \item
6183 \if@filesw
6184 \immediate\write\@auxout{%
6185 \string\bibcite{#1}{\the\value{\@listctr}}}%
6186 }%
6187 \fi
6188 \ignorespaces
6189 }
6190 \</check>
6191 \<*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.

```

6192 \@ifclassloaded{revtex}{%
6193 \Hy@Info{*** compatibility with revtex **** }%
6194 \def\revtex@checking#1#2{%
6195 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6196 \expandafter\def\csname b@#1\endcsname{#2}%
6197 \@SetMaxRnhefLabel{#1}%
6198 \expandafter\let\csname b@#1\endcsname\T@temp
6199 }%

```

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

```

6200 \@ifundefined{@CITE}{\def@CITE{\@cite}}{%
6201 \providecommand*{\@extra@b@citeb}{}%
6202 \def\CITEX[#1]#2{%
6203 \let\@citea\@empty
6204 \leavevmode
6205 \unskip
6206 $\sim$%
6207 \scriptstyle
6208 \@CITE{%
6209 \@for\@citeb:=#2\do{%
6210 \@citea
6211 \def\@citea{,\penalty\@m\ }%
6212 \edef\@citeb{\expandafter\@firstofone\@citeb}%
6213 \if@filesw
6214 \immediate\write\@auxout{\string\citation{\@citeb}}%
6215 \fi
6216 \@ifundefined{b@\@citeb\extra@b@citeb}{%
6217 \mbox{\reset@font\bfseries ?}%
6218 \G@refundefinedtrue
6219 \@latex@warning{%
6220 Citation '\@citeb' on page \thepage \space undefined%
6221 }%
6222 }{%
6223 {\csname b@\@citeb\extra@b@citeb\endcsname}%
6224 }%
6225 }%
6226 }{#1}%
6227 }$%
6228 }%

```

No, life is too short. I am not going to understand the Rextex \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

```

6229 \def\citex[#1]#2{%

```

```

6230 \let\@citea\@empty
6231 \@cite{%
6232   \@for\@citeb:=#2\do{%
6233     \@citea
6234     \def\@citea{,\penalty\@m\ }%
6235     \edef\@citeb{\expandafter\@firstofone\@citeb}%
6236     \if@filesw
6237       \immediate\write\@auxout{\string\citation{\@citeb}}%
6238     \fi
6239     \ifundefined{b@\@citeb\@extra@b@citeb}{%
6240       \mbox{\reset@font\bfseries ?}%
6241       \G@refundefinedtrue
6242       \@latex@warning{%
6243         Citation '\@citeb' on page \thepage \space undefined%
6244       }%
6245     }{%
6246       \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6247     }%
6248   }%
6249 }{#1}%
6250 }%
6251 }{}

```

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.

```

6252 \ifpackageloaded{harvard}{%
6253   \AtBeginDocument{%
6254     \Hy@Info{*** compatibility with harvard **** }%
6255     \Hy@raiselinksfalse
6256     \def\harvardcite#1#2#3#4{%
6257       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6258       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6259       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6260       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6261     }%
6262     \def\HAR@citetoaux#1{%
6263       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6264       \ifHy@backref
6265         \ifx\@empty\@currentlabel
6266           \else
6267             \@bsphack
6268             \if@filesw
6269               \protected@write\@auxout{}{%
6270                 \string\@writefile{brf}{%
6271                   \string\backcite{#1}{%
6272                     {\thepage}{\@currentlabel}{\@currentHref}%
6273                   }%
6274                 }%
6275               }%
6276             \fi

```

```

6277     \@esphack
6278     \fi
6279     \fi
6280 }%
6281 \def\harvarditem{%
6282   \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6283 }%
6284 \def\@harvarditem[#1]#2#3#4#5\par{%
6285   \item[]%
6286   \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6287   \if@filesw
6288     \begingroup
6289     \def\protect##1{\string ##1\space}%
6290     \ifthenelse{\equal{#1}{\null}}{%
6291       {\def\next{{#4}{#2}{#2}{#3}}}%
6292       {\def\next{{#4}{#2}{#1}{#3}}}%
6293     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6294   \endgroup
6295   \fi
6296   \protect\hspace*{-\labelwidth}%
6297   \protect\hspace*{-\labelsep}%
6298   \ignorespaces
6299   #5%
6300   \ifHy@backref
6301     \newblock
6302     \backref{\csname br@#4\endcsname}%
6303   \fi
6304   \par
6305 }%

```

\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:

```

6306 \long\def\HAR@checkcitations#1#2#3#4{%
6307   \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
6308   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6309     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6310     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6311       \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6312       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6313         \else
6314           \@tempwattrue
6315         \fi
6316       \else
6317         \@tempwattrue
6318       \fi
6319     \else
6320       \@tempwattrue
6321     \fi
6322   }%
6323 }%
6324 }{}

```

37.2 Package chicago

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

```

6325 \@ifpackageloaded{chicago}{%
\citeN
6326 \def\citeN{%
6327 \def\@citesep{-1000}%
6328 \def\@cite##1##2{##1}%
6329 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
6330 \@citedata@opt
6331 }%

\shortciteN
6332 \def\shortciteN{%
6333 \def\@citesep{-1000}%
6334 \def\@cite##1##2{##1}%
6335 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
6336 \@citedata@opt
6337 }%

\@citedata@opt
6338 \def\@citedata@opt{%
6339 \let\@cite@opt\@empty
6340 \@ifnextchar [{%
6341 \@tempwattrue
6342 \@citedatax@opt
6343 }{%
6344 \@tempwafalse
6345 \@citedatax[]%
6346 }%
6347 }%

\@citedatax@opt
6348 \def\@citedatax@opt[#1]{%
6349 \def\@cite@opt{, #1}%
6350 \@citedatax[{#1}]%
6351 }%

6352 }{}

```

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.

```

6353 \def\Hy@EveryPageAnchor{%
6354 \Hy@DistillerDestFix
6355 \ifHy@pageanchor
6356 \ifHy@hypertextnames
6357 \ifHy@plainpages
6358 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6359 \else
6360 \begingroup
6361 \let\@number\@firstofone

```

```

6362 \Hy@unicodedefalse
6363 \pdfstringdef\@the@H@page{\thepage}%
6364 \endgroup
6365 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6366 \fi
6367 \else
6368 \Hy@GlobalStepCount\Hy@pagecounter
6369 \def\Hy@TempPageAnchor{%
6370 \hyper@@anchor{page.\the\Hy@pagecounter}%
6371 }%
6372 \fi
6373 \vbox to 0pt{%
6374 \kern\voffset
6375 \kern\topmargin
6376 \kern-1bp\relax
6377 \hbox to 0pt{%
6378 \kern\hoffset
6379 \kern\ifodd\value{page}%
6380 \oddsidemargin
6381 \else
6382 \evensidemargin
6383 \fi
6384 \kern-1bp\relax
6385 \Hy@TempPageAnchor
6386 \hss
6387 }%
6388 \vss
6389 }%
6390 \fi
6391 }
6392 \g@addto@macro\Hy@EveryPageBoxHook{%
6393 \Hy@EveryPageAnchor
6394 }

```

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.

```

6395 \def\addcontentsline#1#2#3{% toc extension, type, tag
6396 \begingroup
6397 \let\label\@gobble
6398 \ifx\@currentHref\@empty
6399 \Hy@Warning{%
6400 No destination for bookmark of \string\addcontentsline,%
6401 \MessageBreak destination is added%
6402 }%
6403 \phantomsection
6404 \fi
6405 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6406 \begingroup
6407 \def\Hy@tempa{#1}%
6408 \ifx\Hy@tempa\Hy@bookmarkstype
6409 \Hy@WarningNoLine{%
6410 bookmark level for unknown #2 defaults to 0%
6411 }%

```

```

6412     \else
6413         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6414     \fi
6415 \endgroup
6416 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6417 \fi
6418 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6419 \Hy@writebookmark{\csname the#2\endcsname}%
6420     {#3}%
6421     {\@currentHref}%
6422     {\Hy@toclevel}%
6423     {#1}%
6424 \ifHy@verbose
6425     \def\Hy@tempa{#3}%
6426     \@onelevel@sanitize\Hy@tempa
6427     \typeout{pdfTeX: bookmark at \the\inputlineno: %
6428         {\csname the#2\endcsname}%
6429         {\Hy@tempa}%
6430         {\@currentHref}%
6431         {\Hy@toclevel}%
6432         {#1}%
6433     }%
6434 \fi
6435 \addtocontents{#1}{%
6436     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6437 }%
6438 \endgroup
6439 }
6440 \def\contentsline#1#2#3#4{%
6441     \ifx\#4\%
6442         \csname l@#1\endcsname{#2}{#3}%
6443     \else
6444         \ifcase\Hy@linktoc % none
6445             \csname l@#1\endcsname{#2}{#3}%
6446         \or % section
6447             \csname l@#1\endcsname{%
6448                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6449             }{#3}%
6450         \or % page
6451             \csname l@#1\endcsname{{#2}}{%
6452                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6453             }%
6454         \else % all
6455             \csname l@#1\endcsname{%
6456                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6457             }{%
6458                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6459             }%
6460         \fi
6461     \fi
6462 }
6463 \end{package}
6464 \ifcheck
6465 \checklatex
6466 \checkcommand\def\addcontentsline#1#2#3{%
6467     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6468 }

```



```

6469 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6470 \</check>
6471 \<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.

```

6472 \let\H@definecounter\@definecounter
6473 \def\@definecounter#1{%
6474   \H@definecounter{#1}%
6475   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6476 }

```

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.

```

6477 \let\H@newctr\@newctr
6478 \def\@newctr#1[#2]{%
6479   \H@newctr#1[#2]%
6480   \expandafter\def\csname theH#1\endcsname{%
6481     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6482   }%
6483 }

```

41 AMS \LaTeX compatibility

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

Version 6.77p uses a patch by Ross Moore.

```

6484 \ifpackageloaded{amsmath}{%
6485   \def\Hy@make@anchor{%
6486     \Hy@GlobalStepCount\Hy@linkcounter
6487     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6488     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6489   }%
6490   \def\Hy@make@df@tag@@#1{%
6491     \gdef\df@tag{%
6492       \maketag@@@{\Hy@make@anchor#1}%
6493       \def\@currentlabel{#1}%
6494     }%
6495   }%
6496   \def\Hy@make@df@tag@@@#1{%
6497     \gdef\df@tag{%
6498       \tagform@{\Hy@make@anchor#1}%
6499       \toks@\@xp{\p@equation{#1}}%
6500       \edef\@currentlabel{\the\toks@}%
6501     }%
6502   }%
6503   \let\HyOrg@make@df@tag@@\make@df@tag@@
6504   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6505   \let\make@df@tag@@\Hy@make@df@tag@@
6506   \let\make@df@tag@@@\Hy@make@df@tag@@@

```

```
6507 }{}
```

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

```
6508 \ifpackagewith{hyperref}{pdfTeX}{%
6509   \let\H@seteqlabel\@seteqlabel
6510   \def\@seteqlabel#1{%
6511     \H@seteqlabel{#1}%
6512     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6513     \Hy@raisedlink{%
6514       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6515     }%
6516   }%
6517 }{}
```

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.

```
6518 \let\HyOrg@addtoreset\@addtoreset
6519 \def\@addtoreset#1#2{%
6520   \HyOrg@addtoreset{#1}{#2}%
6521   \expandafter\xdef\csname theH#1\endcsname{%
6522     \expandafter\noexpand
6523     \csname the\@ifundefined{theH#2}{H#2}\endcsname
6524     .\noexpand\the\noexpand\value{#1}%
6525   }%
6526 }
```

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

```
6527 </package>
6528 <*check>
6529 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6530 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6531   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6532     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6533       \@addtoreset{#2}{#3}%
6534       \xp\xdef\csname the#2\endcsname{%
6535         \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6536       }%
6537     }%
6538   }%
6539 }%
6540 </check>
6541 <*package>
6542 \ifpackageloaded{amsmath}{%
```

```

6543 \ifpackagelater{amsmath}{1999/12/14}{%
6544 \renewcommand*{\numberwithin}{3}[\arabic]{%
6545 \ifundefined{c@#2}{\@nocounterr{#2}}{%
6546 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6547 \HyOrg@addtoreset{#2}{#3}%
6548 \xp\xdef\csname the#2\endcsname{%
6549 \xp\xnx\csname the#3\endcsname .\@nx#1{#2}%
6550 }%
6551 \xp\xdef\csname theH#2\endcsname{%
6552 \xp\xnx
6553 \csname the\ifundefined{theH#3}{H#3\endcsname
6554 .\@nx#1{#2}%
6555 }%
6556 }%
6557 }%
6558 }%
6559 }{%
6560 \Hy@WarningNoLine{%
6561 \string\numberwithin\space of package ‘amsmath’ %
6562 only fixed\MessageBreak
6563 for version 2000/06/06 v2.12 or newer%
6564 }%
6565 }%
6566 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6567 \ifHy@figures
6568 \let\Hy@Gin@setfile\Gin@setfile
6569 \def\Gin@setfile#1#2#3{%
6570 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6571 }%
6572 \fi
6573 \Hy@DisableOption{hyperfigures}

```

43 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like boldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

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

```

6574 \ifHy@hyperindex
6575 \def\HyInd@ParenLeft{(%
6576 \def\HyInd@ParenRight{)%
6577 \def\hyperindexformat#1#2{%
6578 \let\HyOrg@hyperpage\hyperpage
6579 \let\hyperpage\@firstofone
6580 #1{\HyOrg@hyperpage{#2}}%

```

```

6581 \let\hyperpage\HyOrg@hyperpage
6582 }%
6583 \Hy@nextfalse
6584 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6585 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6586 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6587 \begingroup
6588 \lccode'\|=\expandafter\HyInd@EncapChar\relax
6589 \lccode'\|/\|=\|\\relax
6590 \lowercase{\endgroup
6591 \ifHy@next
6592 \let\HyInd@org@wrindex\@wrindex
6593 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
6594 \def\HyInd@@wrindex#1#2|#3|#4\\{%
6595 \ifx\\#3\\%
6596 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6597 \else
6598 \HyInd@@@wrindex{#1}{#2}#3\\%
6599 \fi
6600 }%
6601 \def\HyInd@@@wrindex#1#2#3#4\\{%
6602 \def\Hy@temp@A{#3}%
6603 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6604 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6605 \relax
6606 \HyInd@org@wrindex{#1}{%
6607 #2|hyperindexformat{/#3#4}%
6608 }%
6609 \else
6610 \ifx\\#4\\%
6611 \ifx\Hy@temp@A\HyInd@ParenRight
6612 \HyInd@org@wrindex{#1}{#2|#3}%
6613 \else
6614 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6615 \fi
6616 \else
6617 \HyInd@org@wrindex{#1}{%
6618 #2|#3hyperindexformat{/#4}%
6619 }%
6620 \fi
6621 \fi
6622 }%
6623 \else
6624 \def\@wrindex#1{\@@wrindex#1||\\}%
6625 \def\@@wrindex#1|#2|#3\\{%
6626 \if@filesw
6627 \ifx\\#2\\%
6628 \protected@write\@indexfile{}{%
6629 \string\indexentry{#1|hyperpage}{\thepage}%
6630 }%
6631 \else
6632 \HyInd@@@wrindex{#1}#2\\%
6633 \fi
6634 \fi
6635 \endgroup
6636 \@esphack
6637 }%

```

```

6638 \def\HyInd@@@wrindex#1#2#3\{\%
6639 \def\Hy@temp@A{#2}%
6640 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6641 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6642 \relax
6643 \protected@write\@indexfile{\}%
6644 \string\indexentry{%
6645 #1|hyperindexformat{/#2#3}%
6646 }\the page}%
6647 }%
6648 \else
6649 \ifx\#3\%
6650 \ifx\Hy@temp@A\HyInd@ParenRight
6651 \protected@write\@indexfile{\}%
6652 \string\indexentry{#1|#2}\the page}%
6653 }%
6654 \else
6655 \protected@write\@indexfile{\}%
6656 \string\indexentry{#1|#2hyperpage}\the page}%
6657 }%
6658 \fi
6659 \else
6660 \protected@write\@indexfile{\}%
6661 \string\indexentry{%
6662 #1|#2hyperindexformat{/#3}%
6663 }\the page}%
6664 }%
6665 \fi
6666 \fi
6667 }%
6668 \fi
6669 }%
6670 \fi
6671 \Hy@DisableOption{hyperindex}
6672 \Hy@DisableOption{encap}

```

\nohyperpage The definition of \nohyperpage is just a precaution. It is used to mark code that does not belong to a page number, but \nohyperpage is never executed.

```

6673 \def\nohyperpage#1{#1}

```

This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

```

6674 \def\hyperpage#1{%
6675 \HyInd@hyperpage#1\nohyperpage{\}\@nil
6676 }
6677 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6678 \HyInd@@hyperpage{#1}%
6679 #2%
6680 \def\Hy@temp{#3}%
6681 \ifx\Hy@temp\@empty
6682 \else
6683 \Hy@ReturnAfterFi{%
6684 \HyInd@hyperpage#3\@nil
6685 }%
6686 \fi
6687 }
6688 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}

```

```

6689 \def\@hyperpage#1--#2--#3\{\%
6690 \ifx\#2\%
6691 \@commahyperpage{#1}%
6692 \else
6693 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6694 \fi
6695 }
6696 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6697 \def\@commahyperpage#1, #2,#3\{\%
6698 \ifx\#2\%
6699 \HyInd@pagelink{#1}%
6700 \else
6701 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6702 \fi
6703 }

```

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

```

6704 \def\HyInd@pagelink#1{%
6705 \begingroup
6706 \toks@={}%
6707 \HyInd@removespaces#1 \@nil
6708 \endgroup
6709 }
6710 \def\HyInd@removespaces#1 #2\@nil{%
6711 \toks@=\expandafter{\the\toks@#1}%
6712 \ifx\#2\%
6713 \edef\x{\the\toks@}%
6714 \ifx\x\@empty
6715 \else
6716 \hyperlink{page.\the\toks@}{\the\toks@}%
6717 \fi
6718 \else
6719 \Hy@ReturnAfterFi{%
6720 \HyInd@removespaces#2\@nil
6721 }%
6722 \fi
6723 }

```

44 Compatibility with foiltex

```

6724 \@ifclassloaded{foils}{%
6725 \providecommand*\ext@table{lot}%
6726 \providecommand*\ext@figure{lof}%
6727 }{}

```

45 Compatibility with seminar slide package

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

```

6728 \@ifclassloaded{seminar}{%
6729 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6730 }{%
6731 \Hy@seminarslidesfalse
6732 }
6733 \@ifpackageloaded{slidesec}{%

```

```

6734 \newcommand\theHslidesection {\arabic{slidesection}}%
6735 \newcommand\theHslidesubsection{%
6736   \theHslidesection.\arabic{slidesubsection}%
6737 }%
6738 \def\slide@heading[#1]#2{%
6739   \H@refstepcounter{slidesection}%
6740   \@addtoreset{slidesubsection}{slidesection}%
6741   \addtocontents{los}{%
6742     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6743     {\@SCTR}{\slideheading.\theslidesection}%
6744   }%
6745   \def\Hy@tempa{#2}%
6746   \ifx\Hy@tempa\@empty
6747   \else
6748     {%
6749       \edef\@currentlabel{%
6750         \csname p@slidesection\endcsname\theslidesection
6751       }%
6752       \makeslideheading{#2}%
6753     }%
6754   \fi
6755   \gdef\theslideheading{#1}%
6756   \gdef\theslidesubheading{}%
6757   \ifHy@bookmarksnumbered
6758     \def\Hy@slidetitle{\theslidesection\space #1}%
6759   \else
6760     \def\Hy@slidetitle{#1}%
6761   \fi
6762   \ifHy@hypertextnames
6763     \ifHy@naturalnames
6764       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6765       \Hy@writebookmark
6766         {\theslidesection}%
6767         {\Hy@slidetitle}%
6768         {slideheading.\theslidesection}%
6769         {1}%
6770         {toc}%
6771     \else
6772       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6773       \Hy@writebookmark
6774         {\theslidesection}%
6775         {\Hy@slidetitle}%
6776         {slideheading.\theHslidesection}%
6777         {1}%
6778         {toc}%
6779     \fi
6780   \else
6781     \Hy@GlobalStepCount\Hy@linkcounter
6782     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6783     \Hy@writebookmark
6784       {\theslidesection}%
6785       {\Hy@slidetitle}%
6786       {slideheading.\the\Hy@linkcounter}%
6787       {1}%
6788       {toc}%
6789   \fi
6790 }%

```

```

6791 \def\slide@subheading[#1]#2{%
6792   \H@refstepcounter{slidesubsection}%
6793   \addtocontents{los}{%
6794     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6795     {\@SCTR}{slideheading.\theslidesubsection}%
6796   }%
6797   \def\Hy@tempa{#2}%
6798   \ifx\Hy@tempa\@empty
6799   \else
6800     {%
6801       \edef\@currentlabel{%
6802         \csname p@slidesubsection\endcsname\theslidesubsection
6803       }%
6804       \makeslidesubheading{#2}%
6805     }%
6806   \fi
6807   \gdef\theslidesubheading{#1}%
6808   \ifHy@bookmarksnumbered
6809     \def\Hy@slidetitle{\theslidesubsection\space #1}%
6810   \else
6811     \def\Hy@slidetitle{#1}%
6812   \fi
6813   \ifHy@hypertextnames
6814     \ifHy@naturalnames
6815       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6816       \Hy@writebookmark
6817         {\theslidesubsection}%
6818         {\Hy@slidetitle}%
6819         {slideheading.\theslidesubsection}%
6820         {2}%
6821         {toc}%
6822     \else
6823       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6824       \Hy@writebookmark
6825         {\theslidesubsection}%
6826         {\Hy@slidetitle}%
6827         {slideheading.\theHslidesubsection}%
6828         {2}%
6829         {toc}%
6830     \fi
6831   \else
6832     \Hy@GlobalStepCount\Hy@linkcounter
6833     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6834     \Hy@writebookmark
6835       {\theslidesubsection}%
6836       {\Hy@slidetitle}%
6837       {slideheading.\the\Hy@linkcounter}%
6838       {1}%
6839       {toc}%
6840   \fi
6841 }%
6842 \providecommand*{\listslidenam}{List of Slides}%
6843 \def\listofslides{%
6844   \section*{%
6845     \listslidenam
6846     \@mkboth{%
6847       \expandafter\MakeUppercase\listslidenam

```



```

6848     }{%
6849     \expandafter\MakeUppercase\listslidenam
6850     }%
6851 }%
6852 \def\l@slide##1##2##3##4{%
6853     \slide@undottedcline{%
6854         \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6855     }{%}%
6856 }%
6857 \let\l@subslide\l@slide
6858 \@startlos
6859 }%
6860 \def\slide@contents{%
6861     \def\l@slide##1##2##3##4{%
6862         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6863     }%
6864     \let\l@subslide\@gobblefour
6865     \@startlos
6866 }%
6867 \def\Slide@contents{%
6868     \def\l@slide##1##2##3##4{%
6869         \ifcase\lslide@flag
6870             \message{##1 ** \the\c@slidesection}%
6871             \ifnum##1>\c@slidesection
6872                 \def\lslide@flag{1}%
6873             {%
6874                 \large
6875                 \slide@ccline{%
6876                     \slidenumberline{$\Rightarrow\bullet$}%
6877                     {\hyperlink{##4}{##2}}}%
6878                 }{##3}%
6879             }%
6880         \else
6881             {%
6882                 \large
6883                 \slide@ccline{%
6884                     \slidenumberline{$\surd\;\bullet$}%
6885                     {\hyperlink{##4}{##2}}}%
6886                 }{##3}%
6887             }%
6888         \fi
6889     \or
6890     \def\lslide@flag{2}%
6891     {%
6892         \large
6893         \slide@ccline{%
6894             \slidenumberline{$\bullet$}%
6895             {\hyperlink{##4}{##2}}}%
6896         }{##3}%
6897     }%
6898     \or
6899     {%
6900         \large
6901         \slide@ccline{%
6902             \slidenumberline{$\bullet$}%
6903             {\hyperlink{##4}{##2}}}%
6904         }{##3}%

```

```

6905     }%
6906     \fi
6907 }%
6908 \def\l@subslide##1##2##3##4{%
6909     \ifnum\lslide@flag=1 %
6910         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6911     \fi
6912 }%
6913 \def\lslide@flag{0}%
6914 \@startlos
6915 }%
6916 }{}

```

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). (\endinginput have to be on the same line like \fi, or you have to use \expandafter before.)

```

6917 \ifHy@texht
6918     \expandafter\endinginput
6919 \fi
6920 \let\real@setref\@setref
6921 \def\@setref#1#2#3{% csname, extract group, refname
6922     \ifx#1\relax
6923         \protect\G@refundefinedtrue
6924         \nfss@text{\reset@font\bfseries ??}%
6925         \@latex@warning{%
6926             Reference ‘#3’ on page \thepage \space undefined%
6927         }%
6928     \else
6929         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6930     \fi
6931 }

```

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

```

6932 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6933     \begingroup
6934     \toks0={\hyper@@link{#5}{#4}}%
6935     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6936     \edef\x{\endgroup
6937         \the\toks0 {\the\toks1 }%
6938     }%
6939     \x
6940 }
6941 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6942     \ifx#1\relax
6943         \protect\G@refundefinedtrue
6944         \nfss@text{\reset@font\bfseries ??}%
6945         \@latex@warning{%
6946             Reference ‘#3’ on page \thepage \space undefined%
6947         }%
6948     \else
6949         \protect\hyper@@link
6950         {\expandafter\@fifthoffive#1}%
6951         {page.\expandafter\@secondoffive#1}%
6952         {\expandafter\@secondoffive#1}%
6953     \fi
6954 }
6955 \</package>

```

```

6956 <*check>
6957 \checklatex
6958 \checkcommand\def\@setref#1#2#3{%
6959   \ifx#1\relax
6960     \protect\G@refundefinedtrue
6961     \nfss@text{\reset@font\bfseries ??}%
6962     \@latex@warning{%
6963       Reference '#3' on page \thepage\space undefined%
6964     }%
6965   \else
6966     \expandafter#2#1\null
6967   \fi
6968 }
6969 </check>
6970 <*package>

```

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

```

6971 \def\HyRef@StarSetRef#1{%
6972   \begingroup
6973   \Hy@safe@activetrue
6974   \edef\x{#1}%
6975   \@onelevel@sanitize\x
6976   \edef\x{\endgroup
6977     \noexpand\HyRef@@StarSetRef
6978     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6979   }%
6980   \x
6981 }
6982 \def\HyRef@@StarSetRef#1#2#3{%
6983   \ifx#1\@undefined
6984     \let#1\relax
6985   \fi
6986   \real@setref#1#3{#2}%
6987 }
6988 \def\@refstar#1{%
6989   \HyRef@StarSetRef{#1}\@firstoffive
6990 }
6991 \def\@pagerefstar#1{%
6992   \HyRef@StarSetRef{#1}\@secondoffive
6993 }
6994 \AtBeginDocument{%
6995   \@ifpackageloaded{varioref}{%
6996     \def\@Refstar#1{%
6997       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6998     }%
6999     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7000       \MakeUppercase#1%
7001     }%
7002     \DeclareRobustCommand*\{Ref}{%
7003       \@ifstar\@Refstar\HyRef@Ref
7004     }%
7005     \def\HyRef@Ref#1{%
7006       \hyperref[{#1}]{\Ref*{#1}}%
7007     }%
7008     \def\Vr@f#1{%
7009       \leavevmode\unskip\vref@space
7010       \hyperref[{#1}]{%

```

```

7011 \Ref*{#1}%
7012 \let\vref@space\nobreakspace
7013 \@vpageref[\unskip]{#1}%
7014 }%
7015 }%
7016 \def\vr@f#1{%
7017 \leavevmode\unskip\vref@space
7018 \begingroup
7019 \let\T@pageref\@pagerefstar
7020 \hyperref[{#1}]{%
7021 \ref*{#1}%
7022 \vpageref[\unskip]{#1}%
7023 }%
7024 \endgroup
7025 }%
7026 }{}%
7027 }
7028 \DeclareRobustCommand*\autopageref{%
7029 \@ifstar{%
7030 \HyRef@autopagerefname\pageref*%
7031 }\HyRef@autopageref
7032 }
7033 \def\HyRef@autopageref#1{%
7034 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7035 }
7036 \def\HyRef@autopagerefname{%
7037 \@ifundefined{pageautorefname}{%
7038 \@ifundefined{pagename}{%
7039 \Hy@Warning{No autoref name for 'page'}%
7040 }{%
7041 \pagename\nobreakspace
7042 }%
7043 }{%
7044 \pageautorefname\nobreakspace
7045 }%
7046 }
7047 \DeclareRobustCommand*\autoref{%
7048 \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
7049 }
7050 \def\HyRef@autoref#1#2{%
7051 \begingroup
7052 \Hy@safe@activetrue
7053 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7054 \endgroup
7055 }
7056 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7057 \HyRef@ShowKeysRef{#2}%
7058 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
7059 \edef\HyRef@thisref{%
7060 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7061 }%
7062 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7063 \Hy@safe@activesfalse
7064 #3{%
7065 \expandafter\@fifthoffive#1\@empty\@empty\@empty
7066 }{%
7067 \expandafter\@fourthoffive#1\@empty\@empty\@empty

```

```

7068 }{%
7069   \HyRef@currentHtag
7070   \expandafter\@firstoffive#1\@empty\@empty\@empty
7071   \null
7072 }%
7073 \else
7074   \protect\G@refundefinedtrue
7075   \nfss@text{\reset@font\bfseries ??}%
7076   \@latex@warning{%
7077     Reference '#2' on page \thepage\space undefined%
7078   }%
7079 \fi
7080 }
7081 \def\HyRef@testreftype#1.#2\\{%
7082   \@ifundefined{#1autorefname}{%
7083     \@ifundefined{#1name}{%
7084       \HyRef@StripStar#1\*\@nil{#1}%
7085       \@ifundefined{\HyRef@name autorefname}{%
7086         \@ifundefined{\HyRef@name name}{%
7087           \def\HyRef@currentHtag{%
7088             \Hy@Warning{No autoref name for '#1'}%
7089           }{%
7090             \edef\HyRef@currentHtag{%
7091               \expandafter\noexpand\csname\HyRef@name name\endcsname
7092               \noexpand~%
7093             }%
7094           }%
7095         }{%
7096           \edef\HyRef@currentHtag{%
7097             \expandafter\noexpand
7098             \csname\HyRef@name autorefname\endcsname
7099             \noexpand~%
7100           }%
7101         }%
7102       }{%
7103         \edef\HyRef@currentHtag{%
7104           \expandafter\noexpand\csname#1name\endcsname
7105           \noexpand~%
7106         }%
7107       }%
7108     }{%
7109       \edef\HyRef@currentHtag{%
7110         \expandafter\noexpand\csname#1autorefname\endcsname
7111         \noexpand~%
7112       }%
7113     }%
7114   }
7115 \def\HyRef@StripStar#1*\@nil#3{%
7116   \def\HyRef@name{#2}%
7117   \ifx\HyRef@name\HyRef@CaseStar
7118     \def\HyRef@name{#1}%
7119   \else
7120     \def\HyRef@name{#3}%
7121   \fi
7122 }
7123 \def\HyRef@CaseStar{*\\}
7124 \def\HyRef@currentHtag{}

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```
7125 \let\HyRef@ShowKeysRef\@gobble
7126 \def\HyRef@ShowKeysInit{%
7127   \begingroup\expandafter\expandafter\expandafter\endgroup
7128   \expandafter\ifx\csname SK@@label\endcsname\relax
7129   \else
7130     \ifx\SK@ref\@empty
7131     \else
7132       \def\HyRef@ShowKeysRef{%
7133         \SK@\SK@@ref
7134       }%
7135     \fi
7136   \fi
7137 }
7138 \ifpackageloaded{showkeys}{%
7139   \HyRef@ShowKeysInit
7140 }{%
7141   \AtBeginDocument{%
7142     \ifpackageloaded{showkeys}{%
7143       \HyRef@ShowKeysInit
7144     }{}%
7145   }%
7146 }
```

Defaults for the names that `\autoref` uses.

```
7147 \providecommand*\AMSautorefname{\equationautorefname}
7148 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7149 \providecommand*\Itemautorefname{\itemautorefname}
7150 \providecommand*\itemautorefname{item}
7151 \providecommand*\equationautorefname{Equation}
7152 \providecommand*\footnoteautorefname{footnote}
7153 \providecommand*\itemautorefname{item}
7154 \providecommand*\figureautorefname{Figure}
7155 \providecommand*\tableautorefname{Table}
7156 \providecommand*\partautorefname{Part}
7157 \providecommand*\appendixautorefname{Appendix}
7158 \providecommand*\chapterautorefname{chapter}
7159 \providecommand*\sectionautorefname{section}
7160 \providecommand*\subsectionautorefname{subsection}
7161 \providecommand*\subsubsectionautorefname{subsubsection}
7162 \providecommand*\paragraphautorefname{paragraph}
7163 \providecommand*\subparagraphautorefname{subparagraph}
7164 \providecommand*\FancyVerbLineautorefname{line}
7165 \providecommand*\theoremautorefname{Theorem}
7166 \providecommand*\pageautorefname{page}
7167 \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 pdfTeX offers \pdfescapestring.

```

7168 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7169 \RequirePackage{pdfTeXcmds}[2009/04/10]
7170 \begingroup\expandafter\expandafter\expandafter\endgroup
7171 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7172 \begingroup
7173 \catcode'\| =0 %
7174 \@makeother\| %
7175 |@firstofone{ |endgroup
7176 |def|Hy@pstringdef#1#2{%
7177 |begingroup
7178 |edef~{\string~}%
7179 |xdef|Hy@gtemp{#2}%
7180 |endgroup
7181 |let#1|Hy@gtemp
7182 |@onelevel@sanitize#1%
7183 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7184 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7185 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7186 }%
7187 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7188 #1%
7189 |ifx|\#2\| %
7190 |else
7191 \| %
7192 |Hy@ReturnAfterFi{%
7193 |Hy@ExchangeBackslash#2|@nil
7194 }%
7195 |fi
7196 }%
7197 }%
7198 \def|Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7199 #1%
7200 \ifx\#2\| %
7201 \else
7202 \@backslashchar(%
7203 \Hy@ReturnAfterFi{%
7204 \Hy@ExchangeLeftParenthesis#2\@nil
7205 }%
7206 \fi
7207 }%
7208 \def|Hy@ExchangeRightParenthesis#1)#2\@nil{%
7209 #1%
7210 \ifx\#2\| %
7211 \else
7212 \@backslashchar)%
7213 \Hy@ReturnAfterFi{%
7214 \Hy@ExchangeRightParenthesis#2\@nil
7215 }%
7216 \fi
7217 }%
7218 \else
7219 \def|Hy@pstringdef#1#2{%
7220 \begingroup
7221 \edef~{\string~}%

```

```

7222 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7223 \endgroup
7224 \let#1\Hy@gtemp
7225 }%
7226 \fi
7227 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

7228 <*pdfTeX>
7229 \providecommand*{\XR@ext}{pdf}
7230 \Hy@setbreaklinks{true}

```

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

Set PDF version if requested by option `pdfversion`.

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

```

7231 \let\Hy@pdfminorversion\relax
7232 \begingroup\expandafter\expandafter\expandafter\endgroup
7233 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7234 \begingroup\expandafter\expandafter\expandafter\endgroup
7235 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7236 \else
7237 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7238 \fi
7239 \else
7240 \def\Hy@pdfminorversion{\pdfminorversion}%
7241 \fi
7242 \ifundefined{Hy@pdfminorversion}{%
7243 \PackageInfo{hyperref}{%
7244 PDF version is not set, because pdfTeX is too old (<1.10a)%
7245 }%
7246 }{%
7247 \ifHy@ocgcolorlinks
7248 \ifnum\Hy@pdfminorversion<5 %
7249 \setkeys{Hyp}{pdfversion=1.5}%
7250 \fi
7251 \fi
7252 \ifHy@setpdfversion
7253 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7254 \else
7255 \Hy@pdfminorversion=\Hy@pdfversion\relax
7256 \fi
7257 \PackageInfo{hyperref}{%
7258 \expandafter\string\Hy@pdfminorversion
7259 :=\number\Hy@pdfversion\space
7260 }%
7261 \fi
7262 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7263 }
7264 \Hy@DisableOption{pdfversion}%
7265 \ifHy@ocgcolorlinks
7266 \immediate\pdfobj{%
7267 <<%

```



```

7268     /Type/OCG%
7269     /Name(View)%
7270     /Usage<<%
7271     /Print<<%
7272     /PrintState/OFF%
7273     >>%
7274     /View<<%
7275     /ViewState/ON%
7276     >>%
7277     >>%
7278     >>%
7279 }%
7280 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7281 \immediate\pdfobj{%
7282 <<%
7283     /Type/OCG%
7284     /Name(Print)%
7285     /Usage<<%
7286     /Print<<%
7287     /PrintState/ON%
7288     >>%
7289     /View<<%
7290     /ViewState/OFF%
7291     >>%
7292     >>%
7293     >>%
7294 }%
7295 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7296 \immediate\pdfobj{%
7297 [%
7298     \OBJ@OCG@view\space\OBJ@OCG@print
7299 ]%
7300 }%
7301 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7302 \pdfcatalog{%
7303     /OCProperties<<%
7304     /OCGs \OBJ@OCGs
7305     /D<<%
7306     /OFF[\OBJ@OCG@print]%
7307     /AS[%
7308     <<%
7309         /Event/View%
7310         /OCGs \OBJ@OCGs
7311         /Category[/View]%
7312     >>%
7313     <<%
7314         /Event/Print%
7315         /OCGs \OBJ@OCGs
7316         /Category[/Print]%
7317     >>%
7318     <<%
7319         /Event/Export%
7320         /OCGs \OBJ@OCGs
7321         /Category[/Print]%
7322     >>%
7323     ]%
7324     >>%

```

```

7325 >>%
7326 }%
7327 \begingroup
7328 \edef\x{\endgroup
7329 \pdfpageresources{%
7330 /Properties<<%
7331 /OCView \OBJ@OCG@view
7332 /OCPrint \OBJ@OCG@print
7333 >>%
7334 }%
7335 }%
7336 \x
7337 \AtBeginDocument{%
7338 \def\Hy@colorlink#1{%
7339 \begingroup
7340 \ifHy@ocgcolorlinks
7341 \def\Hy@ocgcolor{#1}%
7342 \setbox0=\color@hbox
7343 \else
7344 \HyColor@UseColor#1%
7345 \fi
7346 }%
7347 \def\Hy@endcolorlink{%
7348 \ifHy@ocgcolorlinks
7349 \color@endbox
7350 \mbox{%
7351 \pdfliteral page{/OC/OCPrint BDC}%
7352 \rlap{\copy0}%
7353 \pdfliteral page{EMC/OC/OCView BDC}%
7354 \begingroup
7355 \expandafter\HyColor@UseColor\Hy@ocgcolor
7356 \box0 %
7357 \endgroup
7358 \pdfliteral page{EMC}%
7359 }%
7360 \fi
7361 \endgroup
7362 }%
7363 }%
7364 \else
7365 \Hy@DisableOption{ocgcolorlinks}%
7366 \fi

```

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

```

7367 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7368 \ifx\pdfstartlink\@undefined% less than version 14
7369 \let\pdfstartlink\pdfannotlink
7370 \let\pdfinkmargin\@tempdima
7371 \let\pdfxform\pdfform
7372 \let\pdfastxform\pdfastform
7373 \let\pdfrefxform\pdfrefform
7374 \else
7375 \pdfinkmargin1pt %
7376 \fi

```

First set up the default linking

```
7377 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7378 \def\new@pdfink#1{%
7379   \ifHy@verbose
7380     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7381   \fi
7382   \Hy@SaveLastskip
7383   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7384   \Hy@DestName\Hy@pstringDest\@pdfview
7385   \Hy@RestoreLastskip
7386 }
7387 \let\pdf@endanchor\@empty

```

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

```

7388 \def\Hy@DestName#1#2{%
7389   \pdfdest name{#1}#2\relax
7390 }

```

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.

```

7391 \providecommand*\@pdfborder{0 0 1}
7392 \providecommand*\@pdfborderstyle{}
7393 \def\Hy@undefinedname{UNDEFINED}
7394 \def\find@pdfink#1#2{%
7395   \leavevmode
7396   \protected@edef\Hy@testname{#2}%
7397   \ifx\Hy@testname\@empty
7398     \Hy@Warning{%
7399       Empty destination name,\MessageBreak
7400       using '\Hy@undefinedname'%
7401     }%
7402     \let\Hy@testname\Hy@undefinedname
7403   \else
7404     \Hy@pstringdef\Hy@testname{%
7405       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7406     }%
7407   \fi
7408   \Hy@StartlinkName{%
7409     \ifHy@pdfa /F 4\fi
7410     \Hy@setpdfborder
7411     \ifx\@pdfhighlight\@empty
7412       \else
7413         /H\@pdfhighlight
7414       \fi
7415       \ifx\CurrentBorderColor\relax
7416         \else
7417           /C[\CurrentBorderColor]%
7418         \fi
7419     }\Hy@testname
7420     \expandafter\Hy@colorlink\csname @#1color\endcsname
7421   }
7422   \def\Hy@StartlinkName#1#2{%
7423     \pdfstartlink attr{#1}goto name{#2}\relax
7424   }
7425   \def\close@pdfink{\Hy@endcolorlink\pdfendlink}
7426   \def\hyper@anchor#1{\new@pdfink{#1}\anchor@spot\pdf@endanchor}

```

```

7427 \def\hyper@anchorstart#1{\new@pdfink{#1}\Hy@activeanchortrue}
7428 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7429 \def\hyper@linkstart#1#2{%
7430   \ifundefined{@#1bordercolor}{%
7431     \let\CurrentBorderColor\relax
7432   }{%
7433     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7434   }%
7435   \find@pdfink{#1}{#2}%
7436 }
7437 \def\hyper@linkend{\close@pdfink}
7438 \def\hyper@link#1#2#3{%
7439   \ifundefined{@#1bordercolor}{%
7440     \let\CurrentBorderColor\relax
7441   }{%
7442     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7443   }%
7444   \find@pdfink{#1}{#2}#3%
7445   \close@pdfink
7446 }
7447 \let\CurrentBorderColor\@linkbordercolor
7448 \def\hyper@linkurl#1#2{%
7449   \begingroup
7450   \Hy@pstringdef\Hy@pstringURI{#2}%
7451   \hyper@chars
7452   \leavevmode
7453   \pdfstartlink
7454   attr{%
7455     \Hy@setpdfborder
7456     \ifx\@pdfnhighlight\@empty
7457     \else
7458       /H\@pdfhighlight
7459     \fi
7460     \ifx\@urlbordercolor\relax
7461     \else
7462       /C[\@urlbordercolor]%
7463     \fi
7464   }%
7465   user{%
7466     /Subtype/Link%
7467     \ifHy@pdfa /F 4\fi
7468     /A<<%
7469     /Type/Action%
7470     /S/URI%
7471     /URI(\Hy@pstringURI)%
7472     >>%
7473   }%
7474   \relax
7475   \Hy@colorlink\@urlcolor#1%
7476   \close@pdfink
7477 \endgroup
7478 }
7479 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7480   \begingroup
7481   \Hy@pstringdef\Hy@pstringF{#2}%
7482   \Hy@pstringdef\Hy@pstringD{#3}%
7483   \leavevmode

```

```

7484 \pdfstartlink
7485   attr{%
7486     \Hy@setpdfborder
7487     \ifx\@pdfhighlight\@empty
7488     \else
7489       /H\@pdfhighlight
7490     \fi
7491     \ifx\@filebordercolor\relax
7492     \else
7493       /C[\@filebordercolor]%
7494     \fi
7495   }%
7496   user {%
7497     /Subtype/Link%
7498     \ifHy@pdfa /F 4\fi
7499     /A<<%
7500     /F(\Hy@pstringF)%
7501     /S/GoToR%
7502     \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}

```

```

7503     \ifx\#3\%
7504     /D[0 \@pdfstartview]%
7505     \else
7506       /D(\Hy@pstringD)%
7507     \fi
7508     >>%
7509   }%
7510   \relax
7511   \Hy@colorlink\@filecolor#1%
7512   \close@pdflink
7513 \endgroup
7514 }
7515 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7516 \begingroup
7517   \Hy@pstringdef\Hy@pstringF{#1}%
7518   \Hy@pstringdef\Hy@pstringP{#3}%
7519   \leavevmode
7520   \pdfstartlink
7521     attr{%
7522       \Hy@setpdfborder
7523       \ifx\@pdfhighlight\@empty
7524       \else
7525         /H\@pdfhighlight
7526       \fi
7527       \ifx\@runbordercolor\relax
7528       \else
7529         /C[\@runbordercolor]%

```

```

7530     \fi
7531   }%
7532   user {%
7533     /Subtype/Link%
7534     \ifHy@pdfa /F 4\fi
7535     /A<<%
7536     /F(\Hy@pstringF)%
7537     /S/Launch%
7538     \Hy@SetNewWindow
7539     \ifx\|#3\|%
7540     \else
7541     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7542     \fi
7543   >>%
7544 }%
7545 \relax
7546 \Hy@colorlink\@runcolor#2%
7547 \close@pdflink
7548 \endgroup
7549 }

```

\@pdfproducer

```

7550 \ifx\@pdfproducer\relax
7551 \begingroup\expandafter\expandafter\expandafter\endgroup
7552 \expandafter\ifx\csname luatexversion\endcsname\relax
7553 \def\@pdfproducer{pdfTeX}%
7554 \ifx\eTeXversion\@undefined
7555 \else
7556 \ifx\eTeXversion\relax
7557 \else
7558 \ifnum\eTeXversion>0 %
7559 \def\@pdfproducer{pdfTeX}%
7560 \fi
7561 \fi
7562 \fi
7563 \ifx\pdfTeXversion\@undefined
7564 \else
7565 \ifnum\pdfTeXversion<100 %
7566 \edef\@pdfproducer{%
7567 \@pdfproducer
7568 \the\pdfTeXversion.\pdfTeXrevision
7569 }%
7570 \else
7571 \ifnum\pdfTeXversion<130 %
7572 \edef\@pdfproducer{%
7573 \@pdfproducer-%
7574 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7575 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7576 \pdfTeXrevision
7577 }%
7578 \else
7579 \ifnum\pdfTeXversion<140 %
7580 \else
7581 \def\@pdfproducer{pdfTeX}%
7582 \fi
7583 \edef\@pdfproducer{%
7584 \@pdfproducer-%

```

```

7585     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7586     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7587     \pdfTeXrevision
7588   }%
7589   \fi
7590   \fi
7591   \fi
7592 \else
7593   \begingroup
7594   \count@=\luaTeXversion
7595   \divide\count@ by 100 %
7596   \edef\x{\the\count@}%
7597   \count@=-\x\relax
7598   \multiply\count@ by 100 %
7599   \advance\count@ by \luaTeXversion
7600   \edef\x{\endgroup
7601     \def\noexpand\@pdfproducer{%
7602       LuaTeX-\x.\the\count@.\luaTeXrevision
7603     }%
7604   }%
7605   \x
7606   \fi
7607 \fi

```

\PDF@SetupDox

```

7608 \def\PDF@SetupDoc{%
7609   \ifx\@pdfpagescrop\@empty
7610   \else
7611     \edef\process@me{%
7612       \pdfpagesattr={%
7613         /CropBox[\@pdfpagescrop]%
7614         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7615         \else
7616           ^^J\the\pdfpagesattr
7617         \fi
7618       }%
7619     }%
7620     \process@me
7621   \fi
7622   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7623   \pdfcatalog{%
7624     /PageMode/\@pdfpagemode
7625     \ifx\@baseurl\@empty
7626     \else
7627       /URI<</Base(\Hy@pstringB)>>%
7628     \fi
7629   }%
7630   \ifx\@pdfstartpage\@empty
7631   \else
7632     \ifx\@pdfstartview\@empty
7633     \else
7634       openaction goto page\@pdfstartpage{\@pdfstartview}%
7635     \fi
7636   \fi
7637   \edef\Hy@temp{%
7638     \ifHy@toolbar\else /HideToolbar true\fi
7639     \ifHy@menubar\else /HideMenubar true\fi

```

```

7640 \ifHy@windowui\else /HideWindowUI true\fi
7641 \ifHy@fitwindow /FitWindow true\fi
7642 \ifHy@centerwindow /CenterWindow true\fi
7643 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7644 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7645 \Hy@UseNameKey{Direction}\@pdfdirection
7646 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7647 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7648 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7649 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7650 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7651 \Hy@UseNameKey{Duplex}\@pdfduplex
7652 \ifx\@pdfpicktraybypdfsize\@empty
7653 \else
7654 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7655 \fi
7656 \ifx\@pdfprintpagerange\@empty
7657 \else
7658 /PrintPageRange[\@pdfprintpagerange]%
7659 \fi
7660 \ifx\@pdfnumcopies\@empty
7661 \else
7662 /NumCopies \@pdfnumcopies
7663 \fi
7664 }%
7665 \pdfcatalog{%
7666 \ifx\Hy@temp\@empty
7667 \else
7668 /ViewerPreferences<<\Hy@temp>>%
7669 \fi
7670 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7671 \ifx\@pdflang\@empty
7672 \else
7673 /Lang(\@pdflang)%
7674 \fi
7675 }%
7676 }

```

\PDF@FinishDoc

```

7677 \def\PDF@FinishDoc{%
7678 \Hy@UseMaketitleInfos
7679 \pdfinfo{%
7680 /Author(\@pdfauthor)%
7681 /Title(\@pdftitle)%
7682 /Subject(\@pdfsubject)%
7683 /Creator(\@pdfcreator)%
7684 \ifx\@pdfcreationdate\@empty
7685 \else
7686 /CreationDate(\@pdfcreationdate)%
7687 \fi
7688 \ifx\@pdfmoddate\@empty
7689 \else
7690 /ModDate(\@pdfmoddate)%
7691 \fi
7692 \ifx\@pdfproducer\relax
7693 \else
7694 /Producer(\@pdfproducer)%

```



```

7695 \fi
7696 /Keywords(\@pdfkeywords)%
7697 }%
7698 \Hy@DisableOption{pdfauthor}%
7699 \Hy@DisableOption{pdftitle}%
7700 \Hy@DisableOption{pdfsubject}%
7701 \Hy@DisableOption{pdfcreator}%
7702 \Hy@DisableOption{pdfcreationdate}%
7703 \Hy@DisableOption{pdfmoddate}%
7704 \Hy@DisableOption{pdfproducer}%
7705 \Hy@DisableOption{pdfkeywords}%
7706 }

```

`\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`.

```

7707 \def\hyper@pagetransition{%
7708 \ifx\@pdfpagetransition\relax
7709 \else
7710 \expandafter\Hy@RemoveTransPageAttr
7711 \the\pdfpageattr^^J/Trans{>>\END
7712 \ifx\@pdfpagetransition\@empty
7713 \else
7714 \edef\@processme{%
7715 \global\pdfpageattr{%
7716 \the\pdfpageattr
7717 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7718 }%
7719 }%
7720 \@processme
7721 \fi
7722 \fi
7723 }

```

`\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.

```

7724 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7725 \ifx\#2\%
7726 \global\pdfpageattr{#1}%
7727 \else
7728 \Hy@RemoveTransPageAttr#1#4\END
7729 \fi
7730 }

```

`\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`.

```

7731 \def\hyper@pageduration{%
7732 \ifx\@pdfpageduration\relax
7733 \else
7734 \expandafter
7735 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7736 \ifx\@pdfpageduration\@empty
7737 \else
7738 \edef\@processme{%

```

```

7739     \global\pdfpageattr{%
7740     \the\pdfpageattr
7741     ^^J/Dur \@pdfpageduration\space
7742     }%
7743     }%
7744     \@processme
7745     \fi
7746     \fi
7747 }

```

\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.

```

7748 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7749   \ifx\#2\%
7750     \global\pdfpageattr{#1}%
7751   \else
7752     \Hy@RemoveDurPageAttr#1#4\END
7753   \fi
7754 }

```

\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).

```

7755 \def\hyper@pagehidden{%
7756   \ifHy@useHidKey
7757     \expandafter
7758     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7759   \ifHy@pdfpagehidden
7760     \edef\@processme{%
7761       \global\pdfpageattr{%
7762         \the\pdfpageattr
7763         ^^J/Hid true % SPACE
7764       }%
7765     }%
7766     \@processme
7767   \fi
7768   \fi
7769 }

```

\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.

```

7770 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7771   \ifx\#2\%
7772     \global\pdfpageattr{#1}%
7773   \else
7774     \Hy@RemoveHidPageAttr#1#4\END
7775   \fi
7776 }

7777 \g@addto@macro\Hy@EveryPageHook{%
7778   \hyper@pagetransition
7779   \hyper@pageduration
7780   \hyper@pagehidden

```

7781 }

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

```

7782 </pdftex>
7783 <*pdftex | xetex>
7784 \AtBeginDocument{%
7785   \ifHy@setpagesize
7786     \expandafter\@firstofone
7787   \else
7788     \expandafter\@gobble
7789   \fi
7790   {%
7791     \@ifclassloaded{seminar}{%
7792 <*pdftex>
7793     \setlength{\pdfhorigin}{1truein}%
7794     \setlength{\pdfvorigin}{1truein}%
7795 </pdftex>
7796     \ifportrait
7797       \ifdim\paperwidth=\z@
7798       \else
7799         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7800       \fi
7801       \ifdim\paperheight=\z@
7802       \else
7803         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7804       \fi
7805     \else
7806       \ifdim\paperheight=\z@
7807       \else
7808         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7809       \fi
7810       \ifdim\paperwidth=\z@
7811       \else
7812         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7813       \fi
7814     \fi
7815   }{%
7816     \@ifundefined{stockwidth}{%
7817       \ifdim\paperwidth>\z@
7818         \setlength{\pdfpagewidth}{\paperwidth}%
7819       \fi
7820       \ifdim\paperheight>\z@
7821         \setlength{\pdfpageheight}{\paperheight}%
7822       \fi
7823     }{%
7824       \ifdim\stockwidth>\z@
7825         \setlength{\pdfpagewidth}{\stockwidth}%
7826       \fi
7827       \ifdim\stockheight>\z@
7828         \setlength{\pdfpageheight}{\stockheight}%
7829       \fi
7830     }%
7831   }%
7832 }%
7833 \Hy@DisableOption{setpagesize}%
7834 }
7835 </pdftex | xetex>

```

```

7836 <*pdftex>
7837 \def\Acrobatmenu#1#2{%
7838   \Hy@Acrobatmenu{#1}{#2}{%
7839     \pdfstartlink
7840     attr{%
7841       \Hy@setpdfborder
7842       \ifx\@pdfhighlight\@empty
7843       \else
7844         /H\@pdfhighlight
7845       \fi
7846       \ifx\@menubordercolor\relax
7847       \else
7848         /C[\@menubordercolor]%
7849       \fi
7850     }%
7851     user{%
7852       /Subtype/Link%
7853       \ifHy@pdfa /F 4\fi
7854       /A<<%
7855         /S/Named/N/#1%
7856       >>%
7857     }%
7858     \relax
7859     \Hy@colorlink\@menucolor#2%
7860     \close@pdflink
7861   }%
7862 }

```

46.2.1 Fix for problem with different nesting levels

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

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

```

7863 \def\Hy@FixNotFirstPage{%
7864   \gdef\Hy@FixNotFirstPage{%
7865     \setbox\AtBeginShipoutBox=\hbox{%
7866       \copy\AtBeginShipoutBox
7867     }%
7868   }%
7869 }
7870 \AtBeginShipout{\Hy@FixNotFirstPage}
7871 </pdftex>

```

46.3 hypertex

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

href: html:

name: html:

end: html:

image: `html:`

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

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

The *href* and *name* commands must be paired with an *end* command later in the 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.

```
7872 \*hypertext
7873 \providecommand*\XR@ext}{dvi}
7874 \def\PDF@FinishDoc{}
7875 \def\PDF@SetupDoc{%
7876   \ifx\@baseurl\@empty
7877   \else
7878     \special{html:<base href="\@baseurl">}%
7879   \fi
7880 }
7881 \def\hyper@anchor#1{%
7882   \Hy@SaveLastskip
7883   \begingroup
7884     \let\protect=\string
7885     \hyper@chars
7886     \special{html:<a name=%
7887       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7888   \endgroup
7889   \Hy@activeanchortrue
7890   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7891   \special{html:</a>}%
7892   \Hy@activeanchorfalse
7893   \Hy@RestoreLastskip
7894 }
7895 \def\hyper@anchorstart#1{%
7896   \Hy@SaveLastskip
7897   \begingroup
7898     \hyper@chars
7899     \special{html:<a name=%
7900       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7901   \endgroup
7902   \Hy@activeanchortrue
7903 }
7904 \def\hyper@anchorend{%
7905   \special{html:</a>}%
7906   \Hy@activeanchorfalse
```

```

7907 \Hy@RestoreLastskip
7908 }
7909 \def\@urlltype{url}
7910 \def\hyper@linkstart#1#2{%
7911 \expandafter\Hy@colorlink\csname @#1color\endcsname
7912 \def\Hy@tempa{#1}%
7913 \ifx\Hy@tempa\@urlltype
7914 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7915 \else
7916 \begingroup
7917 \hyper@chars
7918 \special{html:<a href=%
7919 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
7920 \endgroup
7921 \fi
7922 }
7923 \def\hyper@linkend{%
7924 \special{html:</a>}%
7925 \Hy@endcolorlink
7926 }
7927 \def\hyper@linkfile#1#2#3{%
7928 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7929 }
7930 \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.

```

7931 \leavevmode
7932 \ifHy@raiselinks
7933 \setbox\@tempboxa=\color@hbox #1\color@endbox
7934 \@linkdim\dp\@tempboxa
7935 \lower\@linkdim\hbox{%
7936 \hyper@chars
7937 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7938 }%
7939 \Hy@colorlink\@urllcolor#1%
7940 \@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).

```

7941 \advance\@linkdim by -6.5\p@
7942 \raise\@linkdim\hbox{\special{html:</a>}}%
7943 \Hy@endcolorlink
7944 \else
7945 \begingroup
7946 \hyper@chars
7947 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7948 \Hy@colorlink\@urllcolor#1%
7949 \special{html:</a>}%
7950 \Hy@endcolorlink
7951 \endgroup
7952 \fi
7953 }

```

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

```

7954 \def\hyper@link#1#2#3{%
7955 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%

```

```

7956 }
7957 \def\hyper@image#1#2{%
7958   \begingroup
7959     \hyper@chars
7960     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7961   \endgroup
7962 }
7963 </hypertex>
7964 <*dviwindo>

```

46.4 dviwindo

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

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

```

7965 \providecommand*\XR@ext}{dvi}
7966 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7967 \def\hyper@anchor#1{%
7968   \Hy@SaveLastskip
7969   \begingroup
7970     \let\protect=\string
7971     \special{mark: #1}%
7972   \endgroup
7973   \Hy@activeanchortrue
7974   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7975   \Hy@activeanchorfalse
7976   \Hy@RestoreLastskip
7977 }
7978 \def\hyper@anchorstart#1{%
7979   \Hy@SaveLastskip
7980   \special{mark: #1}%
7981   \Hy@activeanchortrue
7982 }
7983 \def\hyper@anchorend{%
7984   \Hy@activeanchorfalse
7985   \Hy@RestoreLastskip
7986 }
7987 \def\hyper@linkstart#1#2{%
7988   \expandafter\Hy@colorlink\csname @#1color\endcsname
7989   \special{button: %
7990     10000000 %
7991     \number\baselineskip\space
7992     #2%
7993   }%
7994 }
7995 \def\hyper@linkend{%
7996   \Hy@endcolorlink
7997 }
7998 \def\hyper@link#1#2#3{%

```

```

7999 \setbox\@tempboxa=\color@hbox #3\color@endbox
8000 \leavevmode
8001 \ifHy@raiselinks
8002 \@linkdim\dp\@tempboxa
8003 \lower\@linkdim\hbox{%
8004 \special{button: %
8005 \number\wd\@tempboxa\space
8006 \number\ht\@tempboxa\space
8007 #2%
8008 }%
8009 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8010 \Hy@endcolorlink
8011 }%
8012 \@linkdim\ht\@tempboxa
8013 \advance\@linkdim by -6.5\p@
8014 \raise\@linkdim\hbox{}%
8015 \else
8016 \special{button: %
8017 \number\wd\@tempboxa\space
8018 \number\ht\@tempboxa\space
8019 #2%
8020 }%
8021 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8022 \Hy@endcolorlink
8023 \fi
8024 }
8025 \def\hyper@linkurl#1#2{%
8026 \begingroup
8027 \hyper@chars
8028 \leavevmode
8029 \setbox\@tempboxa=\color@hbox #1\color@endbox
8030 \ifHy@raiselinks
8031 \@linkdim\dp\@tempboxa
8032 \lower\@linkdim\hbox{%
8033 \special{button: %
8034 \number\wd\@tempboxa\space
8035 \number\ht\@tempboxa\space
8036 launch: \wwwbrowser\space
8037 #2%
8038 }%
8039 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8040 }%
8041 \@linkdim\ht\@tempboxa
8042 \advance\@linkdim by -6.5\p@
8043 \raise\@linkdim\hbox{}%
8044 \else
8045 \special{button: %
8046 \number\wd\@tempboxa\space
8047 \number\ht\@tempboxa\space
8048 launch: \wwwbrowser\space
8049 #2%
8050 }%
8051 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8052 \fi
8053 \endgroup
8054 }
8055 \def\hyper@linkfile#1#2#3{%

```



```

8056 \begingroup
8057 \hyper@chars
8058 \leavevmode
8059 \setbox\@tempboxa=\color@hbox #1\color@endbox
8060 \ifHy@raiselinks
8061 \@linkdim\dp\@tempboxa
8062 \lower\@linkdim\hbox{%
8063 \special{button: %
8064 \number\wd\@tempboxa\space
8065 \number\ht\@tempboxa\space
8066 #3,%
8067 file: #2%
8068 }%
8069 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8070 }%
8071 \@linkdim\ht\@tempboxa
8072 \advance\@linkdim by -6.5\p@
8073 \raise\@linkdim\hbox{}%
8074 \else
8075 \special{button: %
8076 \number\wd\@tempboxa\space
8077 \number\ht\@tempboxa\space
8078 #3,%
8079 file: #2%
8080 }%
8081 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8082 \fi
8083 \endgroup
8084 }
8085 \ifx\@pdfproducer\relax
8086 \def\@pdfproducer{dviwindo + Distiller}%
8087 \fi
8088 \def\PDF@FinishDoc{%
8089 \Hy@UseMaketitleInfos
8090 \special{PDF: Keywords \@pdfkeywords}%
8091 \special{PDF: Title \@pdftitle}%
8092 \special{PDF: Creator \@pdfcreator}%
8093 \ifx\@pdfcreationdate\@empty
8094 \else
8095 \special{PDF: CreationDate \@pdfcreationdate}%
8096 \fi
8097 \ifx\@pdfmoddate\@empty
8098 \else
8099 \special{PDF: ModDate \@pdfmoddate}%
8100 \fi
8101 \special{PDF: Author \@pdfauthor}%
8102 \ifx\@pdfproducer\relax
8103 \else
8104 \special{PDF: Producer \@pdfproducer}%
8105 \fi
8106 \special{PDF: Subject \@pdfsubject}%
8107 \Hy@DisableOption{pdfauthor}%
8108 \Hy@DisableOption{pdftitle}%
8109 \Hy@DisableOption{pdfsubject}%
8110 \Hy@DisableOption{pdfcreator}%
8111 \Hy@DisableOption{pdfcreationdate}%
8112 \Hy@DisableOption{pdfmoddate}%

```

```

8113 \Hy@DisableOption{pdfproducer}%
8114 \Hy@DisableOption{pdfkeywords}%
8115 }
8116 \def\PDF@SetupDoc{%
8117 \ifx\@baseurl\@empty
8118 \else
8119 \special{PDF: Base \@baseurl}%
8120 \fi
8121 \ifx\@pdfpagescrop\@empty\else
8122 \special{PDF: BBox \@pdfpagescrop}%
8123 \fi
8124 \def\Hy@temp{%
8125 \ifx\@pdfstartpage\@empty
8126 \else
8127 \ifx\@pdfstartview\@empty
8128 \else
8129 \edef\Hy@temp{%
8130 ,Page=\@pdfstartpage
8131 ,View=\@pdfstartview
8132 }%
8133 \fi
8134 \fi
8135 \edef\Hy@temp{%
8136 \noexpand\pdfmark{%
8137 pdfmark=/DOCVIEW,%
8138 PageMode=/\@pdfpagemode
8139 \Hy@temp
8140 }%
8141 }%
8142 \Hy@temp
8143 \ifx\@pdfpagescrop\@empty
8144 \else
8145 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8146 \fi
8147 \edef\Hy@temp{%
8148 \ifHy@toolbar\else /HideToolbar true\fi
8149 \ifHy@menubar\else /HideMenubar true\fi
8150 \ifHy>windowui\else /HideWindowUI true\fi
8151 \ifHy@fitwindow /FitWindow true\fi
8152 \ifHy@centerwindow /CenterWindow true\fi
8153 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8154 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8155 \Hy@UseNameKey{Direction}\@pdfdirection
8156 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8157 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8158 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8159 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8160 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8161 \Hy@UseNameKey{Duplex}\@pdfduplex
8162 \ifx\@pdfpicktraybypdfsize\@empty
8163 \else
8164 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8165 \fi
8166 \ifx\@pdfprintpagerange\@empty
8167 \else
8168 /PrintPageRange[\@pdfprintpagerange]%
8169 \fi

```

```

8170 \ifx\@pdfnumcopies\@empty
8171 \else
8172 /NumCopies \@pdfnumcopies
8173 \fi
8174 }%
8175 \pdfmark{pdfmark=/PUT,%
8176 Raw={%
8177 \string{Catalog\string}<<%
8178 \ifx\Hy@temp\@empty
8179 \else
8180 /ViewerPreferences<<\Hy@temp>>%
8181 \fi
8182 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8183 \ifx\@pdflang\@empty
8184 \else
8185 /Lang(\@pdflang)%
8186 \fi
8187 >>%
8188 }%
8189 }%
8190 }
8191 </dviwindo>
8192 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8193 \providecommand*{\XR@ext}{pdf}
8194 \Hy@setbreaklinks{true}
8195 \newsavebox{\pdfm@box}
8196 \def\@pdfm@mark#1{\special{pdf:#1}}
8197 \def\@pdfm@dest#1{%
8198 \Hy@SaveLastskip
8199 \begingroup
8200 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8201 \def\x{XYZ}%
8202 \ifx\x\@pdfview
8203 \def\x{XYZ @xpos @ypos null}%
8204 \else
8205 \def\x{FitH}%
8206 \ifx\x\@pdfview
8207 \def\x{FitH @ypos}%
8208 \else
8209 \def\x{FitBH}%
8210 \ifx\x\@pdfview
8211 \def\x{FitBH @ypos}%
8212 \else
8213 \def\x{FitV}%
8214 \ifx\x\@pdfview
8215 \def\x{FitV @xpos}%
8216 \else
8217 \def\x{FitBV}%
8218 \ifx\x\@pdfview
8219 \def\x{FitBV @xpos}%
8220 \else
8221 \def\x{Fit}%
8222 \ifx\x\@pdfview

```

```

8223         \let\x\@pdfview
8224     \else
8225         \def\x{FitB}%
8226     \ifx\x\@pdfview
8227         \let\x\@pdfview
8228     \else
8229         \def\x{FitR}%
8230     \ifx\x\@pdfview
8231         \Hy@Warning{'pdfview=FitR' is not supported}%
8232         \def\x{XYZ @xpos @ypos null}%
8233     \else
8234         \@onelevel@sanitize\@pdfview
8235         \Hy@Warning{%
8236             Unknown value '\@pdfview' for pdfview%
8237         }%
8238         \def\x{XYZ @xpos @ypos null}%
8239     \fi
8240 \fi
8241 \fi
8242 \fi
8243 \fi
8244 \fi
8245 \fi
8246 \fi
8247 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8248 \endgroup
8249 \Hy@RestoreLastskip
8250 }
8251 \providecommand*\@pdfview{XYZ}
8252 \providecommand*\@pdfborder{0 0 1}
8253 \providecommand*\@pdfborderstyle{}
8254 \def\hyper@anchor#1{%
8255     \@pdfm@dest{#1}%
8256 }
8257 \def\hyper@anchorstart#1{%
8258     \Hy@activeanchortrue
8259     \@pdfm@dest{#1}%
8260 }
8261 \def\hyper@anchorend{%
8262     \Hy@activeanchorfalse
8263 }
8264 \newcounter{Hy@AnnotLevel}
8265 \ifHy@ocgcolorlinks
8266     \def\OBJ@OCG@view{@OCG@view}%
8267     \@pdfm@mark{%
8268         obj \OBJ@OCG@view <<%
8269         /Type/OCG%
8270         /Name(View)%
8271         /Usage<<%
8272         /Print<<%
8273         /PrintState/OFF%
8274         >>%
8275         /View<<%
8276         /ViewState/ON%
8277         >>%
8278         >>%
8279         >>%

```

```

8280 }%
8281 \pdfmark{close \OBJ@OCG@view}%
8282 \def\OBJ@OCG@print{@OCG@print}%
8283 \@pdfmark{%
8284   obj \OBJ@OCG@print <<%
8285     /Type/OCG%
8286     /Name(Print)%
8287     /Usage<<%
8288     /Print<<%
8289     /PrintState/ON%
8290     >>%
8291     /View<<%
8292     /ViewState/OFF%
8293     >>%
8294     >>%
8295     >>%
8296 }%
8297 \@pdfmark{close \OBJ@OCG@print}%
8298 \def\OBJ@OCGs{@OCGs}%
8299 \@pdfmark{%
8300   obj \OBJ@OCGs [%
8301     \OBJ@OCG@view\space\OBJ@OCG@print
8302   ]%
8303 }%
8304 \@pdfmark{close \OBJ@OCGs}%
8305 \@pdfmark{%
8306   put @catalog <<%
8307     /OCProperties<<%
8308     /OCGs \OBJ@OCGs
8309     /D<<%
8310     /OFF[\OBJ@OCG@print]%
8311     /AS[%
8312       <<%
8313         /Event/View%
8314         /OCGs \OBJ@OCGs
8315         /Category[/View]%
8316       >>%
8317       <<%
8318         /Event/Print%
8319         /OCGs \OBJ@OCGs
8320         /Category[/Print]%
8321       >>%
8322       <<%
8323         /Event/Export%
8324         /OCGs \OBJ@OCGs
8325         /Category[/Print]%
8326       >>%
8327     ]%
8328     >>%
8329     >>%
8330     >>%
8331 }%
8332 \AtBeginShipout{%
8333   \setbox\AtBeginShipoutBox=\hbox{%
8334     \copy\AtBeginShipoutBox
8335   }%
8336   put @resources <<%

```

```

8337      /Properties<<%
8338      /OCView \OBJ@OCG@view
8339      /OCPrint \OBJ@OCG@print
8340      >>%
8341      >>%
8342      }%
8343      }%
8344      }%
8345      \AtBeginDocument{%
8346      \def\Hy@colorlink#1{%
8347      \begingroup
8348      \ifHy@ocgcolorlinks
8349      \def\Hy@ocgcolor{#1}%
8350      \setbox0=\color@hbox
8351      \else
8352      \HyColor@UseColor#1%
8353      \fi
8354      }%
8355      \def\Hy@endcolorlink{%
8356      \ifHy@ocgcolorlinks
8357      \color@endbox
8358      \mbox{%
8359      \@pdfm@mark{content /OC/OCPrint BDC}%
8360      \rlap{\copy0}%
8361      \@pdfm@mark{content EMC/OC/OCView BDC}%
8362      \begingroup
8363      \expandafter\HyColor@UseColor\Hy@ocgcolor
8364      \box0 %
8365      \endgroup
8366      \@pdfm@mark{content EMC}%
8367      }%
8368      \fi
8369      \endgroup
8370      }%
8371      }%
8372      \else
8373      \Hy@DisableOption{ocgcolorlinks}%
8374      \fi
8375      \def\Hy@BeginAnnot#1{%
8376      \stepcounter{Hy@AnnotLevel}%
8377      \ifnum\value{Hy@AnnotLevel}=\@ne
8378      #1%
8379      \fi
8380      }
8381      \def\Hy@endAnnot{%
8382      \ifnum\value{Hy@AnnotLevel}=\@ne
8383      \Hy@endcolorlink
8384      \@pdfm@mark{eann}%
8385      \fi
8386      \addtocounter{Hy@AnnotLevel}\m@ne
8387      }
8388      \def\Hy@undefinedname{UNDEFINED}
8389      \def\hyper@linkstart#1#2{%
8390      \Hy@BeginAnnot{%
8391      \protected@edef\Hy@testname{#2}%
8392      \ifx\Hy@testname\@empty
8393      \Hy@Warning{%

```

```

8394     Empty destination name,\MessageBreak
8395     using '\Hy@undefinedname'%
8396 }%
8397 \let\Hy@testname\Hy@undefinedname
8398 \else
8399 \Hy@pstringdef\Hy@testname{%
8400 \expandafter\HyperDestNameFilter\expandafter{%
8401 \Hy@testname
8402 }%
8403 }%
8404 \fi
8405 \@pdfm@mark{%
8406 bann<<%
8407 /Type/Annot%
8408 /Subtype/Link%
8409 \ifHy@pdfa /F 4\fi
8410 \Hy@setpdfborder
8411 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8412 \else
8413 /C[\csname @#1bordercolor\endcsname]%
8414 \fi
8415 /A<<%
8416 /S/GoTo%
8417 /D(\Hy@testname)%
8418 >>%
8419 >>%
8420 }%
8421 \expandafter\Hy@colorlink\csname @#1color\endcsname
8422 }%
8423 }
8424 \def\hyper@linkend{\Hy@EndAnnot}%
8425 \def\hyper@link#1#2#3{%
8426 \hyper@linkstart{#1}{#2}#3\hyper@linkend
8427 }
8428 \def\hyper@linkfile#1#2#3{%
8429 \leavevmode
8430 \Hy@BeginAnnot{%
8431 \Hy@pstringdef\Hy@pstringF{#2}%
8432 \Hy@pstringdef\Hy@pstringD{#3}%
8433 \@pdfm@mark{%
8434 bann<<%
8435 /Type/Annot%
8436 /Subtype/Link%
8437 \ifHy@pdfa /F 4\fi
8438 \Hy@setpdfborder
8439 \ifx\@filebordercolor\relax
8440 \else
8441 /C[\@filebordercolor]%
8442 \fi
8443 /A<<%
8444 /S/GoToR%
8445 /F(\Hy@pstringF)%
8446 /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
8447 \Hy@SetNewWindow
8448 >>%
8449 >>%
8450 }%

```

```

8451 \Hy@colorlink\@filecolor
8452 }%
8453 #1%
8454 \Hy@EndAnnot
8455 }
8456 \def\hyper@linkurl#1#2{%
8457 \leavevmode
8458 \Hy@BeginAnnot{%
8459 \Hy@pstringdef\Hy@pstringURI{#2}%
8460 \@pdfm@mark{%
8461 bann<<%
8462 /Type/Annot%
8463 /Subtype/Link%
8464 \ifHy@pdfa /F 4\fi
8465 \Hy@setpdfborder
8466 \ifx\@urlbordercolor\relax
8467 \else
8468 /C[\@urlbordercolor]%
8469 \fi
8470 /A<<%
8471 /S/URI%
8472 /URI(\Hy@pstringURI)%
8473 >>%
8474 >>%
8475 }%
8476 \Hy@colorlink\@urlcolor
8477 }%
8478 #1%
8479 \Hy@EndAnnot
8480 }
8481 \def\Acrobatmenu#1#2{%
8482 \Hy@Acrobatmenu{#1}{#2}{%
8483 \Hy@BeginAnnot{%
8484 \@pdfm@mark{%
8485 bann<<%
8486 /Type/Annot%
8487 /Subtype/Link%
8488 \ifHy@pdfa /F 4\fi
8489 /A<<%
8490 /S/Named%
8491 /N/#1%
8492 >>%
8493 \Hy@setpdfborder
8494 \ifx\@menubordercolor\relax
8495 \relax
8496 /C[\@menubordercolor]%
8497 \fi
8498 >>%
8499 }%
8500 \Hy@colorlink\@menucolor
8501 }%
8502 #2%
8503 \Hy@EndAnnot
8504 }%
8505 }
8506 \ifx\@pdfproducer\relax
8507 \def\@pdfproducer{dvipdfm}%

```


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

```

8508 \begingroup\expandafter\expandafter\expandafter\endgroup
8509 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8510 \else
8511 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8512 \fi
8513 \fi
8514 \def\PDF@FinishDoc{%
8515 \Hy@UseMaketitleInfos
8516 \@pdfm@mark{%
8517 docinfo<<%
8518 /Title(\@pdftitle)%
8519 /Subject(\@pdfsubject)%
8520 /Creator(\@pdfcreator)%
8521 \ifx\@pdfcreationdate\@empty
8522 \else
8523 /CreationDate(\@pdfcreationdate)%
8524 \fi
8525 \ifx\@pdfmoddate\@empty
8526 \else
8527 /ModDate(\@pdfmoddate)%
8528 \fi
8529 /Author(\@pdfauthor)%
8530 \ifx\@pdfproducer\relax
8531 \else
8532 /Producer(\@pdfproducer)%
8533 \fi
8534 /Keywords(\@pdfkeywords)%
8535 >>%
8536 }%
8537 \Hy@DisableOption{pdfauthor}%
8538 \Hy@DisableOption{pdftitle}%
8539 \Hy@DisableOption{pdfsubject}%
8540 \Hy@DisableOption{pdfcreator}%
8541 \Hy@DisableOption{pdfcreationdate}%
8542 \Hy@DisableOption{pdfmoddate}%
8543 \Hy@DisableOption{pdfproducer}%
8544 \Hy@DisableOption{pdfkeywords}%
8545 }
8546 \def\PDF@SetupDoc{%
8547 \edef\Hy@temp{%
8548 \ifHy@toolbar\else /HideToolbar true\fi
8549 \ifHy@menubar\else /HideMenubar true\fi
8550 \ifHy>windowui\else /HideWindowUI true\fi
8551 \ifHy@fitwindow /FitWindow true\fi
8552 \ifHy@centerwindow /CenterWindow true\fi
8553 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8554 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8555 \Hy@UseNameKey{Direction}\@pdfdirection
8556 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8557 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8558 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8559 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8560 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8561 \Hy@UseNameKey{Duplex}\@pdfduplex
8562 \ifx\@pdfpicktraybypdfsize\@empty
8563 \else

```

```

8564     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8565     \fi
8566     \ifx\@pdfprintpagerange\@empty
8567     \else
8568         /PrintPageRange[\@pdfprintpagerange]%
8569     \fi
8570     \ifx\@pdfnumcopies\@empty
8571     \else
8572         /NumCopies \@pdfnumcopies
8573     \fi
8574 }%
8575 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8576 \@pdfm@mark{%
8577     docview<<%
8578     \ifx\@pdfstartpage\@empty
8579     \else
8580         \ifx\@pdfstartview\@empty
8581         \else
8582             /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8583         \fi
8584     \fi
8585     \ifx\@baseurl\@empty
8586     \else
8587         /URI<</Base(\Hy@pstringB)>>%
8588     \fi
8589     /PageMode/\@pdfpagemode
8590     \ifx\Hy@temp\@empty
8591     \else
8592         /ViewerPreferences<<\Hy@temp>>%
8593     \fi
8594     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8595     \ifx\@pdflang\@empty
8596     \else
8597         /Lang(\@pdflang)%
8598     \fi
8599     >>%
8600 }%
8601 \ifx\@pdfpagescrop\@empty
8602 \else
8603     \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8604 \fi
8605 }
8606 </dvipdfm | xetex>

```

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

```

8607 <*dvipdfm>
8608 \AtBeginShipoutFirst{%
8609     \ifHy@setpagesize
8610     \begingroup
8611         \@ifundefined{stockwidth}{%
8612             \ifdim\paperwidth>\z@
8613             \ifdim\paperheight>\z@
8614                 \special{papersize=\the\paperwidth,\the\paperheight}%
8615             \fi
8616         \fi
8617     }{%
8618         \ifdim\stockwidth>\z@

```

```

8619      \ifdim\stockheight>\z@
8620      \special{papersize=\the\stockwidth,\the\stockheight}%
8621      \fi
8622      \fi
8623    }%
8624  \endgroup
8625 \fi
8626 \Hy@DisableOption{setpagesize}%
8627 }
8628 </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.

```

8629 <*vtexhtml>
8630 \providecommand*{\XR@ext}{.htm}
8631 \RequirePackage{vtexhtml}
8632 \newif\if@Localurl
8633 \def\PDF@FinishDoc{}
8634 \def\PDF@SetupDoc{%
8635   \ifx\@baseurl\@empty
8636   \else
8637     \special{!direct <base href="\@baseurl">}%
8638   \fi
8639 }
8640 \def\@urltype{url}
8641 \def\hyper@link#1#2#3{%
8642   \leavevmode
8643   \special{!direct <a href=%
8644     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8645   #3%
8646   \special{!direct </a>}%
8647 }
8648 \def\hyper@linkurl#1#2{%
8649   \begingroup
8650     \hyper@chars
8651     \leavevmode
8652     \MathBSuppress=1\relax
8653     \special{!direct <a href=%
8654       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8655     #1%
8656     \MathBSuppress=0\relax
8657     \special{!direct </a>}%
8658   \endgroup
8659 }
8660 \def\hyper@linkfile#1#2#3{%
8661   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8662 }
8663 \def\hyper@linkstart#1#2{%
8664   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8665     \@Localurltrue
8666     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8667   \else
8668     \@Localurlfalse
8669   \begingroup
8670     \hyper@chars

```

```

8671 \special{!aref \HyperDestNameFilter{#2}}%
8672 \endgroup
8673 \fi
8674 }
8675 \def\hyper@linkend{%
8676 \if@Localurl
8677 \special{!endaref}%
8678 \else
8679 \special{!direct </a>}%
8680 \fi
8681 }
8682 \def\hyper@anchorstart#1{%
8683 \Hy@SaveLastskip
8684 \begingroup
8685 \hyper@chars
8686 \special{!aname #1}%
8687 \special{!direct <a name=%
8688 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8689 \endgroup
8690 \Hy@Activeanchortrue
8691 }
8692 \def\hyper@anchorend{%
8693 \special{!direct </a>}%
8694 \Hy@Activeanchortrue
8695 \Hy@RestoreLastskip
8696 }
8697 \def\hyper@anchor#1{%
8698 \Hy@SaveLastskip
8699 \begingroup
8700 \let\protect=\string
8701 \hyper@chars
8702 \leavevmode
8703 \special{!aname #1}%
8704 \special{!direct <a name=%
8705 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8706 \endgroup
8707 \Hy@Activeanchortrue
8708 \bgroup\anchor@spot\egroup
8709 \special{!direct </a>}%
8710 \Hy@Activeanchortrue
8711 \Hy@RestoreLastskip
8712 }
8713 \def\@Form[#1]{%
8714 \typeout{Sorry, TeXpider does not yet support FORMs}%
8715 }
8716 \def\@endForm{}
8717 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8718 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8719 }
8720 \def\@TextField[#1]#2{% parameters, label
8721 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8722 }
8723 \def\@CheckBox[#1]#2{% parameters, label
8724 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8725 }
8726 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8727 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%

```

```

8728 }
8729 \def\@PushButton[#1]#2{% parameters, label
8730 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8731 }
8732 \def\@Reset[#1]#2{%
8733 \typeout{Sorry, TeXpider does not yet support FORMs}%
8734 }
8735 \def\@Submit[#1]#2{%
8736 \typeout{Sorry, TeXpider does not yet support FORMs}%
8737 }
8738 </vtexhtml>
8739 <*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.

```

8740 \ifx\mediaheight\@undefined
8741 \else
8742 \ifx\mediaheight\relax
8743 \else
8744 \ifHy@setpagesize
8745 \providecommand*\VTeXInitMediaSize{%
8746 \@ifundefined{stockwidth}{%
8747 \ifdim\paperheight>0pt %
8748 \setlength\mediaheight\paperheight
8749 \fi
8750 \ifdim\paperheight>0pt %
8751 \setlength\mediawidth\paperwidth
8752 \fi
8753 }{%
8754 \ifdim\stockheight>0pt %
8755 \setlength\mediaheight\stockheight
8756 \fi
8757 \ifdim\stockwidth>0pt %
8758 \setlength\mediawidth\stockwidth
8759 \fi
8760 }%
8761 }%
8762 \AtBeginDocument{\VTeXInitMediaSize}%
8763 \fi
8764 \Hy@DisableOption{setpagesize}%
8765 \fi
8766 \fi

```

Older versions of VTeX require xyz in lower case.

```

8767 \providecommand*\@pdfview{xyz}
8768 \providecommand*\@pdfborder{0 0 1}
8769 \providecommand*\@pdfborderstyle{}
8770 \let\CurrentBorderColor\@linkbordercolor
8771 \def\hyper@anchor#1{%
8772 \Hy@SaveLastskip
8773 \begingroup
8774 \let\protect=\string
8775 \hyper@chars
8776 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8777 \endgroup
8778 \Hy@activeanchortrue
8779 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

8780 \Hy@activeanchorfalse
8781 \Hy@RestoreLastskip
8782 }
8783 \def\hyper@anchorstart#1{%
8784 \Hy@SaveLastskip
8785 \begingroup
8786 \hyper@chars
8787 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8788 \endgroup
8789 \Hy@activeanchortrue
8790 }
8791 \def\hyper@anchorend{%
8792 \Hy@activeanchorfalse
8793 \Hy@RestoreLastskip
8794 }
8795 \def\@urlltype{url}
8796 \def\Hy@undefinedname{UNDEFINED}
8797 \def\hyper@linkstart#1#2{%
8798 \Hy@pstringdef\Hy@pstringURI{#2}%
8799 \expandafter\Hy@colorlink\csname @#1color\endcsname
8800 \@ifundefined{@#1bordercolor}{%
8801 \let\CurrentBorderColor\relax
8802 }{%
8803 \edef\CurrentBorderColor{%
8804 \csname @#1bordercolor\endcsname
8805 }%
8806 }%
8807 \def\Hy@tempa{#1}%
8808 \ifx\Hy@tempa\@urlltype
8809 \special{!%
8810 \href <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8811 a=<%
8812 \ifHy@pdfa /F 4\fi
8813 \Hy@setpdfborder
8814 \ifx\CurrentBorderColor\relax
8815 \else
8816 /C [\CurrentBorderColor]%
8817 \fi
8818 >%
8819 }%
8820 \else
8821 \protected@edef\Hy@testname{#2}%
8822 \ifx\Hy@testname\@empty
8823 \Hy@Warning{%
8824 Empty destination name,\MessageBreak
8825 using '\Hy@undefinedname'%
8826 }%
8827 \let\Hy@testname\Hy@undefinedname
8828 \fi
8829 \special{!%
8830 \href \expandafter\HyperDestNameFilter
8831 \expandafter{\Hy@testname};%
8832 a=<%
8833 \ifHy@pdfa /F 4\fi
8834 \Hy@setpdfborder
8835 \ifx\CurrentBorderColor\relax
8836 \else

```

```

8837         /C [\CurrentBorderColor]%
8838     \fi
8839     >%
8840 }%
8841 \fi
8842 }
8843 \def\hyper@linkend{%
8844 \special{!endaref}%
8845 \Hy@endcolorlink
8846 }
8847 \def\hyper@linkfile#1#2#3{%
8848 \leavevmode
8849 \special{!%
8850   aref <%
8851   \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8852   f=#2>#3;%
8853   a=<%
8854   \ifHy@pdfa /F 4\fi
8855   \Hy@setpdfborder
8856   \ifx\@filebordercolor\relax
8857   \else
8858     /C [\@filebordercolor]%
8859   \fi
8860   >%
8861 }%
8862 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8863 \special{!endaref}%
8864 }
8865 \def\hyper@linkurl#1#2{%
8866 \begingroup
8867 \Hy@pstringdef\Hy@pstringURI{#2}%
8868 \hyper@chars
8869 \leavevmode
8870 \special{!%
8871   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8872   a=<%
8873   \ifHy@pdfa /F 4\fi
8874   \Hy@setpdfborder
8875   \ifx\@urlbordercolor\relax
8876   \else
8877     /C [\@urlbordercolor]%
8878   \fi
8879   >%
8880 }%
8881 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8882 \special{!endaref}%
8883 \endgroup
8884 }
8885 \def\hyper@link#1#2#3{%
8886 \@ifundefined{@#1bordercolor}{%
8887 \let\CurrentBorderColor\relax
8888 }{%
8889 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8890 }%
8891 \leavevmode
8892 \protected@edef\Hy@testname{#2}%
8893 \ifx\Hy@testname\@empty

```

```

8894 \Hy@Warning{%
8895     Empty destination name,\MessageBreak
8896     using '\Hy@undefinedname'%
8897 }%
8898 \let\Hy@testname\Hy@undefinedname
8899 \fi
8900 \special{!%
8901     aref \expandafter\HyperDestNameFilter
8902     \expandafter{\Hy@testname};%
8903 a=<%
8904     \ifHy@pdfa /F 4\fi
8905     \Hy@setpdfborder
8906     \ifx\CurrentBorderColor\relax
8907     \else
8908         /C [\CurrentBorderColor]%
8909     \fi
8910 >%
8911 }%
8912 \expandafter
8913 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8914 \special{!endaref}%
8915 }
8916 \def\hyper@image#1#2{%
8917     \hyper@linkurl{#2}{#1}%
8918 }
8919 \def\@hyper@launch run:#1\#2#3{%
8920     \Hy@pstringdef\Hy@pstringF{#1}%
8921     \Hy@pstringdef\Hy@pstringP{#3}%
8922     \leavevmode
8923     \special{!aref %
8924         <u=%
8925             /Type/Action%
8926             /S/Launch%
8927             /F(\Hy@pstringF)%
8928             \Hy@SetNewWindow
8929             \ifx\#3\%
8930             \else
8931                 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
8932             \fi%
8933 >;%
8934 a=<%
8935     \ifHy@pdfa /F 4\fi
8936     \Hy@setpdfborder
8937     \ifx\@runbordercolor\relax
8938     \else
8939         /C[\@runbordercolor]%
8940     \fi
8941 >%
8942 }%
8943 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8944 \special{!endaref}%
8945 }
8946 \def\Acrobatmenu#1#2{%
8947     \Hy@Acrobatmenu{#1}{#2}{%
8948         \special{!%
8949             aref <u=/S /Named /N /#1>;%
8950             a=<%

```



```

8951 \ifHy@pdfa /F 4\fi
8952 \Hy@setpdfborder
8953 \ifx\@menubordercolor\relax
8954 \else
8955 /C[\@menubordercolor]%
8956 \fi
8957 >%
8958 }%
8959 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8960 \special{!endaref}%
8961 }%
8962 }

```

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

The code below makes sense for VT_EX 7.02 or later.

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

```

8963 \ifnum\Hy@VTeXversion<702 %
8964 \else
8965 \def\hyper@pagetransition{%
8966 \ifx\@pdfpagetransition\relax
8967 \else
8968 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8969 \else
8970 \hvtex@parse@trans\@pdfpagetransition
8971 \fi
8972 \fi
8973 }%

```

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

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

```

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

```

Transition codes:

```

8974 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8975 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8976 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8977 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8978 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8979 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8980 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```
8981 \def\hvtex@par@dimension{/Dm}%
8982 \def\hvtex@par@direction{/Di}%
8983 \def\hvtex@par@duration{/D}%
8984 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8985 \def\hvtex@gettoken{%
8986   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
8987 }%
```

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

```
8988 \def\hvtex@gettoken@#1 #2\@nil{%
8989   \edef\hvtex@token{#1}%
8990   \edef\hvtex@buffer{#2}%
8991 }%
8992 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8993 \let\hvtex@trans@code\@empty
8994 \let\hvtex@param@dimension\@empty
8995 \let\hvtex@param@direction\@empty
8996 \let\hvtex@param@duration\@empty
8997 \let\hvtex@param@motion\@empty
8998 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8999 \hvtex@gettoken
9000 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
9001 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
9002 \else
9003   \hvtex@gettoken
9004 \fi
9005 \fi
9006 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
9007 \hvtex@trans@params
9008 }%
```

Reentrant macro to parse optional parameters.

```
9009 \def\hvtex@trans@params{%
9010   \ifx\hvtex@buffer\@empty
9011   \else
9012     \hvtex@gettoken
9013     \let\hvtex@trans@par\hvtex@token
9014     \ifx\hvtex@buffer\@empty
9015     \else
9016       \hvtex@gettoken
9017       \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
9018     \let\hvtex@param@duration\hvtex@token
9019   \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
9020      \expandafter\edef\expandafter\hvtex@param@motion
9021      \expandafter{\expandafter\@gobble\hvtex@token}%
9022      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
9023      \expandafter\edef\expandafter\hvtex@param@dimension
9024      \expandafter{\expandafter\@gobble\hvtex@token}%
9025      \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).

```
9026      \let\hvtex@param@direction\hvtex@token
9027      \fi\fi\fi\fi
9028      \fi
9029      \fi
9030      \ifx\hvtex@buffer\@empty
9031      \let\next\hvtex@produce@trans
9032      \else
9033      \let\next\hvtex@trans@params
9034      \fi
9035      \next
9036      }%
```

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

```
9037 \def\hvtex@produce@trans{%
9038 \let\vtex@trans@special\@empty
9039 \if S\hvtex@trans@code
9040 \edef\vtex@trans@special{\hvtex@trans@code
9041 \hvtex@param@dimension\hvtex@param@motion}%
9042 \else\if B\hvtex@trans@code
9043 \edef\vtex@trans@special{%
9044 \hvtex@trans@code\hvtex@param@dimension
9045 }%
9046 \else\if X\hvtex@trans@code
9047 \edef\vtex@trans@special{%
9048 \hvtex@trans@code\hvtex@param@motion
9049 }%
9050 \else\if W\hvtex@trans@code
9051 \edef\vtex@trans@special{%
9052 \hvtex@trans@code\hvtex@param@direction
9053 }%
9054 \else\if D\hvtex@trans@code
9055 \let\vtex@trans@special\hvtex@trans@code
9056 \else\if R\hvtex@trans@code
9057 \let\vtex@trans@special\hvtex@trans@code
9058 \else\if G\hvtex@trans@code
9059 \edef\vtex@trans@special{%
9060 \hvtex@trans@code\hvtex@param@direction
9061 }%
9062 \fi\fi\fi\fi\fi\fi
9063 \ifx\vtex@trans@special\@empty
9064 \else
9065 \ifx\hvtex@param@duration\@empty
9066 \else
9067 \setlength{\dimen@}{\hvtex@param@duration\p}%
```

I'm not guilty of possible overflow.

```

9068      \multiply\dimen@ \@m
9069      \edef\vtex@trans@special{%
9070        \vtex@trans@special,\strip@pt\dimen@
9071      }%
9072      \fi

      And all the mess is just for this.

9073      \special{!trans \vtex@trans@special}%
9074      \fi
9075  }%

9076  \def\hyper@pageduration{%
9077    \ifx\@pdfpageduration\relax
9078    \else
9079    \ifx\@pdfpageduration\@empty
9080      \special{!duration-}%
9081    \else
9082      \special{!duration \@pdfpageduration}%
9083    \fi
9084    \fi
9085  }%

9086  \def\hyper@pagehidden{%
9087    \ifHy@useHidKey
9088      \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9089    \fi
9090  }%

9091  \g@addto@macro\Hy@EveryPageBoxHook{%
9092    \hyper@pagetransition
9093    \hyper@pageduration
9094    \hyper@pagehidden
9095  }%
9096  \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

```

9097 \ifx\@pdfproducer\relax
9098 \def\@pdfproducer{VTeX}%
9099 \ifnum\Hy@VTeXversion>\z@
9100   \count@\VTeXversion
9101   \divide\count@ 100 %
9102   \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9103   \multiply\count@ -100 %
9104   \advance\count@\VTeXversion
9105   \edef\@pdfproducer{%
9106     \@pdfproducer
9107     .\ifnum\count@<10 0\fi\the\count@
9108   \ifx\VTeXOS\@undefined\else
9109     \ifnum\VTeXOS>0 %
9110       \ifnum\VTeXOS<6 %
9111         \space(
9112         \ifcase\VTeXOS

```

```

9113      \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9114      \fi
9115      )%
9116      \fi
9117      \fi
9118      \fi
9119      ,\space
9120      \ifnum\OpMode=\@ne PDF\else PS\fi
9121      \space backend%
9122      \ifx\gexmode\@undefined\else
9123      \ifnum\gexmode>z@\space with GeX\fi
9124      \fi
9125      }%
9126      \fi
9127      \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).

```

9128 \def\PDF@SetupDoc{%
9129   \ifx\@pdfpagescrop\@empty
9130   \else
9131     \special{!pdfinfo b=<\@pdfpagescrop>}%
9132   \fi
9133   \ifx\@pdfstartpage\@empty
9134   \else
9135     \ifx\@pdfstartview\@empty
9136     \else
9137       \special{!onopen Page\@pdfstartpage}%
9138     \fi
9139   \fi
9140   \special{!pdfinfo p=</\@pdfpagemode>}%
9141   \ifx\@baseurl\@empty
9142   \else
9143     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9144   \fi
9145   \special{!pdfinfo v=<<<%
9146     \ifHy@toolbar\else /HideToolbar true\fi
9147     \ifHy@menubar\else /HideMenubar true\fi
9148     \ifHy>windowui\else /HideWindowUI true\fi
9149     \ifHy@fitwindow /FitWindow true\fi
9150     \ifHy@centerwindow /CenterWindow true\fi
9151     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9152     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9153     \Hy@UseNameKey{Direction}\@pdfdirection
9154     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

9155 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9156 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9157 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9158 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9159 \Hy@UseNameKey{Duplex}\@pdfduplex
9160 \ifx\@pdfpicktraybypdfsize\@empty
9161 \else
9162   /PickTrayByPDFSize \@pdfpicktraybypdfsize
9163 \fi
9164 \ifx\@pdfprintpagerange\@empty
9165 \else
9166   /PrintPageRange\@pdfprintpagerange]%
9167 \fi
9168 \ifx\@pdfnumcopies\@empty
9169 \else
9170   /NumCopies \@pdfnumcopies
9171 \fi
9172 >>>}%
9173 \ifx\@pdfpagelayout\@empty
9174 \else
9175   \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9176 \fi
9177 }%
9178 \def\PDF@FinishDoc{%
9179   \Hy@UseMaketitleInfos
9180   \special{!pdfinfo a=<\@pdfauthor>}%
9181   \special{!pdfinfo t=<\@pdftitle>}%
9182   \special{!pdfinfo s=<\@pdfsubject>}%
9183   \special{!pdfinfo c=<\@pdfcreator>}%
9184   \ifx\@pdfproducer\relax
9185   \else
9186     \special{!pdfinfo r=<\@pdfproducer>}%
9187   \fi
9188   \special{!pdfinfo k=<\@pdfkeywords>}%
9189   \Hy@DisableOption{pdfauthor}%
9190   \Hy@DisableOption{pdftitle}%
9191   \Hy@DisableOption{pdfsubject}%
9192   \Hy@DisableOption{pdfcreator}%
9193   \Hy@DisableOption{pdfcreationdate}%
9194   \Hy@DisableOption{pdfmoddate}%
9195   \Hy@DisableOption{pdfproducer}%
9196   \Hy@DisableOption{pdfkeywords}%
9197 }
9198 </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.

```

9199 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9200 <package>\providecommand*{\Hy@DistillerDestFix}{%
9201 <*pdfmark | dviwindo>
9202 \def\Hy@DistillerDestFix{%
9203   \begingroup
9204   \let\x\literalps@out

```

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

```

9205   \ifnum \@ifundefined{OpMode}{0}{%
9206     \@ifundefined{gexmode}{0}{%
9207       \ifnum\gexmode>0 \OpMode\else 0\fi
9208     }>1 %
9209   \def\x##1{%
9210     \immediate\special{!=##1}%
9211   }%
9212 \fi
9213 \x{%
9214   /product where{%
9215     pop %
9216     product(Distiller)search{%
9217       pop pop pop %
9218       version(.)search{%
9219         exch pop exch pop%
9220         (3011)eq{%
9221           gsave %
9222           newpath 0 0 moveto closepath clip%
9223           /Courier findfont 10 scalefont setfont %
9224           72 72 moveto(.).show %
9225           grestore%
9226         }if%
9227       }{pop}ifelse%
9228     }{pop}ifelse%
9229   }if%
9230 }%
9231 \endgroup
9232 }
9233 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

\@pdfproducer	for document information
\literalps@out	PostScript output
\headerps@out	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S	start of anchor, link or rect
#1 H.A	end of anchor, argument=baselineskip in pt
#1 H.L	end of link, argument=baselineskip in pt
H.R	end of rect
H.B	raw rect code

```

9234 <*pdfmark>
9235 \Hy@breaklinks@unsupported
9236 \def\hyper@anchor#1{%

```

```

9237 \Hy@SaveLastskip
9238 \begingroup
9239 \pdfmark[\anchor@spot]{%
9240   pdfmark=/DEST,%
9241   linktype=anchor,%
9242   View=/\@pdfview \@pdfviewparams,%
9243   DestAnchor={#1}%
9244 }%
9245 \endgroup
9246 \Hy@RestoreLastskip
9247 }
9248 \ifundefined{hyper@anchorstart}{\endinput}
9249 \def\hyper@anchorstart#1{%
9250   \Hy@SaveLastskip
9251   \literalps@out{H.S}%
9252   \xdef\hyper@currentanchor{#1}%
9253   \Hy@activeanchortrue
9254 }
9255 \def\hyper@anchorend{%
9256   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9257   \pdfmark{%
9258     pdfmark=/DEST,%
9259     linktype=anchor,%
9260     View=/\@pdfview \@pdfviewparams,%
9261     DestAnchor=\hyper@currentanchor,%
9262   }%
9263   \Hy@activeanchorfalse
9264   \Hy@RestoreLastskip
9265 }
9266 \def\hyper@linkstart#1#2{%
9267   \ifHy@breaklinks
9268   \else
9269     \leavevmode\hbox\bgroup
9270     \fi
9271     \expandafter\Hy@colorlink\csname @#1color\endcsname
9272     \literalps@out{H.S}%
9273     \xdef\hyper@currentanchor{#2}%
9274     \gdef\hyper@currentlinktype{#1}%
9275 }
9276 \def\hyper@linkend{%
9277   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9278   \ifundefined{@\hyper@currentlinktype bordercolor}{%
9279     \let\Hy@tempcolor\relax
9280   }{%
9281     \edef\Hy@tempcolor{%
9282       \csname @\hyper@currentlinktype bordercolor\endcsname
9283     }%
9284   }%
9285   \pdfmark{%
9286     pdfmark=/ANN,%
9287     linktype=link,%
9288     Subtype=/Link,%
9289     PDFAMFlags=4,%
9290     Dest=\hyper@currentanchor,%
9291     AcroHighlight=\@pdfhighlight,%
9292     Border=\@pdfborder,%
9293     BorderStyle=\@pdfborderstyle,%

```



```

9294   Color=\Hy@tempcolor,%
9295   Raw=H.B%
9296 }%
9297 \Hy@endcolorlink
9298 \ifHy@breaklinks
9299 \else
9300   \egroup
9301 \fi
9302 }

```

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.

```

9303 \begingroup
9304 \catcode'P=12 %
9305 \catcode'T=12 %
9306 \lowercase{\endgroup
9307 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
9308 }
9309 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

9310 \def\hyper@pagetransition{%
9311   \ifx\@pdfpagetransition\relax
9312   \else
9313     \ifx\@pdfpagetransition\@empty
9314       % 1. Does an old entry have to be deleted?
9315       % 2. If 1=yes, how to delete?
9316     \else
9317       \pdfmark{%
9318         pdfmark=/PUT,%
9319         Raw={%
9320           \string{ThisPage\string}%
9321           <</Trans << /S /\@pdfpagetransition\space >> >>%
9322         }%
9323       }%
9324     \fi
9325   \fi
9326 }

```

`\hyper@pageduration`

```

9327 \def\hyper@pageduration{%
9328   \ifx\@pdfpageduration\relax
9329   \else
9330     \ifx\@pdfpageduration\@empty
9331       % 1. Does an old entry have to be deleted?
9332       % 2. If 1=yes, how to delete?
9333     \else
9334       \pdfmark{%
9335         pdfmark=/PUT,%
9336         Raw={%
9337           \string{ThisPage\string}%
9338           <</Dur \@pdfpageduration>>%
9339         }%
9340       }%
9341     \fi
9342   \fi
9343 }

```

\hyper@pagehidden

```
9344 \def\hyper@pagehidden{%
9345   \ifHy@useHidKey
9346     \pdfmark{%
9347       pdfmark=/PUT,%
9348       Raw={%
9349         \string{ThisPage\string}%
9350         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9351       }%
9352     }%
9353   \fi
9354 }

9355 \g@addto@macro\Hy@EveryPageBoxHook{%
9356   \hyper@pagetransition
9357   \hyper@pageduration
9358   \hyper@pagehidden
9359 }

9360 \def\hyper@image#1#2{%
9361   \hyper@linkurl{#2}{#1}%
9362 }
9363 \def\Hy@undefinedname{UNDEFINED}
9364 \def\hyper@link#1#2#3{%
9365   \@ifundefined{@#1bordercolor}{%
9366     \let\Hy@tempcolor\relax
9367   }{%
9368     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9369   }%
9370   \begingroup
9371     \protected@edef\Hy@testname{#2}%
9372     \ifx\Hy@testname\@empty
9373       \Hy@Warning{%
9374         Empty destination name,\MessageBreak
9375         using '\Hy@undefinedname'%
9376       }%
9377     \let\Hy@testname\Hy@undefinedname
9378   \fi
9379   \pdfmark[{#3}]{%
9380     Color=\Hy@tempcolor,%
9381     linktype={#1},%
9382     AcroHighlight=\@pdfhighlight,%
9383     Border=\@pdfborder,%
9384     BorderStyle=\@pdfborderstyle,%
9385     pdfmark=/ANN,%
9386     Subtype=/Link,%
9387     PDFAFlags=4,%
9388     Dest=\Hy@testname
9389   }%
9390   \endgroup
9391 }
9392 \newtoks\pdf@docset
9393 \def\PDF@FinishDoc{%
9394   \Hy@UseMaketitleInfos
9395   \let\Hy@temp\@empty
9396   \ifx\@pdfcreationdate\@empty
9397     \else
9398     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9399   \fi
9400 }
```

```

9399 \fi
9400 \ifx\@pdfmoddate\@empty
9401 \else
9402 \expandafter\def\expandafter\Hy@temp\expandafter{%
9403 \Hy@temp
9404 ModDate=\@pdfmoddate,%
9405 }%
9406 \fi
9407 \ifx\@pdfproducer\relax
9408 \else
9409 \expandafter\def\expandafter\Hy@temp\expandafter{%
9410 \Hy@temp
9411 Producer=\@pdfproducer,%
9412 }%
9413 \fi
9414 \expandafter
9415 \pdfmark\expandafter{%
9416 \Hy@temp
9417 pdfmark=/DOCINFO,%
9418 Title=\@pdftitle,%
9419 Subject=\@pdfsubject,%
9420 Creator=\@pdfcreator,%
9421 Author=\@pdfauthor,%
9422 Keywords=\@pdfkeywords
9423 }%
9424 \Hy@DisableOption{pdfauthor}%
9425 \Hy@DisableOption{pdftitle}%
9426 \Hy@DisableOption{pdfsubject}%
9427 \Hy@DisableOption{pdfcreator}%
9428 \Hy@DisableOption{pdfcreationdate}%
9429 \Hy@DisableOption{pdfmoddate}%
9430 \Hy@DisableOption{pdfproducer}%
9431 \Hy@DisableOption{pdfkeywords}%
9432 }
9433 \def\PDF@SetupDoc{%
9434 \def\Hy@temp{%
9435 \ifx\@pdfstartpage\@empty
9436 \else
9437 \ifx\@pdfstartview\@empty
9438 \else
9439 \edef\Hy@temp{%
9440 ,Page=\@pdfstartpage
9441 ,View=\@pdfstartview
9442 }%
9443 \fi
9444 \fi
9445 \edef\Hy@temp{%
9446 \noexpand\pdfmark{%
9447 pdfmark=/DOCVIEW,%
9448 PageMode=/\@pdfpagemode
9449 \Hy@temp
9450 }%
9451 }%
9452 \Hy@temp
9453 \ifx\@pdfpagescrop\@empty
9454 \else
9455 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%

```

```

9456 \fi
9457 \edef\Hy@temp{%
9458   \ifHy@toolbar\else /HideToolbar true\fi
9459   \ifHy@menubar\else /HideMenubar true\fi
9460   \ifHy>windowui\else /HideWindowUI true\fi
9461   \ifHy@fitwindow /FitWindow true\fi
9462   \ifHy@centerwindow /CenterWindow true\fi
9463   \ifHy@displaydoctitle /DisplayDocTitle true\fi
9464   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9465   \Hy@UseNameKey{Direction}\@pdfdirection
9466   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9467   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9468   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9469   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9470   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9471   \Hy@UseNameKey{Duplex}\@pdfduplex
9472   \ifx\@pdfpicktraybypdfsize\@empty
9473   \else
9474     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9475   \fi
9476   \ifx\@pdfprintpagerange\@empty
9477   \else
9478     /PrintPageRange[\@pdfprintpagerange]%
9479   \fi
9480   \ifx\@pdfnumcopies\@empty
9481   \else
9482     /NumCopies \@pdfnumcopies
9483   \fi
9484 }%
9485 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9486 \pdfmark{%
9487   pdfmark=/PUT,%
9488   Raw={%
9489     \string{Catalog\string}<<%
9490     \ifx\Hy@temp\@empty
9491     \else
9492       /ViewerPreferences<<\Hy@temp>>%
9493     \fi
9494     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9495     \ifx\@pdflang\@empty
9496     \else
9497       /Lang(\@pdflang)%
9498     \fi
9499     \ifx\@baseurl\@empty
9500     \else
9501       /URI<</Base(\Hy@pstringB)>>%
9502     \fi
9503     >>%
9504   }%
9505 }%
9506 }
9507 </pdfmark>
9508 <*pdfmarkbase>

```

We define a single macro, pdfmark, which uses the ‘keyval’ system to define the various allowable keys; these are *exactly* as listed in the pdfmark reference for Acrobat 3.0. The only addition is pdfmark which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied,

but you have to put in / characters as needed for the values.

```

9509 \newif\ifHy@pdfmarkerror
9510 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9511 \def\pdfmark@[#1]#2{%
9512   \Hy@pdfmarkerrorfalse
9513   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9514   \@processme
9515   \let\pdf@type\relax
9516   \setkeys{PDF}{#2}%
9517   \ifHy@pdfmarkerror
9518   \else
9519     \ifx\pdf@type\relax
9520       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9521       \ifx\#1\%
9522         \else
9523           \pdf@rect{#1}%
9524         \fi
9525       \else
9526         \ifx\#1\%
9527           \literalps@out{%
9528             [\the\pdf@toks\space\pdf@type\space pdfmark%
9529             ]%
9530           \else
9531             \@ifundefined{@\pdf@linktype color}{%
9532               \Hy@colorlink\@linkcolor
9533             }{%
9534               \expandafter\Hy@colorlink
9535                 \csname @\pdf@linktype color\endcsname
9536             }%
9537             \pdf@rect{#1}%
9538             \literalps@out{%
9539               [\the\pdf@toks\space\pdf@type\space pdfmark%
9540               ]%
9541               \Hy@endcolorlink
9542             \fi
9543           \fi
9544         \fi
9545 }

```

The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the `/Rect` key. This solution originates with Toby Thain (toby@netspace.net.au).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

9546 \newsavebox{\pdf@box}
9547 \providecommand*{\Hy@setouterhbox}{\sbox}
9548 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9549 \def\Hy@DEST{/DEST}
9550 \def\pdf@rect#1{%
9551   \leavevmode
9552   \ifHy@breaklinks

```

```

9553 \Hy@setouterhbox\pdf@box{#1}%
9554 \else
9555 \sbox\pdf@box{#1}%
9556 \fi
9557 \dimen@ht\pdf@box
9558 \ifdim\dp\pdf@box=\z@
9559 \literalps@out{H.S}%
9560 \else
9561 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9562 \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...).

```

9563 \ifHy@breaklinks
9564 \expandafter\Hy@breaklinksunhbox
9565 \else
9566 \expandafter\box
9567 \fi
9568 \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

9569 \ifdim\dimen@=\z@
9570 \literalps@out{H.R}%
9571 \else
9572 \raise\dimen@\hbox{\literalps@out{H.R}}%
9573 \fi
9574 \ifx\pdf@type\Hy@DEST
9575 \else
9576 \pdf@addtoksx{H.B}%
9577 \fi
9578 }

```

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.

```

9579 \newtoks\pdf@toks
9580 \newtoks\pdf@defaulttoks
9581 \pdf@defaulttoks={}%
9582 \def\pdf@addtoks#1#2{%
9583 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9584 \@processme
9585 }
9586 \def\pdf@addtoksx#1{%
9587 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9588 \@processme
9589 }
9590 \def\PDFdefaults#1{%
9591 \pdf@defaulttoks={#1}%
9592 }

```

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

```

9593 % what is the type of pdfmark?
9594 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9595 % what is the link type?
9596 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}

```

```

9597 \def\pdf@linktype{link}
9598 % parameter is a stream of PDF
9599 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
9600 % parameter is a name
9601 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9602 % parameter is a array
9603 \define@key{PDF}{Border}{%
9604   \edef\Hy@temp{#1}%
9605   \ifx\Hy@temp\@empty
9606   \else
9607     \pdf@addtoks{#1\Hy@BorderArrayPatch}{Border}% hash-ok
9608   \fi
9609 }
9610 \let\Hy@BorderArrayPatch\@empty
9611 % parameter is a dictionary
9612 \define@key{PDF}{BorderStyle}{%
9613   \edef\Hy@temp{#1}%
9614   \ifx\Hy@temp\@empty
9615   \else
9616     \pdf@addtoks{<<#1>>}{BS}%
9617   \fi
9618 }
9619 % parameter is a array
9620 \define@key{PDF}{Color}{%
9621   \ifx\relax#1\relax
9622   \else
9623     \pdf@addtoks{#1}{Color}% hash-ok
9624   \fi
9625 }
9626 % parameter is a string
9627 \define@key{PDF}{Contents}{\pdf@addtoks{#1}{Contents}}
9628 % parameter is a integer
9629 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9630 % parameter is a array
9631 \define@key{PDF}{CropBox}{\pdf@addtoks{#1}{CropBox}}% hash-ok
9632 % parameter is a string
9633 \define@key{PDF}{DOSFile}{\pdf@addtoks{#1}{DOSFile}}
9634 % parameter is a string or file
9635 \define@key{PDF}{DataSource}{\pdf@addtoks{#1}{DataSource}}
9636 % parameter is a destination
9637 \define@key{PDF}{Dest}{%
9638   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9639   \ifx\Hy@pstringDest\@empty
9640     \Hy@pdfmarkerrortrue
9641     \Hy@Warning{Destination with empty name ignored}%
9642   \else
9643     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9644   \fi
9645 }
9646 \define@key{PDF}{DestAnchor}{%
9647   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9648   \ifx\Hy@pstringDest\@empty
9649     \Hy@pdfmarkerrortrue
9650     \Hy@Warning{Destination with empty name ignored}%
9651   \else
9652     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9653   \fi

```

```

9654 }
9655 % parameter is a string
9656 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9657 % parameter is a string
9658 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9659 % parameter is a int
9660 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9661 \define@key{PDF}{PDFAFlags}{%
9662   \ifHy@pdfa
9663     \pdf@addtoks{#1}{F}%
9664   \fi
9665 }
9666 % parameter is a name
9667 \define@key{PDF}{AcroHighlight}{%
9668   \begingroup
9669     \edef\x{#1}%
9670     \expandafter\endgroup\ifx\x\@empty
9671       \else
9672         \pdf@addtoks{#1}{H}%
9673       \fi
9674 }
9675 % parameter is a string
9676 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9677 % parameter is a string
9678 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9679 % parameter is a string
9680 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9681 % parameter is a string
9682 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9683 % parameter is a Boolean
9684 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9685 % parameter is a integer or name
9686 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9687 % parameter is a name
9688 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9689 % parameter is a string
9690 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9691 % parameter is a array
9692 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9693 % parameter is a integer
9694 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9695 % parameter is a name
9696 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9697 % parameter is a string
9698 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9699 % parameter is a string
9700 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9701 % parameter is a string
9702 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9703 % parameter is an array
9704 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9705 % parameter is a string
9706 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9707 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9708 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9709 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}

```



```

9710 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9711 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9712 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9713 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9714 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9715 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9716 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9717 \pdfmarkbase
9718 \pdfmark
9719 \def\Acrobatmenu#1#2{%
9720   \Hy@Acrobatmenu{#1}{#2}{%
9721     \pdfmark[{#2}]{%
9722       linktype=menu,%
9723       pdfmark=/ANN,%
9724       AcroHighlight=\pdfhighlight,%
9725       Border=\pdfborder,%
9726       BorderStyle=\pdfborderstyle,%
9727       Action={<< /Subtype /Named /N /#1 >>},%
9728       Subtype=/Link,%
9729       PDFAFlags=4%
9730     }%
9731   }%
9732 }

```

And now for some useful examples:

```

9733 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
9734 \def\PDFNextPage@[#1]#2{%
9735   \pdfmark[{#2}]{%
9736     #1,%
9737     Border=\pdfborder,%
9738     BorderStyle=\pdfborderstyle,%
9739     Color=.2 .1 .5,%
9740     pdfmark=/ANN,%
9741     Subtype=/Link,%
9742     PDFAFlags=4,%
9743     Page=/Next%
9744   }%
9745 }
9746 \def\PDFPreviousPage{%
9747   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9748 }
9749 \def\PDFPreviousPage@[#1]#2{%
9750   \pdfmark[{#2}]{%
9751     #1,%
9752     Border=\pdfborder,%
9753     BorderStyle=\pdfborderstyle,%
9754     Color=.4 .4 .1,%
9755     pdfmark=/ANN,%
9756     Subtype=/Link,%
9757     PDFAFlags=4,%
9758     Page=/Prev%
9759   }%
9760 }
9761 \def\PDFOpen#1{%
9762   \pdfmark{#1,pdfmark=/DOCVIEW}%
9763 }

```

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

```

9764 \def\hyper@linkurl#1#2{%
9765   \begingroup
9766   \Hy@pstringdef\Hy@pstringURI{#2}%
9767   \hyper@chars
9768   \leavevmode
9769   \pdfmark[{#1}]{%
9770     pdfmark=/ANN,%
9771     linktype=url,%
9772     AcroHighlight=\@pdfhighlight,%
9773     Border=\@pdfborder,%
9774     BorderStyle=\@pdfborderstyle,%
9775     Color=\@urlbordercolor,%
9776     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9777     Subtype=/Link,%
9778     PDFAFlags=4%
9779   }%
9780 \endgroup
9781 }
9782 \def\hyper@linkfile#1#2#3{%
9783   \begingroup
9784   \Hy@pstringdef\Hy@pstringF{#2}%
9785   \Hy@pstringdef\Hy@pstringD{#3}%
9786   \leavevmode
9787   \pdfmark[{#1}]{%
9788     pdfmark=/ANN,%
9789     Subtype=/Link,%
9790     PDFAFlags=4,%
9791     AcroHighlight=\@pdfhighlight,%
9792     Border=\@pdfborder,%
9793     BorderStyle=\@pdfborderstyle,%
9794     linktype=file,%
9795     Color=\@filebordercolor,%
9796     Action={%
9797       <<%
9798       /S/GoToR%
9799       \Hy@SetNewWindow
9800       /F(\Hy@pstringF)%
9801       /D\ifx\#3\[\[0 \@pdfstartview\]\else(\Hy@pstringD)cvn\fi
9802       >>%
9803     }%
9804   }%
9805 \endgroup
9806 }
9807 \def\@hyper@launch run:#1\#2#3{%
9808   \begingroup
9809   \Hy@pstringdef\Hy@pstringF{#1}%
9810   \Hy@pstringdef\Hy@pstringP{#3}%
9811   \leavevmode
9812   \pdfmark[{#2}]{%
9813     pdfmark=/ANN,%
9814     Subtype=/Link,%
9815     PDFAFlags=4,%
9816     AcroHighlight=\@pdfhighlight,%
9817     Border=\@pdfborder,%
9818     BorderStyle=\@pdfborderstyle,%
9819     linktype=run,%
9820     Color=\@runbordercolor,%

```

```

9821     Action={%
9822     <<%
9823     /S/Launch%
9824     \Hy@SetNewWindow
9825     /F(\Hy@pstringF)%
9826     \ifx\|#3\%
9827     \else
9828     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9829     \fi
9830     >>%
9831     }%
9832     }%
9833 \endgroup
9834 }
9835 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

9836 <*dvips>
9837 \providecommand*\XR@ext}{pdf}
9838 \def\Hy@raisedlink{}
9839 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9840 \def\headerps@out#1{\special{! #1}}%
9841 \input{pdfmark.def}%
9842 \ifx\@pdfproducer\relax
9843 \def\@pdfproducer{dvips + Distiller}%
9844 \fi
9845 \providecommand*\@pdfborder{0 0 1}
9846 \providecommand*\@pdfborderstyle{}
9847 \providecommand*\@pdfview{XYZ}
9848 \providecommand*\@pdfviewparams{ H.V}
9849 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9850 \g@addto@macro\Hy@FirstPageHook{%
9851 \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.

```

9852 /DvipsToPDF{72.27 mul Resolution div} def%
9853 /PDFToDvips{72.27 div Resolution mul} def%
9854 /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.

```

9855 /BorderArrayPatch{%
9856   [exch{%
9857     dup dup type/integertype eq exch type/realttype eq or%
9858     {BPToDvips}if%
9859   }forall]%
9860 }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.

```

9861 /HyperBorder {1 PDFToDvips} def%
9862 /H.V {pdf@hoff pdf@voff null} def%
9863 /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

```

9864 /H.S {%
9865   currentpoint %
9866   HyperBorder add /pdf@lly exch def %
9867   dup DvipsToPDF 72 add /pdf@hoff exch def %
9868   HyperBorder sub /pdf@llx exch def%
9869 } 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`

```

9870 /H.L {%
9871   2 sub dup%
9872   /HyperBasePt exch def %
9873   PDFToDvips /HyperBaseDvips exch def %
9874   currentpoint %
9875   HyperBaseDvips sub /pdf@ury exch def%
9876   /pdf@urx exch def%
9877 } def%
9878 /H.A {%
9879   H.L %
9880 % |pdf@voff| = the distance from the top of the page to a point
9881 % |\baselineskip| above the current point in PDF coordinates
9882   currentpoint exch pop %
9883   vsize 72 sub exch DvipsToPDF %
9884   HyperBasePt sub % baseline skip
9885   sub /pdf@voff exch def%
9886 } def%
9887 /H.R {%
9888   currentpoint %
9889   HyperBorder sub /pdf@ury exch def %
9890   HyperBorder add /pdf@urx exch def %
9891 % |pdf@voff| = the distance from the top of the page to the current point, in
9892 % PDF coordinates
9893   currentpoint exch pop vsize 72 sub %
9894   exch DvipsToPDF sub /pdf@voff exch def%
9895 } def%
```

```

9896 }%
9897 }
9898 \AtBeginShipoutFirst{%
9899   \ifHy@setpagesize
9900     \begingroup
9901       \ifundefined{stockwidth}{%
9902         \ifdim\paperwidth>\z@
9903           \ifdim\paperheight>\z@
9904             \special{papersize=\the\paperwidth,\the\paperheight}%
9905           \fi
9906         \fi
9907       }{%
9908         \ifdim\stockwidth>\z@
9909           \ifdim\stockheight>\z@
9910             \special{papersize=\the\stockwidth,\the\stockheight}%
9911           \fi
9912         \fi
9913       }%
9914     \endgroup
9915   \fi
9916   \Hy@DisableOption{setpagesize}%
9917 }
9918 </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.

```

9919 <*vtexpdfmark>
9920 \providecommand*{\XR@ext}{pdf}
9921 \def\Hy@raisedlink{}
9922 \def\literalps@out#1{\special{pS:#1}}%
9923 \def\headerps@out#1{\immediate\special{pS:#1}}%
9924 \input{pdfmark.def}%
9925 \ifx\@pdfproducer\relax
9926   \ifnum\OpMode=\@ne
9927     \def\@pdfproducer{VTeX}%
9928   \else
9929     \def\@pdfproducer{VTeX + Distiller}%
9930   \fi
9931 \fi
9932 \providecommand*\@pdfborder{0 0 1}
9933 \providecommand*\@pdfborderstyle{}
9934 \providecommand*\@pdfview{XYZ}
9935 \providecommand*\@pdfviewparams{ H.V}
9936 \g@addto@macro\Hy@FirstPageHook{%
9937   \headerps@out{%
9938     /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.

```

9939   /HyperBorder {1} def%
9940   /H.V {pdf@hoff pdf@voff null} def%
9941   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9942 /H.S {%
9943   currentpoint %
9944   HyperBorder sub%
9945   /pdf@lly exch def %
9946   dup 72 add /pdf@hoff exch def %
9947   HyperBorder sub%
9948   /pdf@llx exch def%
9949 } def%
```

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

```

9950 /H.L {%
9951   2 sub%
9952   /HyperBasePt exch def %
9953   currentpoint %
9954   HyperBasePt add HyperBorder add%
9955   /pdf@ury exch def %
9956   HyperBorder add%
9957   /pdf@urx exch def%
9958 } def%
9959 /H.A {%
9960   H.L %
9961   currentpoint exch pop %
9962   vsize 72 sub exch %
9963   HyperBasePt add add%
9964   /pdf@voff exch def%
9965 } def%
```

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

```

9966 /H.R {%
9967   currentpoint %
9968   HyperBorder add%
9969   /pdf@ury exch def %
9970   HyperBorder add%
9971   /pdf@urx exch def %
9972   currentpoint exch pop vsize 72 sub add%
9973   /pdf@voff exch def%
9974 } def%
9975 }%
9976 }
9977 </vtxpdfmark>
```

46.11 Textures

```

9978 <*textures>
9979 \providecommand*{\XR@ext}{pdf}
```

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR` The macro `\Hy@ps@CR` contains the end-of-line character.

```
9980 \begingroup
9981 \obeylines %
9982 \gdef\Hy@ps@CR{\noexpand
9983 }%
9984 \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`.

```
9985 \def\literalps@out#1{%
9986 \special{postscript 0 0 transform}%
9987 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9988 }%
9989 %
```

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.

```
9990 \def\headerps@out#1{%
9991 \special{%
9992 prepostscript TeXdict begin\Hy@ps@CR
9993 #1\Hy@ps@CR
9994 end%
9995 }%
9996 }%
9997 %
```

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.

```
9998 \g@addto@macro\Hy@FirstPageHook{%
9999 \headerps@out{%
10000 /betterpdfmark {%
10001 systemdict begin %
10002 dup /BP eq%
10003 {cleartomark gsave nulldevice []%
10004 {dup /EP eq%
10005 {cleartomark cleartomark grestore}%
10006 {cleartomark}%
10007 ifelse%
10008 }ifelse %
10009 end%
10010 }def\Hy@ps@CR
10011 ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
10012 }% end of \headerps@out
10013 }% end of \AtBeginShipoutFirst
10014 %
10015 \input{pdfmark.def}%
10016 %
10017 \ifx\@pdfproducer\relax
```

```

10018 \def\@pdfproducer{Textures + Distiller}%
10019 \fi
10020 \providecommand*\@pdfborder{0 0 1}
10021 \providecommand*\@pdfborderstyle{}
10022 \providecommand*\@pdfview{XYZ}
10023 \providecommand*\@pdfviewparams{ H.V}
10024 %

```

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

```

10025 \AfterBeginDocument{%
10026 \headerps@out{%

```

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

```

10027 /vsize {\Hy@pageheight} def%
10028 /DvipsToPDF {} def%
10029 /PDFToDvips {} def%
10030 /BPToDvips {} def%
10031 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10032 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10033 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10034 /H.S {%
10035     currentpoint %
10036     HyperBorder add /pdf@lly exch def %
10037     dup DvipsToPDF 72 add /pdf@hoff exch def %
10038     HyperBorder sub /pdf@llx exch def%
10039 } def\Hy@ps@CR
10040 /H.L {%
10041     2 sub %
10042     PDFToDvips /HyperBase exch def %
10043     currentpoint %
10044     HyperBase sub /pdf@ury exch def%
10045     /pdf@urx exch def%
10046 } def\Hy@ps@CR
10047 /H.A {%
10048     H.L %
10049     currentpoint exch pop %
10050     vsize 72 sub exch DvipsToPDF %
10051     HyperBase sub % baseline skip
10052     sub /pdf@voff exch def%
10053 } def\Hy@ps@CR
10054 /H.R {%
10055     currentpoint %
10056     HyperBorder sub /pdf@ury exch def %
10057     HyperBorder add /pdf@urx exch def %
10058     currentpoint exch pop vsize 72 sub %
10059     exch DvipsToPDF sub /pdf@voff exch def%
10060 } def\Hy@ps@CR
10061 }%
10062 }

10063 \AfterBeginDocument{%
10064 \ifHy@colorlinks
10065 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10066 \fi

```


10067 }

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.

```
10068 \expandafter\let\expandafter\keepPDF@SetupDoc
10069 \csname PDF@SetupDoc\endcsname
10070 \def\PDF@SetupDoc{%
10071 \ifx\@baseurl\@empty
10072 \else
10073 \special{html:<base href="\@baseurl">}%
10074 \fi
10075 \keepPDF@SetupDoc
10076 }
10077 \def\hyper@anchor#1{%
10078 \Hy@SaveLastskip
10079 \begingroup
10080 \let\protect=\string
10081 \special{html:<a name=%
10082 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10083 \endgroup
10084 \Hy@activeanchortrue
10085 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10086 \special{html:</a>}%
10087 \Hy@activeanchorfalse
10088 \Hy@RestoreLastskip
10089 }
10090 \def\hyper@anchorstart#1{%
10091 \Hy@SaveLastskip
10092 \begingroup
10093 \hyper@chars
10094 \special{html:<a name=%
10095 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10096 \endgroup
10097 \Hy@activeanchortrue
10098 }
10099 \def\hyper@anchorend{%
10100 \special{html:</a>}%
10101 \Hy@activeanchorfalse
10102 \Hy@RestoreLastskip
10103 }
10104 \def\@urltype{url}
10105 \def\hyper@linkstart#1#2{%
10106 \expandafter\Hy@colorlink\csname @#1color\endcsname
10107 \def\Hy@tempa{#1}%
10108 \ifx\Hy@tempa\@urltype
10109 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10110 \else
10111 \begingroup
10112 \hyper@chars
10113 \special{%
10114 html:<a href=%
10115 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
10116 }%
10117 \endgroup
10118 \fi
10119 }
10120 \def\hyper@linkend{%
10121 \special{html:</a>}%
```

```

10122 \Hy@endcolorlink
10123 }
10124 \def\hyper@linkfile#1#2#3{%
10125 \hyper@linkurl{#1}{%
10126 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10127 }%
10128 }
10129 \def\hyper@linkurl#1#2{%
10130 \leavevmode
10131 \ifHy@raiselinks
10132 \setbox\@tempboxa=\color@hbox #1\color@endbox
10133 \@linkdim\dp\@tempboxa
10134 \lower\@linkdim\hbox{%
10135 \hyper@chars
10136 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10137 }%
10138 \Hy@colorlink\@urlcolor#1%
10139 \@linkdim\ht\@tempboxa
10140 \advance\@linkdim by -6.5\p@
10141 \raise\@linkdim\hbox{\special{html:</a>}}%
10142 \Hy@endcolorlink
10143 \else
10144 \begingroup
10145 \hyper@chars
10146 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10147 \Hy@colorlink\@urlcolor#1%
10148 \special{html:</a>}%
10149 \Hy@endcolorlink
10150 \endgroup
10151 \fi
10152 }

```

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

```

10153 \def\hyper@link#1#2#3{%
10154 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10155 }
10156 \def\hyper@image#1#2{%
10157 \begingroup
10158 \hyper@chars
10159 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10160 \endgroup
10161 }
10162 </textures>

```

46.12 dvipsone

```

10163 % \subsection{dvipsone driver}
10164 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10165 % |\special| commands.
10166 <*dvipsone>
10167 \providecommand*\XR@ext}{pdf}
10168 \def\Hy@raisedlink{}
10169 \providecommand*\@pdfborder{0 0 1}
10170 \providecommand*\@pdfborderstyle{}
10171 \def\literalps@out#1{\special{ps:#1}}%
10172 \def\headerps@out#1{\special{headertext=#1}}%
10173 \input{pdfmark.def}%
10174 \ifx\@pdfproducer\relax

```

```

10175 \def\@pdfproducer{dvipsone + Distiller}%
10176 \fi
10177 \def\PDF@FinishDoc{%
10178 \Hy@UseMaketitleInfos
10179 \special{PDF: Keywords \@pdfkeywords}%
10180 \special{PDF: Title \@pdftitle}%
10181 \special{PDF: Creator \@pdfcreator}%
10182 \ifx\@pdfcreationdate\@empty
10183 \else
10184 \special{PDF: CreationDate \@pdfcreationdate}%
10185 \fi
10186 \ifx\@pdfmoddate\@empty
10187 \else
10188 \special{PDF: ModDate \@pdfmoddate}%
10189 \fi
10190 \special{PDF: Author \@pdfauthor}%
10191 \ifx\@pdfproducer\relax
10192 \else
10193 \special{PDF: Producer \@pdfproducer}%
10194 \fi
10195 \special{PDF: Subject \@pdfsubject}%
10196 \Hy@DisableOption{pdfauthor}%
10197 \Hy@DisableOption{pdftitle}%
10198 \Hy@DisableOption{pdfsubject}%
10199 \Hy@DisableOption{pdfcreator}%
10200 \Hy@DisableOption{pdfcreationdate}%
10201 \Hy@DisableOption{pdfmoddate}%
10202 \Hy@DisableOption{pdfproducer}%
10203 \Hy@DisableOption{pdfkeywords}%
10204 }
10205 \def\PDF@SetupDoc{%
10206 \def\Hy@temp{}%
10207 \ifx\@pdfstartpage\@empty
10208 \else
10209 \ifx\@pdfstartview\@empty
10210 \else
10211 \edef\Hy@temp{%
10212 ,Page=\@pdfstartpage
10213 ,View=\@pdfstartview
10214 }%
10215 \fi
10216 \fi
10217 \edef\Hy@temp{%
10218 \noexpand\pdfmark{%
10219 pdfmark=/DOCVIEW,%
10220 PageMode=/\@pdfpagemode
10221 \Hy@temp
10222 }%
10223 }%
10224 \Hy@temp
10225 \ifx\@pdfpagescrop\@empty
10226 \else
10227 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10228 \fi
10229 \edef\Hy@temp{%
10230 \ifHy@toolbar\else /HideToolbar true\fi
10231 \ifHy@menubar\else /HideMenubar true\fi

```

```

10232 \ifHy@windowui\else /HideWindowUI true\fi
10233 \ifHy@fitwindow /FitWindow true\fi
10234 \ifHy@centerwindow /CenterWindow true\fi
10235 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10236 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10237 \Hy@UseNameKey{Direction}\@pdfdirection
10238 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10239 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10240 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10241 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10242 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10243 \Hy@UseNameKey{Duplex}\@pdfduplex
10244 \ifx\@pdfpicktraybypdfsize\@empty
10245 \else
10246 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10247 \fi
10248 \ifx\@pdfprintpagerange\@empty
10249 \else
10250 /PrintPageRange[\@pdfprintpagerange]%
10251 \fi
10252 \ifx\@pdfnumcopies\@empty
10253 \else
10254 /NumCopies \@pdfnumcopies
10255 \fi
10256 }%
10257 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10258 \pdfmark{%
10259 pdfmark=/PUT,%
10260 Raw={%
10261 \string{Catalog\string}<<%
10262 \ifx\Hy@temp\@empty
10263 \else
10264 /ViewerPreferences<<\Hy@temp>>%
10265 \fi
10266 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10267 \ifx\@pdflang\@empty
10268 \else
10269 /Lang(\@pdflang)%
10270 \fi
10271 \ifx\@baseurl\@empty
10272 \else
10273 /URI<</Base(\Hy@pstringB)>>%
10274 \fi
10275 >>%
10276 }%
10277 }%
10278 }
10279 \providecommand*\@pdfview{XYZ}
10280 \providecommand*\@pdfviewparams{ %
10281 gsave revscl currentpoint grestore %
10282 72 add exch pop null exch null%
10283 }
10284 \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.

```
10285 \g@addto@macro\Hy@FirstPageHook{%
10286   \headerps@out{%
```

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

```
10287   /DvipsToPDF { 65781 div } def%
10288   /PDFToDvips { 65781 mul } def%
10289   /BPToDvips{65781 mul}def%
10290   /HyperBorder { 1 PDFToDvips } def%
10291   /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.

```
10292   /BorderArrayPatch{%
10293     [exch{%
10294       dup dup type/integertype eq exch type/realtype eq or%
10295       {BPToDvips}if%
10296     }forall]%
10297   }def%

10298   /H.S {%
10299     currentpoint %
10300     HyperBorder add /pdf@lly exch def %
10301     dup DvipsToPDF 72 add /pdf@hoff exch def %
10302     HyperBorder sub /pdf@llx exch def%
10303   } def%
10304   /H.L {%
10305     2 sub %
10306     PDFToDvips /HyperBase exch def %
10307     currentpoint %
10308     HyperBase sub /pdf@ury exch def%
10309     /pdf@urx exch def%
10310   } def%
10311   /H.A {%
10312     H.L %
10313     currentpoint exch pop %
10314     HyperBase sub % baseline skip
10315     DvipsToPDF /pdf@voff exch def%
10316   } def%
10317   /H.R {%
10318     currentpoint %
10319     HyperBorder sub /pdf@ury exch def %
10320     HyperBorder add /pdf@urx exch def %
10321     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10322   } def%
10323   }%
10324 }
10325 </dvipsone>
```

46.13 TeX4ht

```
10326 <*tex4ht>
10327 \providecommand*\XR@ext}{html}
10328 \def\Hy@raisedlink{}
10329 \@ifpackageloaded{tex4ht}{%
10330   \typeout{hyperref tex4ht: tex4ht already loaded}%
10331 }{%
10332   \RequirePackage[hx4ht]{tex4ht}%
10333 }
```

```

10334 \hyperlinkfileprefix{}
10335 \def\PDF@FinishDoc{}
10336 \def\PDF@SetupDoc{%
10337   \ifx\@baseurl\@empty
10338   \else
10339     \special{t4ht=<base href="\@baseurl">}%
10340   \fi
10341 }
10342 \def\hyper@anchor#1{%
10343   \Hy@SaveLastskip
10344   \begingroup
10345     \let\protect=\string
10346     \special{t4ht=<a name=%
10347       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10348   \endgroup
10349   \Hy@activeanchortrue
10350   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10351   \special{t4ht=</a>}%
10352   \Hy@activeanchorfalse
10353   \Hy@RestoreLastskip
10354 }
10355 \def\hyper@anchorstart#1{%
10356   \Hy@SaveLastskip
10357   \begingroup
10358     \hyper@chars\special{t4ht=<a name=%
10359       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10360   \endgroup
10361   \Hy@activeanchortrue
10362 }
10363 \def\hyper@anchorend{%
10364   \special{t4ht=</a>}%
10365   \Hy@activeanchorfalse
10366   \Hy@RestoreLastskip
10367 }
10368 \def\@urltype{url}
10369 \def\hyper@linkstart#1#2{%
10370   \expandafter\Hy@colorlink\csname @#1color\endcsname
10371   \def\Hy@tempa{#1}%
10372   \ifx\Hy@tempa\@urltype
10373     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10374   \else
10375     \begingroup
10376       \hyper@chars
10377       \special{t4ht=<a href=%
10378         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
10379     \endgroup
10380   \fi
10381 }
10382 \def\hyper@linkend{%
10383   \special{t4ht=</a>}%
10384   \Hy@endcolorlink
10385 }
10386 \def\hyper@linkfile#1#2#3{%
10387   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
10388 }
10389 \def\hyper@linkurl#1#2{%
10390   \leavevmode

```

```

10391 \ifHy@raiselinks
10392 \setbox\@tempboxa=\color@hbox #1\color@endbox
10393 \@linkdim\dp\@tempboxa
10394 \lower\@linkdim\hbox{%
10395   \begingroup
10396   \hyper@chars
10397   \special{%
10398     t4ht=<a href=\hyper@quote#2\hyper@quote>%
10399   }%
10400   \endgroup
10401 }%
10402 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10403 \@linkdim\ht\@tempboxa
10404 \advance\@linkdim by -6.5\p@
10405 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10406 \else
10407 \begingroup
10408 \hyper@chars
10409 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10410 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10411 \special{t4ht=</a>}%
10412 \endgroup
10413 \fi
10414 }

Poor implementation of \hyper@link without considering #1.
10415 \def\hyper@link#1#2#3{%
10416   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10417 }
10418 \def\hyper@image#1#2{%
10419   \begingroup
10420   \hyper@chars
10421   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10422   \endgroup
10423 }
10424 \let\autoref\ref
10425 \ifx \rEfLiNK \UnDef
10426   \def\rEfLiNK #1#2{#2}%
10427 \fi
10428 \def\backref#1{}
10429 </tex4ht>
10430 <*tex4htcfg>
10431 \IfFileExists{\jobname.cfg}{\endinput}{}
10432 \Preamble{html}
10433 \begin{document}%
10434 \EndPreamble
10435 \def\TeX{\TeX}
10436 \def\OMEGA{\Omega}
10437 \def\LaTeX{\LaTeX}
10438 \def\LaTeXe{\LaTeX2e}
10439 \def\eTeX{e-TeX}
10440 \def\MF{Metafont}
10441 \def\MP{MetaPost}
10442 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```
10443 <*pdfmark>
10444 \long\def\@Form[#1]{%
10445 \g@addto@macro\Hy@FirstPageHook{%
10446 \headerps@out{%
10447 [%
10448 /__objdef{pdfDocEncoding}%
10449 /type/dict%
10450 /OBJ pdfmark%
10451 [%
10452 {pdfDocEncoding}%
10453 <<%
10454 /Type/Encoding%
10455 /Differences%
10456 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10457 /tilde %
10458 39/quotesingle %
10459 96/grave %
10460 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10461 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10462 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10463 /quoteright/quotesinglbase/trademark/fl/fl/Lslash/OE/Scaron%
10464 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10465 164/currency %
10466 166/brokenbar %
10467 168/dieresis/copyright/ordfeminine %
10468 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10469 /twosuperior/threesuperior/acute/mu %
10470 183/periodcentered/cedilla/onesuperior/ordmasculine %
10471 188/onequarter/onehalf/threequarters %
10472 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10473 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10474 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10475 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10476 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10477 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10478 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10479 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10480 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10481 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10482 ]%
10483 >>%
10484 /PUT pdfmark%
10485 [%
10486 /__objdef{ZaDb}%
10487 /type/dict%
10488 /OBJ pdfmark%
10489 [%
10490 {ZaDb}%
10491 <<%
10492 /Type/Font%
10493 /Subtype/Type1%
10494 /Name/ZaDb%
10495 /BaseFont/ZapfDingbats%
```



```

10496 >>%
10497 /PUT pdfmark%
10498 [%
10499   /__objdef{Helv}%
10500   /type/dict%
10501 /OBJ pdfmark%
10502 [%
10503   {Helv}%
10504 <<%
10505   /Type/Font%
10506   /Subtype/Type1%
10507   /Name/Helv%
10508   /BaseFont/Helvetica%
10509   /Encoding{pdfDocEncoding}%
10510 >>%
10511 /PUT pdfmark%
10512 [%
10513   /__objdef{aform}%
10514   /type/dict%
10515 /OBJ pdfmark%
10516 [%
10517   /__objdef{afields}%
10518   /type/array%
10519 /OBJ pdfmark%
10520 {%
10521   [%
10522     /BBox[0 0 100 100]%
10523     /__objdef{Check}%
10524 /BP pdfmark %
10525   1 0 0 setrgbcolor%
10526   /ZapfDingbats 80 selectfont %
10527   20 20 moveto%
10528   (4)show%
10529 [/EP pdfmark%
10530 [%
10531   /BBox[0 0 100 100]%
10532   /__objdef{Cross}%
10533 /BP pdfmark %
10534   1 0 0 setrgbcolor%
10535   /ZapfDingbats 80 selectfont %
10536   20 20 moveto%
10537   (8)show%
10538 [/EP pdfmark%
10539 [%
10540   /BBox[0 0 250 100]%
10541   /__objdef{Submit}%
10542 /BP pdfmark %
10543   0.6 setgray %
10544   0 0 250 100 rectfill %
10545   1 setgray %
10546   2 2 moveto %
10547   2 98 lineto %
10548   248 98 lineto %
10549   246 96 lineto %
10550   4 96 lineto %
10551   4 4 lineto %
10552   fill %

```

```

10553 0.34 setgray %
10554 248 98 moveto %
10555 248 2 lineto %
10556 2 2 lineto %
10557 4 4 lineto %
10558 246 4 lineto %
10559 246 96 lineto %
10560 fill%
10561 /Helvetica 76 selectfont %
10562 0 setgray %
10563 8 22.5 moveto%
10564 (Submit)show%
10565 [/EP pdfmark%
10566 [%
10567 /BBox[0 0 250 100]%
10568 /_objdef{SubmitP}%
10569 /BP pdfmark %
10570 0.6 setgray %
10571 0 0 250 100 rectfill %
10572 0.34 setgray %
10573 2 2 moveto %
10574 2 98 lineto %
10575 248 98 lineto %
10576 246 96 lineto %
10577 4 96 lineto %
10578 4 4 lineto %
10579 fill %
10580 1 setgray %
10581 248 98 moveto %
10582 248 2 lineto %
10583 2 2 lineto %
10584 4 4 lineto %
10585 246 4 lineto %
10586 246 96 lineto %
10587 fill%
10588 /Helvetica 76 selectfont %
10589 0 setgray %
10590 10 20.5 moveto%
10591 (Submit)show%
10592 [/EP pdfmark%
10593 } ?pdfmark%
10594 [%
10595 {aform}%
10596 <<%
10597 /Fields{afields}%
10598 /DR<<%
10599 /Font<<%
10600 /ZaDb{ZaDb}%
10601 /Helv{Helv}%
10602 >>%
10603 >>%
10604 /DA(/Helv 10 Tf 0 g)%
10605 /CO{corder}%
10606 \ifHy@pdfa
10607 \else
10608 /NeedAppearances true%
10609 \fi

```

```

10610 >>%
10611 /PUT pdfmark%
10612 [%
10613 {Catalog}%
10614 <<%
10615 /AcroForm{aform}%
10616 >>%
10617 /PUT pdfmark%
10618 [%
10619 /__objdef{corder}%
10620 /type/array%
10621 /OBJ pdfmark% dps
10622 }}%
10623 \setkeys{Form}{#1}%
10624 }
10625 \def\@endForm{}
10626 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10627 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10628 }
10629 \def\@TextField[#1]#2{% parameters, label
10630 \def\Fld@name{#2}%
10631 \def\Fld@default{}%
10632 \let\Fld@value\@empty
10633 \def\Fld@width{\DefaultWidthofText}%
10634 \def\Fld@height{%
10635 \ifFld@multiline
10636 \DefaultHeightofTextMultiline
10637 \else
10638 \DefaultHeightofText
10639 \fi
10640 }%
10641 \begingroup
10642 \Field@toks={ }%
10643 \expandafter\HyField@SetKeys\expandafter{%
10644 \DefaultOptionsofText,#1%
10645 }%
10646 \HyField@FlagsText
10647 \ifFld@hidden\def\Fld@width{1sp}\fi
10648 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10649 \LayoutTextField{#2}{%
10650 \Hy@escapeform\PDFForm@Text
10651 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10652 pdfmark=/ANN,Raw={\PDFForm@Text}%
10653 }%
10654 }%
10655 \endgroup
10656 }
10657 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10658 \def\Fld@name{#2}%
10659 \let\Fld@default\relax
10660 \let\Fld@value\relax
10661 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10662 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10663 \begingroup
10664 \Fld@menulength=0 %
10665 \@tempdima\z@
10666 \@for\@curropt:=#3\do{%

```

```

10667 \expandafter\Fld@checkequals\@currpt==\%
10668 \Hy@StepCount\Fld@menulength
10669 \settowidth{\@tempdimb}{\@currDisplay}%
10670 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10671 }%
10672 \advance\@tempdima by 15\p@
10673 \Field@toks={ }%
10674 \begingroup
10675 \HyField@SetKeys{#1}%
10676 \edef\x{\endgroup
10677 \noexpand\expandafter
10678 \noexpand\HyField@SetKeys
10679 \noexpand\expandafter{%
10680 \expandafter\noexpand\csname DefaultOptionsof%
10681 \ifFld@radio
10682 Radio%
10683 \else
10684 \ifFld@combo
10685 \ifFld@popdown
10686 PopdownBox%
10687 \else
10688 ComboBox%
10689 \fi
10690 \else
10691 ListBox%
10692 \fi
10693 \fi
10694 \endcsname
10695 }%
10696 }\x
10697 \HyField@SetKeys{#1}%
10698 \ifFld@hidden\def\Fld@width{1sp}\fi
10699 \ifx\Fld@value\relax
10700 \let\Fld@value\Fld@default
10701 \fi
10702 \LayoutChoiceField{#2}{%
10703 \ifFld@radio
10704 \HyField@FlagsRadioButton
10705 \@@Radio{#3}%
10706 \else
10707 \begingroup
10708 \HyField@FlagsChoice
10709 \ifdim\Fld@width<\@tempdima
10710 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10711 \edef\Fld@width{\the\@tempdima}%
10712 \fi
10713 \ifFld@combo
10714 \else
10715 \@tempdima=\the\Fld@menulength\Fld@charsize
10716 \advance\@tempdima by \Fld@borderwidth bp %
10717 \advance\@tempdima by \Fld@borderwidth bp %
10718 \edef\Fld@height{\the\@tempdima}%
10719 \fi
10720 \@@ListBox{#3}%
10721 \endgroup
10722 \fi
10723 }%

```

```

10724 \endgroup
10725 }
10726 \def\@@Radio#1{%
10727   \Fld@listcount=0 %
10728   \@for\@curropt:=#1\do{%
10729     \expandafter\Fld@checkequals\@curropt==\%
10730     \Hy@StepCount\Fld@listcount
10731     \@currDisplay\space
10732     \Hy@escapeform\PDFForm@Radio
10733     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10734       pdfmark=/ANN,%
10735       Raw={%
10736         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
10737       }%
10738     } % deliberate space between radio buttons
10739   }%
10740 }
10741 \newcount\Fld@listcount
10742 \def\@@ListBox#1{%
10743   \HyField@PDFChoices{#1}%
10744   \Hy@escapeform\PDFForm@List
10745   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10746     pdfmark=/ANN,Raw={\PDFForm@List}%
10747   }%
10748 }
10749 \def\@PushButton[#1]#2{% parameters, label
10750   \def\Fld@name{#2}%
10751   \begingroup
10752     \Field@toks={ }%
10753     \expandafter\HyField@SetKeys\expandafter{%
10754       \DefaultOptionsofPushButton,#1%
10755     }%
10756     \ifHy@pdfa
10757       \PackageError{hyperref}{%
10758         PDF/A: Push button with JavaScript is prohibited%
10759       }\@ehc
10760       \LayoutPushButtonField{%
10761         \leavevmode
10762         \MakeButtonField{#2}%
10763       }%
10764     \else
10765       \HyField@FlagsPushButton
10766       \ifFld@hidden\def\Fld@width{1sp}\fi
10767       \LayoutPushButtonField{%
10768         \leavevmode
10769         \Hy@escapeform\PDFForm@Push
10770         \pdfmark[\MakeButtonField{#2}]{%
10771           pdfmark=/ANN,Raw={\PDFForm@Push}%
10772         }%
10773       }%
10774     \fi
10775   \endgroup
10776 }
10777 \def\@Submit[#1]#2{%
10778   \Field@toks={ }%
10779   \def\Fld@width{\DefaultWidthofSubmit}%
10780   \def\Fld@height{\DefaultHeightofSubmit}%

```

```

10781 \begingroup
10782 \expandafter\HyField@SetKeys\expandafter{%
10783   \DefaultOptionsofSubmit,#1%
10784 }%
10785 \HyField@FlagsPushButton
10786 \HyField@FlagsSubmit
10787 \ifFld@hidden\def\Fld@width{1sp}\fi
10788 \Hy@escapeform\PDFForm@Submit
10789 \pdfmark[\MakeButtonField{#2}]{%
10790   pdfmark=/ANN,%
10791   Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10792 }%
10793 \endgroup
10794 }
10795 \def\@Reset[#1]#2{%
10796   \Field@toks={ }%
10797   \def\Fld@width{\DefaultWidthofReset}%
10798   \def\Fld@height{\DefaultHeightofReset}%
10799   \begingroup
10800     \expandafter\HyField@SetKeys\expandafter{%
10801       \DefaultOptionsofReset,#1%
10802     }%
10803     \leavevmode
10804     \ifHy@pdfa
10805       \PackageError{hyperref}{%
10806         PDF/A: Reset action is prohibited%
10807       }\@ehc
10808       \MakeButtonField{#2}%
10809     \else
10810       \HyField@FlagsPushButton
10811       \ifFld@hidden\def\Fld@width{1sp}\fi
10812       \Hy@escapeform\PDFForm@Reset
10813       \pdfmark[\MakeButtonField{#2}]{%
10814         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10815       }%
10816     \fi
10817   \endgroup
10818 }%
10819 \def\@CheckBox[#1]#2{% parameters, label
10820   \def\Fld@name{#2}%
10821   \def\Fld@default{0}%
10822   \begingroup
10823     \def\Fld@width{\DefaultWidthofCheckBox}%
10824     \def\Fld@height{\DefaultHeightofCheckBox}%
10825     \Field@toks={ }%
10826     \expandafter\HyField@SetKeys\expandafter{%
10827       \DefaultOptionsofCheckBox,#1%
10828     }%
10829     \HyField@FlagsCheckBox
10830     \ifFld@hidden\def\Fld@width{1sp}\fi
10831     \LayoutCheckField{#2}{%
10832       \Hy@escapeform\PDFForm@Check
10833       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10834         pdfmark=/ANN,Raw={\PDFForm@Check}%
10835       }%
10836     }%
10837   \endgroup

```

```
10838 }
10839 </pdfmark>
```

47.2 HyperTeX

```
10840 <*hypertext>
10841 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10842 \def\@endForm{}
10843 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10844 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10845 }
10846 \def\@TextField[#1]#2{% parameters, label
10847 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10848 }
10849 \def\@CheckBox[#1]#2{% parameters, label
10850 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10851 }
10852 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10853 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10854 }
10855 \def\@PushButton[#1]#2{% parameters, label
10856 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10857 }
10858 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10859 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10860 </hypertext>
```

47.3 TeX4ht

```
10861 <*tex4ht>
10862 \def\@Form[#1]{%
10863 \setkeys{Form}{#1}%
10864 \HCode{<form action="\Form@action" method="\Form@method">}%
10865 }
10866 \def\@endForm{\HCode{</form>}}
10867 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10868 \typeout{Sorry, TeX4ht does not support gauges}%
10869 }
10870 \def\@TextField[#1]#2{% parameters, label
10871 \let\Hy@reserved@a\@empty
10872 \def\Fld@name{#2}%
10873 \def\Fld@default{}%
10874 \bgroup
10875 \Field@toks={ }%
10876 \setkeys{Field}{#1}%
10877 \HCode{<label for="\Fld@name">#2</label>}%
10878 \ifFld@password
10879 \@@PasswordField
10880 \else
10881 \@@TextField
10882 \fi
10883 \egroup
10884 }
10885 \def\@@PasswordField{%
10886 \HCode{%
10887 <input type="password" %
10888 id="\Fld@name" %
10889 name="\Fld@name" %
10890 \ifFld@hidden type="hidden" \fi
```

```

10891     value="\Fld@default" %
10892     \the\Field@toks
10893     >%
10894   }%
10895 }
10896 \def\@@TextField{%
10897   \ifFld@multiline
10898     \HCode{<textarea %
10899       \ifFld@readonly readonly \fi
10900       id="\Fld@name" %
10901       name="\Fld@name" %
10902       \ifFld@hidden type="hidden" \fi
10903       \the\Field@toks>%
10904   }%
10905   \Fld@default
10906   \HCode{</textarea>}%
10907 \else
10908   \HCode{<input type="textbox" %
10909     \ifFld@readonly readonly \fi
10910     id="\Fld@name" %
10911     name="\Fld@name" %
10912     \ifFld@hidden type="hidden" \fi
10913     value="\Fld@default" %
10914     \the\Field@toks>%
10915   }%
10916 \fi
10917 }
10918 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10919   \def\Fld@name{#2}%
10920   \def\Fld@default{}%
10921   \let\Hy@reserved@a\relax
10922   \begingroup
10923     \expandafter\Fld@findlength#3\\%
10924     \Field@toks={ }%
10925     \setkeys{Field}{#1}%
10926     #2%
10927     \ifFld@radio
10928       \expandafter\@@Radio#3\\%
10929     \else
10930       \expandafter\@@Menu#3\\%
10931     \fi
10932   \endgroup
10933 }
10934 \def\Fld@findlength#1\\{%
10935   \Fld@menulength=0 %
10936   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10937 }
10938 \def\@@Menu#1\\{%
10939   \HCode{<select size="\the\Fld@menulength" %
10940     name="\Fld@name" %
10941     \the\Field@toks>%
10942   }%
10943   \@for\@curropt:=#1\do{%
10944     \expandafter\Fld@checkequals\@curropt==\\%
10945     \HCode{<option %
10946       \ifx\@curropt\Fld@default selected \fi
10947       value="\@currValue">\@currDisplay</option>%

```



```

10948 }%
10949 }%
10950 \HCode{</select>}%
10951 }
10952 \def\@@Radio#1\{%
10953 \@for\@curropt:=#1\do{%
10954 \expandafter\Fld@checkequals\@curropt==\%
10955 \HCode{<input type="radio" %
10956 \ifx\@curropt\Fld@default checked \fi
10957 name="\Fld@name" %
10958 value="\@currValue" %
10959 \the\Field@toks>%
10960 }%
10961 \@currDisplay
10962 }%
10963 }
10964 \def\@PushButton[#1]#2{% parameters, label
10965 \def\Fld@name{#2}%
10966 \bgroup
10967 \Field@toks={ }%
10968 \setkeys{Field}{#1}%
10969 \HCode{<input type="button" %
10970 name="\Fld@name" %
10971 value="#2" %
10972 \the\Field@toks>%
10973 }%
10974 \HCode{</button>}%
10975 \egroup
10976 }
10977 \def\@Submit[#1]#2{%
10978 \HCode{<button type="submit">#2</button>}%
10979 }
10980 \def\@Reset[#1]#2{%
10981 \HCode{<button type="reset">#2</button>}%
10982 }
10983 \def\@CheckBox[#1]#2{% parameters, label
10984 \let\Hy@reserved@a\@empty
10985 \def\Fld@name{#2}%
10986 \def\Fld@default{0}%
10987 \bgroup
10988 \Field@toks={ }%
10989 \setkeys{Field}{#1}%
10990 \HCode{<input type="checkbox" %
10991 \ifFld@checked checked \fi
10992 \ifFld@disabled disabled \fi
10993 \ifFld@readonly readonly \fi
10994 name="\Fld@name" %
10995 \ifFld@hidden type="hidden" \fi
10996 value="\Fld@default" %
10997 \the\Field@toks>%
10998 #2%
10999 }%
11000 \egroup
11001 }
11002 </tex4ht>

```

47.4 pdfTeX

```

11003 <*pdfTeX>
11004 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11005 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11006 }
11007 \def\MakeFieldObject#1#2{\sbox0{#1}%
11008 \immediate\pdfxform0 %
11009 \expandafter\edef\csname #2Object\endcsname{%
11010 \the\pdfastxform\space 0 R%
11011 }%
11012 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
11013 }%
11014 \def\HyField@afields{}
11015 \begingroup\expandafter\expandafter\expandafter\endgroup
11016 \expandafter\ifx\csname pdfastlink\endcsname\relax
11017 \let\HyField@AddToFields\relax
11018 \PackageInfo{hyperref}{%
11019 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11020 \MessageBreak
11021 Adobe Reader/Acrobat accepts an empty /Field array,%
11022 \MessageBreak
11023 but other PDF viewers might complain%
11024 }%
11025 \else
11026 \def\HyField@AddToFields{%
11027 \xdef\HyField@afields{%
11028 \ifx\HyField@afields\@empty
11029 \else
11030 \HyField@afields
11031 \space
11032 \fi
11033 \the\pdfastlink\space 0 R%
11034 }%
11035 }%
11036 \fi
11037 \def\@Form[#1]{%
11038 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11039 \setkeys{Form}{#1}%
11040 \Hy@FormObjects
11041 \ifnum\pdfTeXversion>13 %
11042 \pdfrefobj\OBJ@pdfdocencoding
11043 \pdfrefobj\OBJ@ZaDb
11044 \pdfrefobj\OBJ@Helv
11045 \fi
11046 \AtEndDocument{%
11047 \immediate\pdfobj{%
11048 <<%
11049 /Fields[\HyField@afields]%
11050 /DR<<%
11051 /Font<<%
11052 /ZaDb \OBJ@ZaDb\space 0 R%
11053 /Helv \OBJ@Helv\space 0 R%
11054 >>%
11055 >>%
11056 /DA(/Helv 10 Tf 0 g)%
11057 \ifHy@pdfa
11058 \else
11059 /NeedAppearances true%

```

```

11060     \fi
11061     >>%
11062 }%
11063 \edef\OBJ@acroform{\the\pdfastobj}%
11064 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11065 }%
11066 \MakeFieldObject{%

Same as \ding{123} of package pifont.
11067 \begingroup
11068   \fontfamily{pzd}%
11069   \fontencoding{U}%
11070   \fontseries{m}%
11071   \fontshape{n}%
11072   \selectfont
11073   \char123 %
11074 \endgroup
11075 }{Ding}%
11076 \MakeFieldObject{%
11077   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11078 }{Submit}%
11079 \MakeFieldObject{%
11080   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11081 }{SubmitP}%
11082 }
11083 \def\@endForm{}
11084 \def\@TextField[#1]#2{% parameters, label
11085   \def\Fld@name{#2}%
11086   \def\Fld@default{}%
11087   \let\Fld@value\@empty
11088   \def\Fld@width{\DefaultWidthofText}%
11089   \def\Fld@height{%
11090     \ifFld@multiline
11091       \DefaultHeightofTextMultiline
11092     \else
11093       \DefaultHeightofText
11094     \fi
11095   }%
11096   \begingroup
11097     \Field@toks={ }%
11098     \expandafter\HyField@SetKeys\expandafter{%
11099       \DefaultOptionsofText,#1%
11100     }%
11101     \PDFForm@Name
11102     \HyField@FlagsText
11103     \ifFld@hidden\def\Fld@width{1sp}\fi
11104     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11105     \LayoutTextField{#2}%
11106     \Hy@escapeform\PDFForm@Text
11107     \pdfstartlink user {\PDFForm@Text}\relax
11108     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11109     \HyField@AddToFields
11110   }%
11111 \endgroup
11112 }
11113 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11114   \def\Fld@name{#2}%
11115   \let\Fld@default\relax

```

```

11116 \let\Fld@value\relax
11117 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11118 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11119 \begingroup
11120 \Fld@menulength=0 %
11121 \@tempdima\z@
11122 \@for\@curropt:=#3\do{%
11123 \expandafter\Fld@checkequals\@curropt==\%
11124 \Hy@StepCount\Fld@menulength
11125 \settowidth{\@tempdimb}{\@currDisplay}%
11126 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11127 }%
11128 \advance\@tempdima by 15\p@
11129 \Field@toks={ }%
11130 \begingroup
11131 \HyField@SetKeys{#1}%
11132 \edef\x{\endgroup
11133 \noexpand\expandafter
11134 \noexpand\HyField@SetKeys
11135 \noexpand\expandafter{%
11136 \expandafter\noexpand\csname DefaultOptionsof%
11137 \ifFld@radio
11138 Radio%
11139 \else
11140 \ifFld@combo
11141 \ifFld@popdown
11142 PopdownBox%
11143 \else
11144 ComboBox%
11145 \fi
11146 \else
11147 ListBox%
11148 \fi
11149 \fi
11150 \endcsname
11151 }%
11152 }\x
11153 \HyField@SetKeys{#1}%
11154 \PDFForm@Name
11155 \ifFld@hidden\def\Fld@width{1sp}\fi
11156 \ifx\Fld@value\relax
11157 \let\Fld@value\Fld@default
11158 \fi
11159 \LayoutChoiceField{#2}{%
11160 \ifFld@radio
11161 \HyField@FlagsRadioButton
11162 \@@Radio{#3}%
11163 \else
11164 \begingroup
11165 \HyField@FlagsChoice
11166 \ifdim\Fld@width<\@tempdima
11167 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11168 \edef\Fld@width{the\@tempdima}%
11169 \fi
11170 \ifFld@combo
11171 \else
11172 \@tempdima=the\Fld@menulength\Fld@charsize

```

```

11173      \advance\@tempdima by \Fld@borderwidth bp %
11174      \advance\@tempdima by \Fld@borderwidth bp %
11175      \edef\Fld@height{\the\@tempdima}%
11176      \fi
11177      \@@ListBox{#3}%
11178      \endgroup
11179      \fi
11180      }%
11181      \endgroup
11182      }
11183      \def\@@Radio#1{%
11184      \Fld@listcount=0 %
11185      \@for\@curropt=#1\do{%
11186      \expandafter\Fld@checkequals\@curropt==\%
11187      \Hy@StepCount\Fld@listcount
11188      \@currDisplay\space
11189      \leavevmode
11190      \Hy@escapeform\PDFForm@Radio
11191      \pdfstartlink user {%
11192      \PDFForm@Radio
11193      /AP<<%
11194      /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.

```

11195      /\@currValue\space \DingObject
11196      >>%
11197      >>%
11198      }%
11199      \relax
11200      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11201      \ifnum\Fld@listcount=1 %
11202      \HyField@AddToFields
11203      \fi
11204      \space % deliberate space between radio buttons
11205      }%
11206      }
11207      \newcount\Fld@listcount
11208      \def\@@ListBox#1{%
11209      \HyField@PDFChoices{#1}%
11210      \leavevmode
11211      \Hy@escapeform\PDFForm@List
11212      \pdfstartlink user {\PDFForm@List}\relax
11213      \MakeChoiceField{\Fld@width}{\Fld@height}%
11214      \pdfendlink
11215      \HyField@AddToFields
11216      }
11217      \def\@PushButton[#1]#2{% parameters, label
11218      \def\Fld@name{#2}%
11219      \begingroup
11220      \Field@toks={ }%
11221      \expandafter\HyField@SetKeys\expandafter{%
11222      \DefaultOptionsofPushButton,#1%
11223      }%
11224      \PDFForm@Name
11225      \ifHy@pdfa
11226      \PackageError{hyperref}{%

```

```

11227     PDF/A: Push button with JavaScript is prohibited%
11228   }\@ehc
11229   \LayoutPushButtonField{%
11230     \leavevmode
11231     \MakeButtonField{#2}%
11232   }%
11233   \else
11234     \HyField@FlagsPushButton
11235     \ifFld@hidden\def\Fld@width{1sp}\fi
11236     \LayoutPushButtonField{%
11237       \leavevmode
11238       \Hy@escapeform\PDFForm@Push
11239       \pdfstartlink user {\PDFForm@Push}\relax
11240       \MakeButtonField{#2}%
11241       \pdfendlink
11242       \HyField@AddToFields
11243     }%
11244   \fi
11245   \endgroup
11246 }
11247 \def\@Submit[#1]#2{%
11248   \Field@toks={ }%
11249   \def\Fld@width{\DefaultWidthofSubmit}%
11250   \def\Fld@height{\DefaultHeightofSubmit}%
11251   \begingroup
11252     \expandafter\HyField@SetKeys\expandafter{%
11253       \DefaultOptionsofSubmit,#1%
11254     }%
11255     \HyField@FlagsPushButton
11256     \HyField@FlagsSubmit
11257     \ifFld@hidden\def\Fld@width{1sp}\fi
11258     \leavevmode
11259     \Hy@escapeform\PDFForm@Submit
11260     \pdfstartlink user {%
11261       \PDFForm@Submit
11262       /AP<</N \SubmitObject/D \SubmitPObject>>%
11263     }%
11264     \relax
11265     \MakeButtonField{#2}%
11266     \pdfendlink
11267     \HyField@AddToFields
11268   \endgroup
11269 }
11270 \def\@Reset[#1]#2{%
11271   \Field@toks={ }%
11272   \def\Fld@width{\DefaultWidthofReset}%
11273   \def\Fld@height{\DefaultHeightofReset}%
11274   \begingroup
11275     \expandafter\HyField@SetKeys\expandafter{%
11276       \DefaultOptionsofReset,#1%
11277     }%
11278     \leavevmode
11279     \ifHy@pdfa
11280       \PackageError{hyperref}{%
11281         PDF/A: Reset action is prohibited%
11282       }\@ehc
11283     \MakeButtonField{#2}%

```

```

11284 \else
11285 \HyField@FlagsPushButton
11286 \ifFld@hidden\def\Fld@width{1sp}\fi
11287 \Hy@escapeform\PDFForm@Reset
11288 \pdfstartlink user {\PDFForm@Reset}\relax
11289 \MakeButtonField{#2}%
11290 \pdfendlink
11291 \HyField@AddToFields
11292 \fi
11293 \endgroup
11294 }
11295 \def\@CheckBox[#1]#2{% parameters, label
11296 \def\Fld@name{#2}%
11297 \def\Fld@default{0}%
11298 \begingroup
11299 \def\Fld@width{\DefaultWidthofCheckBox}%
11300 \def\Fld@height{\DefaultHeightofCheckBox}%
11301 \Field@toks={ }%
11302 \expandafter\HyField@SetKeys\expandafter{%
11303 \DefaultOptionsofCheckBox,#1%
11304 }%
11305 \PDFForm@Name
11306 \HyField@FlagsCheckBox
11307 \ifFld@hidden\def\Fld@width{1sp}\fi
11308 \LayoutCheckField{#2}{%
11309 \Hy@escapeform\PDFForm@Check
11310 \pdfstartlink user {\PDFForm@Check}\relax
11311 \MakeCheckField{\Fld@width}{\Fld@height}%
11312 \pdfendlink
11313 \HyField@AddToFields
11314 }%
11315 \endgroup
11316 }
11317 \def\Hy@FormObjects{%
11318 \pdfobj {%
11319 <<%
11320 /Type/Encoding%
11321 /Differences[%
11322 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11323 /ring/tilde %
11324 39/quotesingle %
11325 96/grave %
11326 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11327 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11328 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11329 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11330 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11331 164/currency %
11332 166/brokenbar %
11333 168/dieresis/copyright/ordfeminine %
11334 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11335 /twosuperior/threesuperior/acute/mu %
11336 183/periodcentered/cedilla/onesuperior/ordmasculine %
11337 188/onequarter/onehalf/threequarters %
11338 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11339 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11340 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%

```

```

11341      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11342      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11343      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11344      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11345      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11346      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11347      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11348    ]%
11349    >>%
11350  }%
11351  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11352  \pdfobj{%
11353    <<%
11354      /Type/Font%
11355      /Subtype/Type1%
11356      /Name/ZaDb%
11357      /BaseFont/ZapfDingbats%
11358    >>%
11359  }%
11360  \xdef\OBJ@ZaDb{\the\pdflastobj}%
11361  \pdfobj{%
11362    <<%
11363      /Type/Font%
11364      /Subtype/Type1%
11365      /Name/Helv%
11366      /BaseFont/Helvetica%
11367      /Encoding \OBJ@pdfdocencoding\space 0 R%
11368    >>%
11369  }%
11370  \xdef\OBJ@Helv{\the\pdflastobj}%
11371  \global\let\Hy@FormObjects\relax
11372 }
11373 </pdfTeX>

```

47.5 dvipdfm, xetex

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

```
11374 < *dvipdfm | xetex>
```

\@Gauge

```

11375 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11376   \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11377 }

```

\@Form

```

11378 \def\@Form[#1]{%
11379   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11380   \setkeys{Form}{#1}%
11381   \Hy@FormObjects
11382   \@pdfm@mark{obj @afields []}%
11383   \@pdfm@mark{obj @corder []}%
11384   \@pdfm@mark{%
11385     obj @aform <<%
11386       /Fields @afields%
11387       /DR<<%
11388       /Font<<%

```



```

11389      /ZaDb @OBJZaDb%
11390      /Helv @OBJHelv%
11391      >>%
11392    >>%
11393    /DA(/Helv 10 Tf 0 g)%
11394    /CO @corder%
11395    \ifHy@pdfa
11396    \else
11397      /NeedAppearances true%
11398    \fi
11399    >>%
11400  }%
11401  \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11402 }

```

\@endForm

```

11403 \def\@endForm{}

```

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

```

11404 \def\dvipdfm@setdim{%
11405   height \the\ht\pdfm@box\space
11406   width \the\wd\pdfm@box\space
11407   depth \the\dp\pdfm@box\space
11408 }

```

\HyField@AnnotCount

```

11409 \newcount\HyField@AnnotCount
11410 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

11411 \def\HyField@AdvanceAnnotCount{%
11412   \global\advance\HyField@AnnotCount\@ne
11413 }

```

\HyField@TheAnnotCount

```

11414 \def\HyField@TheAnnotCount{%
11415   \the\HyField@AnnotCount
11416 }

```

\@TextField

```

11417 \def\@TextField[#1]#2{% parameters, label
11418   \def\Fld@name{#2}%
11419   \def\Fld@default{}%
11420   \let\Fld@value\@empty
11421   \def\Fld@width{\DefaultWidthofText}%
11422   \def\Fld@height{%
11423     \ifFld@multiline
11424       \DefaultHeightofTextMultiline
11425     \else
11426       \DefaultHeightofText
11427     \fi
11428   }%
11429   \begingroup
11430   \Field@toks={ }%
11431   \expandafter\HyField@SetKeys\expandafter{%
11432     \DefaultOptionsofText,#1%

```

```

11433 }%
11434 \PDFForm@Name
11435 \HyField@FlagsText
11436 \ifFld@hidden\def\Fld@width{1sp}\fi
11437 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11438 \setbox\pdfm@box=\hbox{%
11439   \MakeTextField{\Fld@width}{\Fld@height}%
11440 }%
11441 \HyField@AdvanceAnnotCount
11442 \LayoutTextField{#2}{%
11443   \Hy@escapeform\PDFForm@Text
11444   \@pdfm@mark{%
11445     ann @text\HyField@TheAnnotCount\space
11446     \dvipdfm@setdim << \PDFForm@Text >>%
11447   }%
11448 }%
11449 \unhbox\pdfm@box
11450 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11451 % record in @afields array
11452 \endgroup
11453 }

```

\@ChoiceMenu

```

11454 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11455   \def\Fld@name{#2}%
11456   \let\Fld@default\relax
11457   \let\Fld@value\relax
11458   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11459   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11460   \begingroup
11461     \Fld@menulength=0 %
11462     \@tempdima\z@
11463     \@for\@curropt:=#3\do{%
11464       \expandafter\Fld@checkequals\@curropt==\%
11465       \Hy@StepCount\Fld@menulength
11466       \settowidth{\@tempdimb}{\@currDisplay}%
11467       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11468     }%
11469     \advance\@tempdima by 15\p@
11470     \Field@toks={ }%
11471     \begingroup
11472       \HyField@SetKeys{#1}%
11473     \edef\x{\endgroup
11474       \noexpand\expandafter
11475       \noexpand\HyField@SetKeys
11476       \noexpand\expandafter{%
11477         \expandafter\noexpand\curname DefaultOptionsof%
11478         \ifFld@radio
11479           Radio%
11480         \else
11481           \ifFld@combo
11482             \ifFld@popdown
11483               PopdownBox%
11484             \else
11485               ComboBox%
11486             \fi
11487           \else

```

```

11488         ListBox%
11489         \fi
11490     \fi
11491     \endcsname
11492 }%
11493 } \x
11494 \HyField@SetKeys{#1}%
11495 \PDFForm@Name
11496 \ifFld@hidden\def\Fld@width{1sp}\fi
11497 \ifx\Fld@value\relax
11498     \let\Fld@value\Fld@default
11499 \fi
11500 \LayoutChoiceField{#2}{%
11501     \ifFld@radio
11502         \HyField@FlagsRadioButton
11503         \@@Radio{#3}%
11504     \else
11505         \begingroup
11506         \HyField@FlagsChoice
11507         \ifdim\Fld@width<\@tempdima
11508             \ifdim\@tempdima<1cm\@tempdima1cm\fi
11509             \edef\Fld@width{\the\@tempdima}%
11510         \fi
11511         \ifFld@combo
11512         \else
11513             \@tempdima=\the\Fld@menulength\Fld@charsize
11514             \advance\@tempdima by \Fld@borderwidth bp %
11515             \advance\@tempdima by \Fld@borderwidth bp %
11516             \edef\Fld@height{\the\@tempdima}%
11517         \fi
11518         \@@ListBox{#3}%
11519     \endgroup
11520 \fi
11521 }%
11522 \endgroup
11523 }

```

\@@Radio

```

11524 \def\@@Radio#1{%
11525     \Fld@listcount=0 %
11526     \setbox\pdfm@box=\hbox{%
11527         \MakeRadioField{\Fld@width}{\Fld@height}%
11528     }%
11529     \@for\@curropt:=#1\do{%
11530         \expandafter\Fld@checkequals\@curropt==\%
11531         \Hy@StepCount\Fld@listcount
11532         \@currDisplay\space
11533         \leavevmode
11534         \Hy@escapeform\PDFForm@Radio
11535         \ifnum\Fld@listcount=1 %
11536             \HyField@AdvanceAnnotCount
11537         \fi
11538         \@pdfm@mark{%
11539             ann %
11540             \ifnum\Fld@listcount=1 %
11541                 @radio\HyField@TheAnnotCount%
11542             \space

```

```

11543 \fi
11544 \dviPdfm@setdim
11545 <<%
11546 \PDFForm@Radio
11547 /AP<</N<</\@currValue /null>>>>%
11548 >>%
11549 }%
11550 \unhcopy\pdfm@box\space% deliberate space between radio buttons
11551 \ifnum\Fld@listcount=1 %
11552 \@pdfm@mark{%
11553 put @afields @radio\HyField@TheAnnotCount
11554 }%
11555 \fi
11556 }%
11557 }

\Fld@listcount

11558 \newcount\Fld@listcount

@@@Listbox

11559 \def\@@Listbox#1{%
11560 \HyField@PDFChoices{#1}%
11561 \setbox\pdfm@box=\hbox{%
11562 \MakeChoiceField{\Fld@width}{\Fld@height}%
11563 }%
11564 \leavevmode
11565 \Hy@escapeform\PDFForm@List
11566 \HyField@AdvanceAnnotCount
11567 \@pdfm@mark{%
11568 ann @list\HyField@TheAnnotCount\space
11569 \dviPdfm@setdim
11570 <<\PDFForm@List>>%
11571 }%
11572 \unhbox\pdfm@box
11573 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11574 }

\@PushButton

11575 \def\@PushButton[#1]#2{% parameters, label
11576 \def\Fld@name{#2}%
11577 \begingroup
11578 \Field@toks={ }%
11579 \expandafter\HyField@SetKeys\expandafter{%
11580 \DefaultOptionsofPushButton,#1%
11581 }%
11582 \PDFForm@Name
11583 \ifHy@pdfa
11584 \PackageError{hyperref}{%
11585 PDF/A: Push button with JavaScript is prohibited%
11586 }\@ehc
11587 \LayoutPushButtonField{%
11588 \leavevmode
11589 \MakeButtonField{#2}%
11590 }%
11591 \else
11592 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11593 \HyField@FlagsPushButton

```

```

11594 \ifFld@hidden\def\Fld@width{1sp}\fi
11595 \HyField@AdvanceAnnotCount
11596 \LayoutPushButtonField{%
11597 \leavevmode
11598 \Hy@escapeform\PDFForm@Push
11599 \@pdfm@mark{%
11600 ann @push\HyField@TheAnnotCount\space
11601 \dvipdfm@setdim
11602 <<\PDFForm@Push>>%
11603 }%
11604 }%
11605 \unhbox\pdfm@box
11606 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11607 \fi
11608 \endgroup
11609 }

```

\@Submit

```

11610 \def\@Submit[#1]#2{%
11611 \Field@toks={ }%
11612 \def\Fld@width{\DefaultWidthofSubmit}%
11613 \def\Fld@height{\DefaultHeightofSubmit}%
11614 \begingroup
11615 \expandafter\HyField@SetKeys\expandafter{%
11616 \DefaultOptionsofSubmit,#1%
11617 }%
11618 \HyField@FlagsPushButton
11619 \HyField@FlagsSubmit
11620 \ifFld@hidden\def\Fld@width{1sp}\fi
11621 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
11622 \leavevmode
11623 \Hy@escapeform\PDFForm@Submit
11624 \HyField@AdvanceAnnotCount
11625 \@pdfm@mark{%
11626 ann @submit\HyField@TheAnnotCount\space
11627 \dvipdfm@setdim
11628 <<\PDFForm@Submit>>%
11629 }%
11630 \unhbox\pdfm@box%
11631 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11632 \endgroup
11633 }

```

\@Reset

```

11634 \def\@Reset[#1]#2{%
11635 \Field@toks={ }%
11636 \def\Fld@width{\DefaultWidthofReset}%
11637 \def\Fld@height{\DefaultHeightofReset}%
11638 \begingroup
11639 \expandafter\HyField@SetKeys\expandafter{%
11640 \DefaultOptionsofReset,#1%
11641 }%
11642 \leavevmode
11643 \ifHy@pdfa
11644 \PackageError{hyperref}{%
11645 PDF/A: Reset action is prohibited%
11646 }\@ehc

```

```

11647 \MakeButtonField{#2}%
11648 \else
11649 \HyField@FlagsPushButton
11650 \ifFld@hidden\def\Fld@width{1sp}\fi
11651 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11652 \Hy@escapeform\PDFForm@Reset
11653 \HyField@AdvanceAnnotCount
11654 \@pdfm@mark{%
11655 ann @reset\HyField@TheAnnotCount\space
11656 \dvipdfm@setdim
11657 <<\PDFForm@Reset>>%
11658 }%
11659 \unhbox\pdfm@box
11660 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11661 \fi
11662 \endgroup
11663 }

```

\@CheckBox

```

11664 \def\@CheckBox[#1]#2{% parameters, label
11665 \def\Fld@name{#2}%
11666 \def\Fld@default{0}%
11667 \begingroup
11668 \def\Fld@width{\DefaultWidthofCheckBox}%
11669 \def\Fld@height{\DefaultHeightofCheckBox}%
11670 \Field@toks={ }%
11671 \expandafter\HyField@SetKeys\expandafter{%
11672 \DefaultOptionsofCheckBox,#1%
11673 }%
11674 \PDFForm@Name
11675 \HyField@FlagsCheckBox
11676 \ifFld@hidden\def\Fld@width{1sp}\fi
11677 \setbox\pdfm@box=\hbox{%
11678 \MakeCheckField{\Fld@width}{\Fld@height}%
11679 }%
11680 \HyField@AdvanceAnnotCount
11681 \LayoutCheckField{#2}{%
11682 \Hy@escapeform\PDFForm@Check
11683 \@pdfm@mark{%
11684 ann @check\HyField@TheAnnotCount\space
11685 \dvipdfm@setdim
11686 <<\PDFForm@Check>>%
11687 }%
11688 \unhbox\pdfm@box
11689 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11690 }%
11691 \endgroup
11692 }

11693 \def\Hy@FormObjects{%
11694 \@pdfm@mark{obj @OBJpdfdocencoding%
11695 <<%
11696 /Type/Encoding%
11697 /Differences[%
11698 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11699 39/quotesingle %
11700 96/grave %
11701 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%

```

```

11702 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11703 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11704 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11705 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11706 164/currency %
11707 166/brokenbar %
11708 168/dieresis/copyright/ordfeminine %
11709 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11710 /twosuperior/threesuperior/acute/mu %
11711 183/periodcentered/cedilla/onesuperior/ordmasculine %
11712 188/onequarter/onehalf/threequarters %
11713 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11714 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11715 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11716 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11717 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11718 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11719 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11720 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11721 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11722 /thorn/ydieresis%
11723 }%
11724 >>%
11725 }%
11726 \@pdfm@mark{obj @OBJZaDb%
11727 <<%
11728 /Type/Font%
11729 /Subtype/Type1%
11730 /Name/ZaDb%
11731 /BaseFont/ZapfDingbats%
11732 >>%
11733 }%
11734 \@pdfm@mark{obj @OBJHelv%
11735 <<%
11736 /Type/Font%
11737 /Subtype/Type1%
11738 /Name/Helv%
11739 /BaseFont/Helvetica%
11740 /Encoding @OBJpdfdocencoding%
11741 >>%
11742 }%
11743 \global\let\Hy@FormObjects\relax
11744 }
11745 \</dvipdfm | xetex>

```

47.6 Common forms part

```
11746 \<*pdfform>
```

\Hy@escapestring

```

11747 \begingroup\expandafter\expandafter\expandafter\endgroup
11748 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11749 \let\Hy@escapestring\@firstofone
11750 \def\Hy@escapeform#1{%
11751 \ifHy@escapeform
11752 \def\Hy@escapestring##1{%
11753 \noexpand\Hy@escapestring{\noexpand##1}%

```

```

11754 }%
11755 \edef\Hy@temp{#1}%
11756 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
11757 \def\Hy@escapestring##1{%
11758   \ifundefined{Hy@esc@\string##1}{%
11759     ##1%
11760     \ThisShouldNotHappen
11761   }{%
11762     \csname Hy@esc@\string##1\endcsname
11763   }%
11764 }%
11765 \else
11766   \let\Hy@escapestring\@firstofone
11767 \fi
11768 }%
11769 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11770   \ifx\#3\%
11771   \else
11772     \expandafter
11773     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11774     \Hy@ReturnAfterFi{%
11775       \Hy@@escapeform#3\@nil
11776     }%
11777   \fi
11778 }%
11779 \else
11780   \def\Hy@escapeform#1{%
11781     \ifHy@escapeform
11782       \let\Hy@escapestring\pdfescapestring
11783     \else
11784       \let\Hy@escapestring\@firstofone
11785     \fi
11786   }%
11787   \Hy@escapeform{ }%
11788 \fi

```

\PDFForm@Name

```

11789 \def\PDFForm@Name{%
11790   \begingroup
11791   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11792     \ifHy@unicode
11793       \Hy@unicodedefalse
11794     \fi
11795   \fi
11796   \HyPsd@XeTeXBigCharstrue
11797   \pdfstringdef\Hy@gtemp\Fld@name
11798 \endgroup
11799 \let\Fld@name\Hy@gtemp
11800 }

```

\PDFForm@Check

```

11801 \def\PDFForm@Check{%
11802   /Subtype/Widget%
11803   \Fld@annotflags
11804   /T(\Fld@name)%
11805   /FT/Btn%
11806   \Fld@flags

```



```

11807 /Q \Fld@align
11808 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11809 /MK<<%
11810 \ifnum\Fld@rotation=\z@
11811 \else
11812 /R \Fld@rotation
11813 \fi
11814 \ifx\Fld@bordercolor\relax
11815 \else
11816 /BC[\Fld@bordercolor]%
11817 \fi
11818 \ifx\Fld@bcolor\relax
11819 \else
11820 /BG[\Fld@bcolor]%
11821 \fi
11822 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11823 >>%
11824 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11825 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11826 /H/P%
11827 \ifFld@checked /V/Yes\else /V/Off\fi
11828 }

```

\PDFForm@Push

```

11829 \ifHy@pdfa
11830 \else
11831 \def\PDFForm@Push{%
11832 /Subtype/Widget%
11833 \Fld@annotflags
11834 /T(\Fld@name)%
11835 /FT/Btn%
11836 \Fld@flags
11837 /H/P%
11838 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11839 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11840 \ifx\Fld@bordercolor\relax\else 1\fi
11841 \space
11842 \else
11843 /MK<<%
11844 \ifnum\Fld@rotation=\z@
11845 \else
11846 /R \Fld@rotation
11847 \fi
11848 \ifx\Fld@bordercolor\relax
11849 \else
11850 /BC[\Fld@bordercolor]%
11851 \fi
11852 >>%
11853 \fi
11854 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11855 }%
11856 \fi

```

\Fld@additionalactions

```

11857 \def\Fld@@additionalactions{%
K input (keystroke) format

```

```

11858 \ifx\Fld@keystroke@code\@empty
11859 \else
11860 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11861 \fi

```

F display format

```

11862 \ifx\Fld@format@code\@empty
11863 \else
11864 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11865 \fi

```

V validation

```

11866 \ifx\Fld@validate@code\@empty
11867 \else
11868 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11869 \fi

```

C calculation

```

11870 \ifx\Fld@calculate@code\@empty
11871 \else
11872 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11873 \fi

```

Fo receiving the input focus

```

11874 \ifx\Fld@onfocus@code\@empty
11875 \else
11876 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11877 \fi

```

Bl loosing the input focus (blurred)

```

11878 \ifx\Fld@onblur@code\@empty
11879 \else
11880 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11881 \fi

```

D pressing the mouse button (down)

```

11882 \ifx\Fld@onmousedown@code\@empty
11883 \else
11884 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11885 \fi

```

U releasing the mouse button (up)

```

11886 \ifx\Fld@onmouseup@code\@empty
11887 \else
11888 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11889 \fi

```

E cursor enters the annotation's active area.

```

11890 \ifx\Fld@onenter@code\@empty
11891 \else
11892 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11893 \fi

```

X cursor exits the annotation's active area.

```

11894 \ifx\Fld@onexit@code\@empty
11895 \else
11896 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11897 \fi
11898 }
11899 \def\Fld@additionalactions{%
11900 \if\Fld@@additionalactions-%

```

```

11901 \else
11902 \ifHy@pdfa
11903 \else
11904 /AA<<\Fld@@additionalactions>>%
11905 \fi
11906 \fi
11907 }

```

\PDFForm@List

```

11908 \def\PDFForm@List{%
11909 /Subtype/Widget%
11910 \Fld@annotflags
11911 /T(\Fld@name)%
11912 /FT/Ch%
11913 \Fld@flags
11914 /Q \Fld@align
11915 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11916 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11917 \ifx\Fld@bordercolor\relax\else 1\fi
11918 \ifx\Fld@bcolor\relax \else 1\fi
11919 \space
11920 \else
11921 /MK<<%
11922 \ifnum\Fld@rotation=\z@
11923 \else
11924 /R \Fld@rotation
11925 \fi
11926 \ifx\Fld@bordercolor\relax
11927 \else
11928 /BC[\Fld@bordercolor]%
11929 \fi
11930 \ifx\Fld@bcolor\relax
11931 \else
11932 /BG[\Fld@bcolor]%
11933 \fi
11934 >>%
11935 \fi
11936 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11937 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11938 \Fld@choices
11939 \Fld@additionalactions
11940 }

```

\PDFForm@Radio

```

11941 \def\PDFForm@Radio{%
11942 /Subtype/Widget%
11943 \Fld@annotflags
11944 /T(\Fld@name)%
11945 /FT/Btn%
11946 \Fld@flags
11947 /H/P%
11948 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11949 /MK<<%
11950 \ifnum\Fld@rotation=\z@
11951 \else
11952 /R \Fld@rotation
11953 \fi

```

```

11954 \ifx\Fld@bordercolor\relax
11955 \else
11956 /BC[\Fld@bordercolor]%
11957 \fi
11958 \ifx\Fld@bcolor\relax
11959 \else
11960 /BG[\Fld@bcolor]%
11961 \fi
11962 /CA[\Fld@radiosymbol]%
11963 >>%
11964 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11965 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11966 \ifx\@currValue\Fld@default
11967 /V/\Fld@default
11968 \else
11969 /V/Off%
11970 \fi
11971 \Fld@additionalactions
11972 }

```

\PDFForm@Text

```

11973 \def\PDFForm@Text{%
11974 /Subtype/Widget%
11975 \Fld@annotflags
11976 /T(\Fld@name)%
11977 /FT/Tx%
11978 \Fld@flags
11979 /Q \Fld@align
11980 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11981 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11982 \ifx\Fld@bordercolor\relax\else 1\fi
11983 \ifx\Fld@bcolor\relax \else 1\fi
11984 \space
11985 \else
11986 /MK<<%
11987 \ifnum\Fld@rotation=\z@
11988 \else
11989 /R \Fld@rotation
11990 \fi
11991 \ifx\Fld@bordercolor\relax
11992 \else
11993 /BC[\Fld@bordercolor]%
11994 \fi
11995 \ifx\Fld@bcolor\relax
11996 \else
11997 /BG[\Fld@bcolor]%
11998 \fi
11999 >>%
12000 \fi
12001 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12002 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12003 /DV(\Hy@escapestring{\Fld@default})%
12004 /V(\Hy@escapestring{\Fld@value})%
12005 \Fld@additionalactions
12006 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12007 }

```

\PDFForm@Submit

```
12008 \def\PDFForm@Submit{%
12009 /Subtype/Widget%
12010 \Fld@annotflags
12011 /T(\Fld@name)%
12012 /FT/Btn%
12013 \Fld@flags
12014 /H/P%
12015 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12016 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12017     \ifx\Fld@bordercolor\relax\else 1\fi
12018     \space
12019 \else
12020 /MK<<%
12021     \ifnum\Fld@rotation=\z@
12022     \else
12023         /R \Fld@rotation
12024     \fi
12025     \ifx\Fld@bordercolor\relax
12026     \else
12027         /BC[\Fld@bordercolor]%
12028     \fi
12029 >>%
12030 \fi
12031 /A<<%
12032 /S/SubmitForm%
12033 /F<<%
12034     /FS/URL%
12035     /F(\Hy@escapestring{\Form@action})%
12036 >>%
12037 \Fld@submitflags
12038 >>%
12039 }
```

\PDFForm@Reset

```
12040 \ifHy@pdfa
12041 \else
12042 \def\PDFForm@Reset{%
12043 /Subtype/Widget%
12044 \Fld@annotflags
12045 /T(\Fld@name)%
12046 /FT/Btn%
12047 \Fld@flags
12048 /H/P%
12049 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12050 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12051     \ifx\Fld@bordercolor\relax\else 1\fi
12052     \space
12053 \else
12054 /MK<<%
12055     \ifnum\Fld@rotation=\z@
12056     \else
12057         /R \Fld@rotation
12058     \fi
12059     \ifx\Fld@bordercolor\relax
12060     \else
12061         /BC[\Fld@bordercolor]%

```

```

12062      \fi
12063 %      /CA (Clear)
12064 %      /AC (Done)
12065      >>%
12066      \fi
12067      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12068      /A<</S/ResetForm>>%
12069      }%
12070 \fi

12071 </pdfform>
12072 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

12073 \def\phantomsection{%
12074   \Hy@GlobalStepCount\Hy@linkcounter
12075   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12076   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12077 }
12078 </package>

```

48.1 Bookmarks

```
12079 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-}\text{\TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-}\text{\TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

12080 \def\Hy@writebookmark#1#2#3#4#5{%
12081   % section number, text, label, level, file
12082   \ifx\WriteBookmarks\relax%
12083     \else
12084     \ifnum#4>\Hy@bookmarksdepth\relax
12085       \else
12086       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12087     \fi

```

```

12088 \fi
12089 }
12090 \def\Hy@currentbookmarklevel{0}
12091 \def\Hy@numberline#1{#1 }
12092 \def\@writetorep#1#2#3#4#5{%
12093 \begingroup
12094 \edef\Hy@tempa{#5}%
12095 \ifx\Hy@tempa\Hy@bookmarkstype
12096 \edef\Hy@level{#4}%
12097 \ifx\Hy@levelcheck Y%
12098 \@tempcnta\Hy@level\relax
12099 \advance\@tempcnta by -1 %
12100 \ifnum\Hy@currentbookmarklevel<\@tempcnta
12101 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12102 \advance\@tempcnta by 1 %
12103 \Hy@Warning{%
12104 Difference (\the\@tempcnta) between bookmark levels is %
12105 greater \MessageBreak than one, level fixed%
12106 }%
12107 \@tempcnta\Hy@currentbookmarklevel
12108 \advance\@tempcnta by 1 %
12109 \edef\Hy@level{\the\@tempcnta}%
12110 \fi
12111 \else
12112 \global\let\Hy@levelcheck Y%
12113 \fi
12114 \global\let\Hy@currentbookmarklevel\Hy@level
12115 \@tempcnta\Hy@level\relax
12116 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12117 \advance\@tempcnta by -1 %
12118 \edef\Hy@tempa{#3}%
12119 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12120 \ifx\Hy@tempa\Hy@tempb
12121 \Hy@Warning{%
12122 The anchor of a bookmark and its parent's must not%
12123 \MessageBreak be the same. Added a new anchor%
12124 }%
12125 \phantomsection
12126 \fi
12127 \ifHy@bookmarksnumbered
12128 \let\numberline\Hy@numberline
12129 \let\partnumberline\Hy@numberline
12130 \let\chapternumberline\Hy@numberline
12131 \else
12132 \let\numberline\@gobble
12133 \let\partnumberline\@gobble
12134 \let\chapternumberline\@gobble
12135 \fi
12136 \HyPsd@XeTeXBigCharstrue
12137 \pdfstringdef\Hy@tempa{#2}%
12138 \if@filesw
12139 \stepcounter{bookmark@seq@number}%
12140 \@ifundefined{@outlinefile}{%
12141 }{%
12142 \protected@write\@outlinefile{}{%
12143 \protect\BOOKMARK
12144 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%

```

```

12145      {\Hy@tempa}{\Hy@tempb}%
12146      \@percentchar\space\thebookmark@seq@number
12147    }%
12148  }%
12149  \fi
12150  \fi
12151  \endgroup
12152 }
12153 \newcounter{bookmark@seq@number}

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

12154 \newcommand{\currentpdfbookmark}{%
12155   \pdfbookmark{\Hy@currentbookmarklevel}%
12156 }
12157 \newcommand{\subpdfbookmark}{%
12158   \@tempcnta\Hy@currentbookmarklevel
12159   \Hy@StepCount\@tempcnta
12160   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12161 }
12162 \newcommand{\belowpdfbookmark}[2]{%
12163   \@tempcnta\Hy@currentbookmarklevel
12164   \Hy@StepCount\@tempcnta
12165   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12166   \advance\@tempcnta by -1 %
12167   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12168 }

```

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.

```

12169 \renewcommand\pdfbookmark[3][0]{%
12170   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
12171   \hyper@anchorstart{#3.#1}\hyper@anchorend
12172 }
12173 \def\BOOKMARK{%
12174   \@ifnextchar[{\@@BOOKMARK}{\@@BOOKMARK[1][-]}%
12175 }
12176 \def\@@BOOKMARK[#1]{%
12177   \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
12178 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

12179 \RequirePackage{rerunfilecheck}[2009/12/10]
12180 \def\Hy@OutlineRerunCheck{%
12181   \RerunFileCheck{\jobname.out}{%
12182     \immediate\closeout\@outlinefile
12183   }{%
12184     Rerun to get outlines right\MessageBreak
12185     or use package 'bookmark'%
12186   }%
12187 }

```


48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

12188 <*vtex>

12189 \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.

```

12190 \begingroup
12191 \catcode'\'=12 %
12192 \ifnum\Hy@VTeXversion<650 %
12193 \catcode'\ "=12 %
12194 \gdef\hv@pdf@char#1#2#3{%
12195 \char
12196 \ifcase'#1#2#3 %
12197 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12198 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12199 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12200 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12201 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12202 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12203 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12204 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12205 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12206 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12207 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12208 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12209 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12210 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12211 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12212 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12213 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12214 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12215 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12216 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12217 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12218 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12219 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12220 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12221 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12222 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12223 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12224 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12225 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12226 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
12227 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12228 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12229 \fi
12230 }%
12231 \else
12232 \gdef\hv@pdf@char{\char'}%
12233 \fi
12234 \endgroup

```

\@@BOOKMARK

```

12235 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12236 \expandafter\edef\csname @count@#3\endcsname{%
12237   \the\@serial@counter
12238 }%
12239 \edef\@mycount{\the\@serial@counter}%
12240 \Hy@StepCount\@serial@counter
12241 \edef\@parcount{%
12242   \expandafter\ifx\csname @count@#5\endcsname\relax
12243     0%
12244   \else
12245     \csname @count@#5\endcsname
12246   \fi
12247 }%
12248 \immediate\special{%
12249   !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12250   s=\ifx#2-c\else o\fi,t=#4%
12251 }%
12252 }%

```

\ReadBookmarks

```

12253 \def\ReadBookmarks{%
12254   \begingroup
12255   \def\0{\hv@pdf@char 0}%
12256   \def\1{\hv@pdf@char 1}%
12257   \def\2{\hv@pdf@char 2}%
12258   \def\3{\hv@pdf@char 3}%
12259   \def\{({}%
12260   \def\)}{)%
12261   \def\do##1{%
12262     \ifnum\the\catcode'##1=\active
12263       \@makeother##1%
12264     \fi
12265   }%
12266   \dospecials
12267   \InputIfFileExists{\jobname.out}{\}{}%
12268 \endgroup
12269 \ifx\WriteBookmarks\relax
12270 \else
12271   \if@filesw
12272     \newwrite\@outlinefile
12273     \Hy@OutlineRerunCheck
12274     \immediate\openout\@outlinefile=\jobname.out\relax
12275     \ifHy@typexml
12276       \immediate\write\@outlinefile{<relaxxml>\relax}%
12277     \fi
12278   \fi
12279 \fi
12280 }

12281 </vtex>
12282 <!*vtex>
12283 \def\ReadBookmarks{%
12284   \begingroup
12285   \escapechar='\\%
12286   \let\escapechar\@gobble %
12287   \def\@@BOOKMARK[##1][##2]##3##4##5{%

```

```

12288 \calc@bm@number{##5}%
12289 }%
12290 \InputIfFileExists{\jobname.out}{-}{-}%
12291 \ifx\WriteBookmarks\relax
12292 \global\let\WriteBookmarks\relax
12293 \fi
12294 \def\@@BOOKMARK[##1][##2]##3##4##5{%
12295 \def\Hy@temp{##4}%
12296 <*pdftex>
12297 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12298 \Hy@OutlineName{\Hy@pstringName}%
12299 ##2\check@bm@number{##3}%
12300 }{%
12301 \expandafter\strip@prefix\meaning\Hy@temp
12302 }%
12303 </pdftex>
12304 <*pdfmark>
12305 \pdfmark{%
12306 pdfmark=/OUT,%
12307 Count={##2\check@bm@number{##3}},%
12308 Dest={##3},%
12309 Title=\expandafter\strip@prefix\meaning\Hy@temp
12310 }%
12311 </pdfmark>
12312 <*dvi pdfm | xetex>
12313 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12314 \@pdfm@mark{%
12315 outline \ifHy@DvipdfmxOutlineOpen
12316 [%
12317 \ifnum##21>\z@
12318 \else
12319 -%
12320 \fi
12321 ] %
12322 \fi
12323 ##1<<%
12324 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12325 /A<<%
12326 /S/GoTo%
12327 /D(\Hy@pstringName)%
12328 >>%
12329 >>%
12330 }%
12331 </dvi pdfm | xetex>
12332 }%
12333 {%
12334 \def\WriteBookmarks{0}%
12335 \InputIfFileExists{\jobname.out}{-}{-}%
12336 }%
12337 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
12338 \ifx\WriteBookmarks\relax
12339 \else
12340 \if@filesw
12341 \newwrite\@outlinefile
12342 \Hy@OutlineRerunCheck
12343 \immediate\openout\@outlinefile=\jobname.out\relax
12344 \ifHy@typexml

```

```

12345      \immediate\write\@outlinefile{<relaxxml>\relax}%
12346      \fi
12347      \fi
12348      \fi
12349      \endgroup
12350 }
12351 < *pdfTeX>
12352 \def\Hy@OutlineName#1#2#3#4{%
12353   \pdfoutline goto name{#2}count#3{#4}%
12354 }
12355 < /pdfTeX>
12356 \def\check@bm@number#1{%
12357   \expandafter\ifx\csname B_#1\endcsname\relax
12358     0%
12359   \else
12360     \csname B_#1\endcsname
12361   \fi
12362 }
12363 \def\calc@bm@number#1{%
12364   \@tempcnta=\check@bm@number{#1}\relax
12365   \advance\@tempcnta by 1 %
12366   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12367 }
12368 < /!vTeX>
12369 \ifHy@implicit
12370 \else
12371   \expandafter\endinput
12372 \fi
12373 < /outlines>
12374 < *outlines | hypertext>
12375 \newlength\Hy@SectionHShift
12376 \def\Hy@SectionAnchorHref#1{%
12377   \ifx\protect\@typeset@protect
12378     \Hy@@SectionAnchor{#1}%
12379   \fi
12380 }
12381 \DeclareRobustCommand*\Hy@@SectionAnchor[1]{%
12382   \leavevmode
12383   \hbox to 0pt{%
12384     \kern-\Hy@SectionHShift
12385     \Hy@raisedlink{%
12386       \hyper@anchorstart{#1}\hyper@anchorend
12387     }%
12388     \hss
12389   }%
12390 }
12391 \let\H@old@ssect\@ssect
12392 \def\@ssect#1#2#3#4#5{%
12393   \Hy@GlobalStepCount\Hy@linkcounter
12394   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12395   \setlength{\Hy@SectionHShift}{#1}%
12396   \beginingroup
12397     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
12398     \toks\tw@\expandafter{%
12399       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12400       #5%

```

```

12401 }%
12402 \edef\x{\endgroup
12403 \the\toks@{\the\toks\tw@}}%
12404 }\x
12405 }
12406 \let\H@old@schapter\@schapter
12407 \def\@schapter#1{%
12408 \begingroup
12409 \let\@mkboth\@gobbletwo
12410 \Hy@GlobalStepCount\Hy@linkcounter
12411 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12412 \Hy@raisedlink{%
12413 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12414 }%
12415 \endgroup
12416 \H@old@schapter{#1}}%
12417 }

```

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:

```

12418 \ifundefined{@chapter}{%}{%
12419 \let\Hy@org@chapter\@chapter
12420 \def\@chapter{%
12421 \def\Hy@next{%
12422 \Hy@GlobalStepCount\Hy@linkcounter
12423 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12424 \Hy@raisedlink{%
12425 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12426 }%
12427 }%
12428 \ifnum\c@secnumdepth>\m@ne
12429 \@ifundefined{if@mainmatter}%
12430 \iftrue{\csname if@mainmatter\endcsname}%
12431 \let\Hy@next\relax
12432 \fi
12433 \fi
12434 \Hy@next
12435 \Hy@org@chapter
12436 }%
12437 }

12438 \let\H@old@part\@part
12439 \begingroup\expandafter\expandafter\expandafter\endgroup
12440 \expandafter\ifx\csname chapter\endcsname\relax
12441 \let\Hy@secnum@part\z@
12442 \else
12443 \let\Hy@secnum@part\m@ne
12444 \fi
12445 \def\@part{%
12446 \ifnum\Hy@secnum@part>\c@secnumdepth
12447 \phantomsection
12448 \fi
12449 \H@old@part
12450 }

12451 \let\H@old@spart\@spart
12452 \def\@spart#1{%
12453 \Hy@GlobalStepCount\Hy@linkcounter

```

```

12454 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12455 \Hy@raisedlink{%
12456   \hyper@anchorstart{\@currentHref}\hyper@anchorend
12457 }%
12458 \H@old@spart{#1}%
12459 }
12460 \let\H@old@sect\@sect
12461 \def\@sect#1#2#3#4#5#6[#7]#8{%
12462   \ifnum #2>\c@secnumdepth
12463     \expandafter\@firstoftwo
12464   \else
12465     \expandafter\@secondoftwo
12466   \fi
12467   {%
12468     \Hy@GlobalStepCount\Hy@linkcounter
12469     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12470     \setlength{\Hy@SectionHShift}{#3}%
12471     \begingroup
12472       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
12473       \toks\tw@\expandafter{%
12474         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
12475         #8%
12476       }%
12477       \edef\x{\endgroup
12478         \the\toks@{\the\toks\tw@}}%
12479       }\x
12480   }{%
12481     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
12482   }%
12483 }

12484 </outlines | hypertex>
12485 <*outlines>

12486 \expandafter\def\csname Parent-4\endcsname{}
12487 \expandafter\def\csname Parent-3\endcsname{}
12488 \expandafter\def\csname Parent-2\endcsname{}
12489 \expandafter\def\csname Parent-1\endcsname{}
12490 \expandafter\def\csname Parent0\endcsname{}
12491 \expandafter\def\csname Parent1\endcsname{}
12492 \expandafter\def\csname Parent2\endcsname{}
12493 \expandafter\def\csname Parent3\endcsname{}
12494 \expandafter\def\csname Parent4\endcsname{}

12495 </outlines>

```

49 Compatibility with koma-script classes

```
12496 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

12497 \def\Hy@tempa{%
12498   \def\@addchap[##1]##2{%
12499     \typeout{##2}%
12500     \if@twoside

```

```

12501 \mkboth{##1}{}%
12502 \else
12503 \mkboth{##1}%
12504 \fi
12505 \addtocontents{lof}{\protect\addvspace{10\p@}}%
12506 \addtocontents{lot}{\protect\addvspace{10\p@}}%
12507 \Hy@GlobalStepCount\Hy@linkcounter
12508 \xdef\@currentHref{\Hy@chapapp*.the\Hy@linkcounter}%
12509 \Hy@raisedlink{%
12510 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12511 }%
12512 \if@twocolumn
12513 \topnewpage[\@makeschapterhead{##2}]%
12514 \else
12515 \makeschapterhead{##2}%
12516 \@afterheading
12517 \fi
12518 \addcontentsline{toc}{chapter}{##1}%
12519 }%
12520 }
12521 \ifclassloaded{scrbook}{%
12522 \ifclasslater{scrbook}{2001/01/01}{%
12523 \let\Hy@tempa\@empty
12524 }{}%
12525 }{%
12526 \ifclassloaded{scrreprt}{%
12527 \ifclasslater{scrreprt}{2001/01/01}{%
12528 \let\Hy@tempa\@empty
12529 }{}%
12530 }{%
12531 \let\Hy@tempa\@empty
12532 }%
12533 }%
12534 \Hy@tempa
12535 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

12536 <*pd1enc>
12537 \DeclareFontEncoding{PD1}{}{}

Accents
12538 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12539 \DeclareTextAccent{\'}{PD1}{\textacute}
12540 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
12541 \DeclareTextAccent{\~}{PD1}{\texttilde}
12542 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12543 \DeclareTextAccent{\r}{PD1}{\textring}
12544 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12545 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12546 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12547 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12548 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}

```

```

12549 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12550 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
12551 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12552 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
12553 \DeclareTextCompositeCommand{\-}{PD1}{\@empty}{\texttilde}
12554 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12555 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12556 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12557 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12558 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12559 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12560 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12561 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12562 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
12563 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12564 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12565 \DeclareTextCompositeCommand{\-}{PD1}{\ }{\texttilde}
12566 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12567 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12568 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12569 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12570 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12571 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12572 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12573 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12574 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12575 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12576 \DeclareTextCommand{\newtie}{PD1}[1]{%
12577   \TextSymbolUnavailable{\newtie{#1}}#1%
12578 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12579 % U+0009 (CHARACTER TABULATION)
12580 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12581 % U+000A (LINE FEED)
12582 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12583 % U+000D (CARRIAGE RETURN)
12584 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

12585 % U+02D8 BREVE; breve
12586 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12587 % U+02C7 CARON; caron
12588 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12589 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12590 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12591 % U+02D9 DOT ABOVE; dotaccent
12592 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12593 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12594 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12595 % U+02DB OGONEK; ogonek
12596 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12597 % U+02DA RING ABOVE; ring
12598 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12599 % U+02DC SMALL TILDE; ilde, *tilde
12600 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

12601 % U+0022 QUOTATION MARK; quotedbl
 12602 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 12603 % U+0023 NUMBER SIGN; numbersign
 12604 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 12605 % U+0024 DOLLAR SIGN; dollar
 12606 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 12607 % U+0025 PERCENT SIGN; percent
 12608 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 12609 % U+0026 AMPERSAND; ampersand
 12610 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 12611 % U+0028 LEFT PARENTHESIS; parenleft
 12612 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 12613 % U+0029 RIGHT PARENTHESIS; parenright
 12614 \DeclareTextCommand{\textparenright}{PD1}{\string\}}% \051 U+0029
 \052: U+002A ASTERISK; asterisk
 \053: U+002B PLUS SIGN; plus
 \054: U+002C COMMA; comma
 \055: U+002D HYPHEN-MINUS; hyphen
 \056: U+002E FULL STOP; period
 12615 % U+002E FULL STOP; period
 12616 \DeclareTextCommand{\textdotbelow}{PD1}{\056}% \056 U+002E
 \057: U+002F SOLIDUS; slash
 \060: U+0030 DIGIT ZERO; zero
 ...
 \071: U+0039 DIGIT NINE; nine
 \072: U+003A COLON; colon
 \073: U+003B SEMICOLON; semicolon
 12617 % U+003C LESS-THAN SIGN; less
 12618 \DeclareTextCommand{\textless}{PD1}{\073}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 12619 % U+003E GREATER-THAN SIGN; greater
 12620 \DeclareTextCommand{\textgreater}{PD1}{\075}% \076 U+003E
 \077: U+003F QUESTION MARK; question
 \100: U+0040 COMMERCIAL AT; at
 \101: U+0041 LATIN CAPITAL LETTER A; A
 ...
 \132: U+005A LATIN CAPITAL LETTER Z; Z
 \133: U+005B LEFT SQUARE BRACKET; bracketleft
 12621 % U+005C REVERSE SOLIDUS; backslash
 12622 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 12623 % U+005E CIRCUMFLEX ACCENT; asciicircum
 12624 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 12625 % U+005F LOW LINE; underscore
 12626 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 12627 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 12628 % U+0060 GRAVE ACCENT; grave
 12629 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h

12630 % U+0069 LATIN SMALL LETTER I; i
 12631 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 12632 % U+007B LEFT CURLY BRACKET; braceleft
 12633 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 12634 % U+007C VERTICAL LINE; *bar, verticalbar
 12635 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 12636 % U+007D RIGHT CURLY BRACKET; braceright
 12637 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 12638 % U+007E TILDE; asciitilde
 12639 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 12640 % U+2022 BULLET; bullet
 12641 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 12642 % U+2020 DAGGER; dagger
 12643 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 12644 % U+2021 DOUBLE DAGGER; daggerdbl
 12645 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 12646 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 12647 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 12648 % U+2014 EM DASH; emdash
 12649 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 12650 % U+2013 EN DASH; endash
 12651 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 12652 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 12653 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 12654 % U+2044 FRACTION SLASH; fraction
 12655 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 12656 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 -ingleft
 12657 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 12658 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 -ingright
 12659 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 12660 % U+2212 MINUS SIGN; minus
 12661 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 12662 % U+2030 PER MILLE SIGN; perthousand
 12663 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 12664 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 12665 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 12666 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 12667 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 12668 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 12669 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 12670 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 12671 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 12672 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 12673 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 12674 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 12675 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 12676 % U+2122 TRADE MARK SIGN; trademark
 12677 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 12678 % U+FB01 LATIN SMALL LIGATURE FI; fi
 12679 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 12680 % U+FB02 LATIN SMALL LIGATURE FL; fl

12681 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 12682 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 12683 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 12684 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 12685 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 12686 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 12687 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 12688 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 12689 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
 12690 \DeclareTextCommand{\IJ}{PD1}{\230}
 12691 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 12692 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 12693 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 12694 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 12695 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 12696 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 12697 % U+0153 LATIN SMALL LIGATURE OE; oe
 12698 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 12699 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 12700 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 12701 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 12702 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236}% U+017E
 Slot \237 (0x9F) is not defined in PDFDocEncoding.
 The euro \240 is inserted in version 1.3 of the pdf specification.
 12703 % U+20AC EURO SIGN; *Euro, euro
 12704 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 12705 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 12706 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 12707 % U+00A2 CENT SIGN; cent
 12708 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 12709 % U+00A3 POUND SIGN; sterling
 12710 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 12711 % U+00A4 CURRENCY SIGN; currency
 12712 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 12713 % U+00A5 YEN SIGN; yen
 12714 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 12715 % U+00A6 BROKEN BAR; brokenbar
 12716 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 12717 % U+00A7 SECTION SIGN; section
 12718 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 12719 % U+00A8 DIAERESIS; dieresis
 12720 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 12721 % U+00A9 COPYRIGHT SIGN; copyright
 12722 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 12723 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 12724 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 12725 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 12726 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 12727 % U+00AC NOT SIGN; logicalnot
 12728 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 12729 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 12730 % U+00AE REGISTERED SIGN; registered
 12731 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 12732 % U+00AF MACRON; *macron, overscore
 12733 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF

12734 % U+00B0 DEGREE SIGN; degree
 12735 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 12736 % U+00B1 PLUS-MINUS SIGN; plusminus
 12737 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 12738 % U+00B2 SUPERSCRIPT TWO; twosuperior
 12739 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 12740 % U+00B3 SUPERSCRIPT THREE; threesuperior
 12741 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 12742 % U+00B4 ACUTE ACCENT; acute
 12743 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 12744 % U+00B5 MICRO SIGN; mu, mu1
 12745 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 12746 % U+00B6 PILCROW SIGN; paragraph
 12747 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 12748 % U+00B7 MIDDLE DOT; middot, *periodcentered
 12749 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 12750 % U+00B8 CEDILLA; cedilla
 12751 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 12752 % U+00B9 SUPERSCRIPT ONE; onesuperior
 12753 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 12754 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 12755 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 12756 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 12757 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 12758 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 12759 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 12760 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 12761 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 12762 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 12763 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 12764 % U+00BF INVERTED QUESTION MARK; questiondown
 12765 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
 12766 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 12767 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
 12768 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 12769 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
 12770 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 12771 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302}% U+00C2
 12772 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 12773 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
 12774 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 12775 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
 12776 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 12777 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
 12778 % U+00C6 LATIN CAPITAL LETTER AE; AE
 12779 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
 12780 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 12781 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
 12782 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 12783 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
 12784 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 12785 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
 12786 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 12787 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA
 12788 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 12789 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB

12790 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
12791 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
12792 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
12793 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
12794 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
12795 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
12796 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
12797 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
12798 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
12799 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
12800 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
12801 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
12802 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
12803 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
12804 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
12805 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
12806 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
12807 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
12808 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
12809 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
12810 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
12811 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
12812 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
12813 % U+00D7 MULTIPLICATION SIGN; multiply
12814 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
12815 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
12816 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
12817 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
12818 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
12819 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
12820 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
12821 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
12822 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
12823 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
12824 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
12825 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
12826 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
12827 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
12828 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
12829 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
12830 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
12831 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
12832 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
12833 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
12834 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
12835 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
12836 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
12837 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
12838 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
12839 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
12840 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
12841 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
12842 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
12843 % U+00E6 LATIN SMALL LETTER AE; ae
12844 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
12845 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
12846 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7

12847 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
 12848 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
 12849 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
 12850 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
 12851 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
 12852 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
 12853 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
 12854 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
 12855 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
 12856 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
 12857 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
 12858 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
 12859 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
 12860 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
 12861 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
 12862 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
 12863 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
 12864 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 12865 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12866 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
 12867 % U+00F0 LATIN SMALL LETTER ETH; eth
 12868 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
 12869 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 12870 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
 12871 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 12872 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
 12873 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 12874 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
 12875 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 12876 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
 12877 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 12878 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
 12879 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 12880 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
 12881 % U+00F7 DIVISION SIGN; divide
 12882 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
 12883 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 12884 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 12885 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 12886 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
 12887 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 12888 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
 12889 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 12890 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
 12891 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 12892 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
 12893 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 12894 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
 12895 % U+00FE LATIN SMALL LETTER THORN; thorn
 12896 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 12897 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 12898 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
 12899 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12900 \DeclareTextCommand{\SS}{PD1}{SS}
 12901 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

```

12902 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12903 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12904 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12905 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12906 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12907 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12908 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12909 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)
12910 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12911 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12912 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12913 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12914 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12915 \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).

```

12916 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12917 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12918 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12919 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12920 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12921 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12922 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot

12923 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12924 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12925 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12926 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12927 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12928 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12929 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

12930 </pdlenc>

```

50.2 PU encoding

```

12931 <*puenc>
12932 \DeclareFontEncoding{PU}{-}{-}

```

50.2.1 NFSS2 accents

```

12933 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12934 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
12935 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12936 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
12937 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12938 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
12939 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12940 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
12941 % U+0304 COMBINING MACRON; macroncmb
12942 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
12943 % U+0306 COMBINING BREVE; brevecmb
12944 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
12945 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306
12946 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12947 \DeclareTextCommand{\.}{PU}[1]{\#1\83\007}% U+0307
12948 % U+0308 COMBINING DIAERESIS; dieresiscmb
12949 \DeclareTextCommand{\"}{PU}[1]{\#1\83\010}% U+0308

```

12950 % U+030A COMBINING RING ABOVE; ringcmb
12951 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12952 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12953 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12954 % U+030C COMBINING CARON; caroncmb
12955 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12956 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12957 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12958 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12959 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12960 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12961 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12962 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12963 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12964 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12965 % U+0327 COMBINING CEDILLA; cedillacmb
12966 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12967 % U+0328 COMBINING OGONEK; ogonekcmb
12968 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12969 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12970 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12971 % U+20DD COMBINING ENCLOSING CIRCLE
12972 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

12973 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12974 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12975 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12976 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
12977 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12978 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12979 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12980 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12981 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12982 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12983 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12984 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12985 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12986 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12987 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12988 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12989 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12990 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12991 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12992 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12993 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12994 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12995 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
12996 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12997 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12998 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12999 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13000 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13001 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13002 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13003 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13004 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}


```

13005 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13006 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13007 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13008 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13009 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
13010 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

13011 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
13012 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
13013 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
13014 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13015 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13016 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13017 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
13018 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13019 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13020 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13021 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13022 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13023 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13024 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13025 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

13026 % U+0009 (CHARACTER TABULATION)
13027 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13028 % U+000A (LINE FEED)
13029 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13030 % U+000D (CARRIAGE RETURN)
13031 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

13032 % U+0022 QUOTATION MARK; quotedbl
13033 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13034 % U+0023 NUMBER SIGN; numbersign
13035 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13036 % U+0024 DOLLAR SIGN; dollar
13037 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
13038 % U+0025 PERCENT SIGN; percent
13039 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
13040 % U+0026 AMPERSAND; ampersand
13041 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
13042 % U+0027 APOSTROPHE; quotesingle
13043 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
13044 % U+0028 LEFT PARENTHESIS; parenleft
13045 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
13046 % U+0029 RIGHT PARENTHESIS; parenright
13047 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
13048 % U+002A ASTERISK; asterisk
13049 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)

\80\053: U+002B PLUS SIGN; plus
\80\054: U+002C COMMA; comma
\80\055: U+002D HYPHEN-MINUS; hyphen
\80\056: U+002E FULL STOP; period

```

\80\057: U+002F SOLIDUS; slash
 \80\060: U+0030 DIGIT ZERO; zero
 ...
 \80\071: U+0039 DIGIT NINE; nine
 \80\072: U+003A COLON; colon
 \80\073: U+003B SEMICOLON; semicolon
 13050 % U+003C LESS-THAN SIGN; less
 13051 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 13052 % U+003E GREATER-THAN SIGN; greater
 13053 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E
 \80\077: U+003F QUESTION MARK; question
 \80\100: U+0040 COMMERCIAL AT; at
 \80\101: U+0041 LATIN CAPITAL LETTER A; A
 ...
 \80\132: U+005A LATIN CAPITAL LETTER Z; Z
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft
 13054 % U+005C REVERSE SOLIDUS; backslash
 13055 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 13056 % U+005E CIRCUMFLEX ACCENT; asciicircum
 13057 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 13058 % U+005F LOW LINE; underscore
 13059 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 13060 % U+0060 GRAVE ACCENT; grave
 13061 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060
 \80\141: U+0061 LATIN SMALL LETTER A; a
 ...
 \80\150: U+0068 LATIN SMALL LETTER H; h
 13062 % U+0069 LATIN SMALL LETTER I; i
 13063 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
 13064 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
 \80\152: U+006A LATIN SMALL LETTER J; j
 ...
 \80\172: U+007A LATIN SMALL LETTER Z; z
 13065 % U+007B LEFT CURLY BRACKET; braceleft
 13066 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 13067 % U+007C VERTICAL LINE; *bar, verticalbar
 13068 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 13069 % U+007D RIGHT CURLY BRACKET; braceright
 13070 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 13071 % U+007E TILDE; asciitilde
 13072 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
 13073 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 13074 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 13075 % U+00A2 CENT SIGN; cent
 13076 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 13077 % U+00A3 POUND SIGN; sterling

13078 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
13079 % U+00A4 CURRENCY SIGN; currency
13080 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
13081 % U+00A5 YEN SIGN; yen
13082 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
13083 % U+00A6 BROKEN BAR; brokenbar
13084 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
13085 % U+00A7 SECTION SIGN; section
13086 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
13087 % U+00A8 DIAERESIS; dieresis
13088 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
13089 % U+00A9 COPYRIGHT SIGN; copyright
13090 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
13091 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
13092 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
13093 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motleft
13094 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
13095 % U+00AC NOT SIGN; logicalnot
13096 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
13097 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
13098 % U+00AE REGISTERED SIGN; registered
13099 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
13100 % U+00AF MACRON; *macron, overscore
13101 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
13102 % U+00B0 DEGREE SIGN; degree
13103 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
13104 % U+00B1 PLUS-MINUS SIGN; plusminus
13105 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
13106 % U+00B2 SUPERSCRIT TWO; twosuperior
13107 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
13108 % U+00B3 SUPERSCRIT THREE; threesuperior
13109 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
13110 % U+00B4 ACUTE ACCENT; acute
13111 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
13112 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
13113 % U+00B5 MICRO SIGN; mu, mu1
13114 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
13115 % U+00B6 PILCROW SIGN; paragraph
13116 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
13117 % U+00B7 MIDDLE DOT; middot, *periodcentered
13118 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
13119 % U+00B8 CEDILLA; cedilla
13120 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
13121 % U+00B9 SUPERSCRIT ONE; onesuperior
13122 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
13123 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
13124 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
13125 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
13126 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
13127 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
13128 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
13129 % U+00BD VULGAR FRACTION ONE HALF; onehalf
13130 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
13131 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters

13132 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
13133 % U+00BF INVERTED QUESTION MARK; questiondown
13134 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
13135 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
13136 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
13137 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
13138 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
13139 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
13140 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
13141 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
13142 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
13143 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
13144 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
13145 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
13146 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
13147 % U+00C6 LATIN CAPITAL LETTER AE; AE
13148 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
13149 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
13150 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
13151 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
13152 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
13153 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
13154 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
13155 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
13156 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
13157 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
13158 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
13159 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
13160 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
13161 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
13162 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
13163 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
13164 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
13165 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
13166 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
13167 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
13168 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
13169 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
13170 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
13171 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
13172 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
13173 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
13174 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
13175 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
13176 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
13177 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
13178 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
13179 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
13180 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
13181 % U+00D7 MULTIPLICATION SIGN; multiply
13182 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
13183 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
13184 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
13185 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
13186 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
13187 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
13188 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA

13189 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
13190 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\333}% U+00DB
13191 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
13192 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
13193 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
13194 \DeclareTextCompositeCommand{\' }{PU}{Y}{\80\335}% U+00DD
13195 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
13196 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
13197 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
13198 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
13199 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
13200 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
13201 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
13202 \DeclareTextCompositeCommand{\' }{PU}{a}{\80\341}% U+00E1
13203 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
13204 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\342}% U+00E2
13205 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
13206 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
13207 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
13208 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
13209 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
13210 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
13211 % U+00E6 LATIN SMALL LETTER AE; ae
13212 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
13213 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
13214 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
13215 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
13216 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
13217 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
13218 \DeclareTextCompositeCommand{\' }{PU}{e}{\80\351}% U+00E9
13219 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
13220 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\352}% U+00EA
13221 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
13222 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
13223 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
13224 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
13225 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\354}% U+00EC
13226 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
13227 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\355}% U+00ED
13228 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\355}% U+00ED
13229 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
13230 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356}% U+00EE
13231 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356}% U+00EE
13232 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
13233 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13234 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
13235 % U+00F0 LATIN SMALL LETTER ETH; eth
13236 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
13237 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
13238 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
13239 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
13240 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
13241 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
13242 \DeclareTextCompositeCommand{\' }{PU}{o}{\80\363}% U+00F3
13243 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
13244 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\364}% U+00F4
13245 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde

13246 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 13247 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 13248 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 13249 % U+00F7 DIVISION SIGN; divide
 13250 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 13251 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 13252 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 13253 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 13254 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 13255 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 13256 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 13257 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 13258 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 13259 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 13260 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 13261 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 13262 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 13263 % U+00FE LATIN SMALL LETTER THORN; thorn
 13264 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 13265 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 13266 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

13267 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 13268 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 13269 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 13270 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 13271 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 13272 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 13273 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 13274 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 13275 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 13276 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 13277 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 13278 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 13279 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 13280 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 13281 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 13282 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 13283 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 13284 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 13285 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 13286 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 13287 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 13288 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 13289 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 13290 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 13291 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 13292 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 13293 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 13294 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 13295 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 13296 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 13297 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 13298 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 13299 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash

13300 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
13301 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
13302 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
13303 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
13304 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
13305 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
13306 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
13307 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
13308 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
13309 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
13310 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
13311 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
13312 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
13313 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
13314 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
13315 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
13316 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
13317 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
13318 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
13319 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
13320 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
13321 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
13322 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
13323 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
13324 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
13325 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
13326 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
13327 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
13328 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
13329 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
13330 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
13331 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
13332 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
13333 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
13334 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
13335 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
13336 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
13337 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
13338 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
13339 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
13340 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
13341 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
13342 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
13343 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
13344 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
13345 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
13346 \DeclareTextCommand{\textthslash}{PU}{\81\047}% U+0127
13347 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
13348 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
13349 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
13350 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13351 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
13352 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
13353 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
13354 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
13355 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B

13356 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 13357 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 13358 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 13359 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 13360 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 13361 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 13362 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 13363 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 13364 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 13365 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 13366 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 13367 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 13368 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 13369 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 13370 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 13371 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 13372 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 13373 % U+0133 LATIN SMALL LIGATURE IJ; ij
 13374 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 13375 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 13376 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 13377 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 13378 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 13379 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 13380 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 13381 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 13382 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 13383 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

13384 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 13385 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 13386 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 13387 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 13388 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 13389 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 13390 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
 13391 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 13392 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 13393 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 13394 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 13395 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 13396 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 13397 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the `\.` accent is reused instead of making a separate accent macro `\textmiddledot`.

13398 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
 13399 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 13400 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 13401 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 13402 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 13403 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 13404 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash

13405 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
13406 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
13407 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
13408 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
13409 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
13410 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
13411 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
13412 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
13413 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
13414 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
13415 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
13416 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
13417 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
13418 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
13419 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
13420 % U+014A LATIN CAPITAL LETTER ENG; Eng
13421 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
13422 % U+014B LATIN SMALL LETTER ENG; eng
13423 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
13424 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
13425 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
13426 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13427 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
13428 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13429 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13430 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13431 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13432 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
13433 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13434 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
13435 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13436 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13437 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13438 % U+0153 LATIN SMALL LIGATURE OE; oe
13439 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13440 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13441 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13442 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13443 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
13444 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13445 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13446 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13447 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13448 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13449 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13450 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13451 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13452 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
13453 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
13454 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
13455 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
13456 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex

13457 \DeclareTextCompositeCommand{\~}{PU}{S}{\81\134}% U+015C
13458 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
13459 \DeclareTextCompositeCommand{\~}{PU}{s}{\81\135}% U+015D
13460 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
13461 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
13462 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
13463 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
13464 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
13465 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
13466 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
13467 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
13468 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
13469 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
13470 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
13471 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
13472 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
13473 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
13474 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
13475 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
13476 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
13477 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
13478 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
13479 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
13480 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
13481 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
13482 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
13483 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
13484 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
13485 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
13486 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
13487 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
13488 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
13489 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
13490 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
13491 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
13492 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
13493 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
13494 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
13495 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
13496 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbl-
acute, Uhungarumlaut
13497 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
13498 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-
garumlaut
13499 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
13500 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
13501 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
13502 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
13503 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
13504 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
13505 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
13506 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
13507 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
13508 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
13509 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
13510 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex

13511 \DeclareTextCompositeCommand{\~}{PU}{y}{\81\167}% U+0177
 13512 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 13513 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 13514 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 13515 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 13516 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 13517 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 13518 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 13519 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 13520 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 13521 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 13522 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13523 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 13524 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13525 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 13526 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 13527 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

13528 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13529 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 13530 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 13531 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 13532 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 13533 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 13534 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 13535 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 13536 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 13537 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13538 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 13539 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 13540 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 13541 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 13542 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 13543 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 13544 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 13545 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 13546 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 13547 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 13548 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 13549 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 13550 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 13551 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 13552 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 13553 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 13554 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 13555 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 13556 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 13557 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 13558 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 13559 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 13560 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 13561 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 13562 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 13563 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 13564 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 13565 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

13566 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
13567 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
13568 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
13569 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
13570 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
13571 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
13572 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
13573 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
13574 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
13575 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
13576 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
13577 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
13578 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
13579 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
13580 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
13581 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
13582 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
13583 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
13584 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
13585 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
13586 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
13587 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
13588 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
13589 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
13590 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
13591 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
13592 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
13593 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
13594 \DeclareTextCompositeCommand{\G}{PU}{\i}{\82\011}% U+0209
13595 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
13596 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
13597 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
13598 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
13599 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
13600 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
13601 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
13602 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
13603 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
13604 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
13605 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
13606 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
13607 % U+021E LATIN CAPITAL LETTER H WITH CARON
13608 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
13609 % U+021F LATIN SMALL LETTER H WITH CARON
13610 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
13611 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
13612 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
13613 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
13614 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
13615 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
13616 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
13617 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
13618 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
13619 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
13620 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E

13621 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 13622 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 13623 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 13624 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 13625 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 13626 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 13627 % U+0237 LATIN SMALL LETTER DOTLESS J
 13628 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13629 % U+02C7 CARON; caron
 13630 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 13631 % U+02D8 BREVE; breve
 13632 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 13633 % U+02D9 DOT ABOVE; dotaccent
 13634 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 13635 % U+02DA RING ABOVE; ring
 13636 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 13637 % U+02DB OGONEK; ogonek
 13638 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 13639 % U+02DC SMALL TILDE; ilde, *tilde
 13640 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 13641 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 13642 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 13643 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 13644 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 13645 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 13646 % U+02F7 MODIFIER LETTER LOW TILDE
 13647 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13648 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 13649 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 13650 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 13651 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 13652 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 13653 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 13654 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 13655 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 13656 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinvertedddoublecmb
 13657 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

13658 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 13659 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 13660 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 13661 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 13662 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 13663 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 13664 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 13665 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 13666 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 13667 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 13668 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 13669 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 13670 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
 cronos

13671 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
13672 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonotonos
13673 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
13674 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
13675 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
13676 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
13677 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
13678 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
13679 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
13680 % U+0392 GREEK CAPITAL LETTER BETA; Beta
13681 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
13682 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
13683 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
13684 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
13685 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
13686 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
13687 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
13688 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
13689 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
13690 % U+0397 GREEK CAPITAL LETTER ETA; Eta
13691 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
13692 % U+0398 GREEK CAPITAL LETTER THETA; Theta
13693 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
13694 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
13695 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
13696 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
13697 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
13698 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
13699 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
13700 % U+039C GREEK CAPITAL LETTER MU; Mu
13701 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
13702 % U+039D GREEK CAPITAL LETTER NU; Nu
13703 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
13704 % U+039E GREEK CAPITAL LETTER XI; Xi
13705 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
13706 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
13707 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
13708 % U+03A0 GREEK CAPITAL LETTER PI; Pi
13709 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
13710 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
13711 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
13712 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
13713 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
13714 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
13715 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
13716 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
13717 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
13718 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
13719 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
13720 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
13721 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
13722 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
13723 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
13724 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
13725 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
13726 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis

13727 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
13728 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
13729 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silondieresis
13730 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
13731 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
13732 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
13733 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
13734 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
13735 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
13736 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
13737 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
13738 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
13739 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silondieresis
13740 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
13741 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
13742 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
13743 % U+03B2 GREEK SMALL LETTER BETA; beta
13744 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
13745 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
13746 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
13747 % U+03B4 GREEK SMALL LETTER DELTA; delta
13748 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
13749 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
13750 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
13751 % U+03B6 GREEK SMALL LETTER ZETA; zeta
13752 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
13753 % U+03B7 GREEK SMALL LETTER ETA; eta
13754 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
13755 % U+03B8 GREEK SMALL LETTER THETA; theta
13756 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
13757 % U+03B9 GREEK SMALL LETTER IOTA; iota
13758 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
13759 % U+03BA GREEK SMALL LETTER KAPPA; kappa
13760 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
13761 % U+03BB GREEK SMALL LETTER LAMDA; lambda
13762 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
13763 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
13764 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
13765 % U+03BD GREEK SMALL LETTER NU; nu
13766 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
13767 % U+03BE GREEK SMALL LETTER XI; xi
13768 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
13769 % U+03BF GREEK SMALL LETTER OMICRON; omicron
13770 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
13771 % U+03C0 GREEK SMALL LETTER PI; pi
13772 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
13773 % U+03C1 GREEK SMALL LETTER RHO; rho
13774 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
13775 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
13776 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
13777 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
13778 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
13779 % U+03C4 GREEK SMALL LETTER TAU; tau
13780 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
13781 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon

13782 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 13783 % U+03C6 GREEK SMALL LETTER PHI; phi
 13784 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 13785 % U+03C7 GREEK SMALL LETTER CHI; chi
 13786 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 13787 % U+03C8 GREEK SMALL LETTER PSI; psi
 13788 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 13789 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 13790 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 13791 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 13792 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 13793 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 13794 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 13795 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 13796 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 13797 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 13798 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 13799 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 13800 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 13801 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 13802 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 13803 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 13804 % U+03DB GREEK SMALL LETTER STIGMA
 13805 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 13806 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 13807 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 13808 % U+03DD GREEK SMALL LETTER DIGAMMA
 13809 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 13810 % U+03DE GREEK LETTER KOPPA; Koppagreek
 13811 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 13812 % U+03DF GREEK SMALL LETTER KOPPA
 13813 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 13814 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 13815 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 13816 % U+03E1 GREEK SMALL LETTER SAMPI
 13817 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

13818 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 13819 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 13820 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
 13821 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 13822 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
 13823 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 13824 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 13825 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 13826 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
 13827 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
 13828 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 13829 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 13830 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 13831 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrril-
 lic, *afii10055
 13832 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406

13833 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13834 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13835 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13836 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13837 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13838 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13839 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13840 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13841 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13842 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13843 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13844 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13845 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13846 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13847 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
13848 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13849 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13850 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13851 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
13852 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13853 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13854 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13855 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13856 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13857 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13858 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13859 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13860 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13861 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13862 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13863 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
13864 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
13865 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
13866 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
13867 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
13868 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
13869 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
13870 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
13871 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
13872 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
13873 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
13874 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
13875 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
13876 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
13877 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
13878 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
13879 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
13880 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
13881 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
13882 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
13883 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
13884 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
13885 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
13886 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
13887 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
13888 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
13889 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421

13890 % U+0422 CYRILLIC CAPITAL LETTER TE; Teyrillic, *afii10036
13891 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
13892 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
13893 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
13894 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
13895 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
13896 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
13897 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
13898 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
13899 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
13900 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
13901 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
13902 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
13903 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
13904 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
13905 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
13906 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
13907 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
13908 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
13909 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
13910 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
13911 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
13912 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
13913 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
13914 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
13915 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
13916 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
13917 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
13918 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
13919 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
13920 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
13921 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
13922 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
13923 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
13924 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
13925 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
13926 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
13927 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
13928 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
13929 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
13930 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
13931 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
13932 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
13933 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
13934 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
13935 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
13936 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
13937 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
13938 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
13939 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
13940 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
13941 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
13942 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
13943 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
13944 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
13945 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
13946 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D

13947 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
 13948 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
 13949 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
 13950 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
 13951 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
 13952 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
 13953 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
 13954 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
 13955 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
 13956 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
 13957 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
 13958 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
 13959 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
 13960 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
 13961 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
 13962 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
 13963 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
 13964 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
 13965 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
 13966 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
 13967 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
 13968 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
 13969 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
 13970 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
 13971 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
 13972 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A
 13973 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 13974 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
 13975 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 13976 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C
 13977 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 13978 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
 13979 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 13980 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
 13981 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 13982 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
 13983 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 13984 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
 13985 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 13986 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
 13987 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 13988 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 13989 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 13990 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 13991 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
 13992 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 13993 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 13994 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 13995 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 13996 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
 13997 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 13998 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 13999 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 14000 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
 14001 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 14002 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458

14003 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
14004 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
14005 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
14006 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
14007 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
14008 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
14009 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
14010 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
14011 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
14012 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
14013 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
14014 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
14015 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
14016 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
14017 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
14018 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
14019 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
14020 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
14021 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
14022 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
14023 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
14024 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
14025 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463
14026 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
14027 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
14028 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
14029 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
14030 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
14031 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
14032 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
14033 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
14034 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
tifiedcyrillic
14035 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
14036 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
fiedcyrillic
14037 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
14038 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
14039 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
14040 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
14041 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
14042 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
14043 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
14044 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
14045 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
14046 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
14047 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
14048 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
14049 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
14050 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
14051 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
14052 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
14053 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
14054 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
14055 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472

14056 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 14057 \DeclareTextCommand{\cyrfit}{PU}{\84\163}% U+0473
 14058 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 14059 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 14060 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 14061 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 14062 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 14063 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 14064 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 14065 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 14066 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 14067 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 14068 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 14069 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 14070 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 14071 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 14072 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 14073 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 14074 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 14075 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 14076 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 14077 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 14078 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 14079 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 14080 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 14081 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 14082 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 14083 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 14084 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 14085 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 14086 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 14087 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
 liccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
 cyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
 liccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 14088 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 14089 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 14090 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 14091 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 14092 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 14093 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 14094 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 14095 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 14096 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK

14097 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
14098 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
14099 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
14100 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, *afi10050
14101 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
14102 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afi10098, gheupturncyrillic
14103 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
14104 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic
14105 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
14106 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
14107 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
14108 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-dlehookcyrillic
14109 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
14110 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-dlehookcyrillic
14111 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
14112 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
14113 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
14114 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
14115 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
14116 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
14117 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
14118 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
14119 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
14120 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499
14121 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
14122 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
14123 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
14124 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
14125 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
14126 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
14127 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
14128 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic
14129 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
14130 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
14131 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
14132 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
14133 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
14134 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
14135 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
14136 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
14137 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
14138 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
14139 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2

14140 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-cyrillic
 14141 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 14142 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 14143 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 14144 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 14145 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 14146 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 14147 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 14148 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 14149 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 14150 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 14151 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 14152 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 14153 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 14154 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 14155 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 14156 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 14157 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 14158 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 14159 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 14160 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 14161 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 14162 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 14163 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
 14164 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 14165 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 14166 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 14167 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
 14168 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 14169 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 14170 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 14171 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 14172 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
 14173 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 14174 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 14175 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 14176 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 14177 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 14178 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 14179 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5
 14180 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 14181 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 14182 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic

14183 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
14184 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
verticalstrokecyrillic
14185 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
14186 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
verticalstrokecyrillic
14187 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
14188 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
14189 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
14190 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
14191 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
14192 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
14193 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
14194 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
lic
14195 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
14196 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
14197 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
14198 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
14199 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
14200 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
14201 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
14202 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
14203 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
14204 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
14205 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
14206 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
14207 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
14208 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
14209 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
14210 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
14211 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
14212 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
14213 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
14214 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
14215 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
14216 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
14217 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
14218 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
14219 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
14220 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
cyrillic
14221 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
14222 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
14223 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
14224 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
14225 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
14226 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
14227 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
14228 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
14229 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
14230 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic

14231 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
14232 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
lic
14233 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
14234 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
14235 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
14236 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
14237 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
14238 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
14239 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
14240 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic
14241 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
14242 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic
14243 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
14244 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
14245 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
14246 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
14247 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
14248 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrillic
14249 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
14250 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrillic
14251 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
14252 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrillic
14253 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
14254 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
cyrillic
14255 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
14256 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
cyrillic
14257 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
14258 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
14259 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
14260 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
cyrillic
14261 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
14262 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
14263 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
14264 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
14265 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
14266 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
14267 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
14268 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
14269 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
14270 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
14271 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
14272 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
lic
14273 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
14274 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
14275 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
14276 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
14277 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
14278 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
14279 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9

14280 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
 14281 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 14282 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
 14283 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 14284 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 14285 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 14286 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 14287 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 14288 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 14289 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE
 14290 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 14291 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 14292 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 14293 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 14294 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 14295 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 14296 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 14297 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2
 14298 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 14299 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3
 14300 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 14301 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 14302 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 14303 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 14304 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 14305 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 14306 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 14307 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 14308 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 14309 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 14310 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 14311 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% U+04F9
 \84\372: U+04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND HOOK
 \84\373: U+04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK
 14312 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 14313 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 14314 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 14315 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

14316 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 14317 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14318 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent

14319 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
14320 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
14321 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
14322 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
14323 \DeclareTextCompositeCommand{b}{PU}{B}{\9036\006}% U+1E06
14324 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
14325 \DeclareTextCompositeCommand{b}{PU}{b}{\9036\007}% U+1E07
14326 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
14327 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
14328 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
14329 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
14330 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
14331 \DeclareTextCompositeCommand{b}{PU}{D}{\9036\016}% U+1E0E
14332 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
14333 \DeclareTextCompositeCommand{b}{PU}{d}{\9036\017}% U+1E0F
14334 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
14335 \DeclareTextCompositeCommand{c}{PU}{D}{\9036\020}% U+1E10
14336 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
14337 \DeclareTextCompositeCommand{c}{PU}{d}{\9036\021}% U+1E11
14338 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
14339 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
14340 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
14341 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
14342 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
14343 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
14344 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
14345 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
14346 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
14347 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
14348 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
14349 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23
14350 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
14351 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
14352 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
14353 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
14354 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
14355 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
14356 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
14357 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
14358 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
14359 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
14360 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
14361 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
14362 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
14363 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
14364 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
14365 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
14366 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
14367 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
14368 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
14369 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
14370 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
14371 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
14372 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
14373 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
14374 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
14375 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40

14376 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
14377 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
14378 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
14379 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
14380 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
14381 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
14382 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
14383 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
14384 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
14385 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
14386 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
14387 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
14388 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
14389 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
14390 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
14391 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
14392 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
14393 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
14394 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
14395 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
14396 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
14397 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
14398 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
14399 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
14400 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
14401 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
14402 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
14403 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
14404 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
14405 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
14406 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
14407 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
14408 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
14409 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
14410 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
14411 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
14412 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
14413 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
14414 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
14415 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
14416 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
14417 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
14418 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
14419 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
14420 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
14421 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
14422 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
14423 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
14424 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
14425 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
14426 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
14427 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
14428 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
14429 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
14430 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
14431 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
14432 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent

14433 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
 14434 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
 14435 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
 14436 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 14437 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
 14438 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 14439 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
 14440 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 14441 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
 14442 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 14443 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
 14444 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 14445 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
 14446 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 14447 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 14448 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 14449 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 14450 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 14451 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 14452 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 14453 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
 14454 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 14455 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 14456 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 14457 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 14458 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 14459 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 14460 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 14461 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 14462 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 14463 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 14464 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 14465 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 14466 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 14467 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 14468 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 14469 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 14470 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 14471 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

14472 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
 14473 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 14474 % U+2013 EN DASH; endash
 14475 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 14476 % U+2014 EM DASH; emdash
 14477 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 14478 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 14479 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 14480 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14481 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 14482 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14483 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 14484 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14485 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 14486 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft

14487 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 14488 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14489 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 14490 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14491 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 14492 % U+2020 DAGGER; dagger
 14493 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 14494 % U+2021 DOUBLE DAGGER; daggerdbl
 14495 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 14496 % U+2022 BULLET; bullet
 14497 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 14498 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14499 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 14500 % U+2030 PER MILLE SIGN; perthousand
 14501 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 14502 % U+2031 PER TEN THOUSAND SIGN
 14503 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 14504 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14505 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 14506 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
 ingright
 14507 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 14508 % U+203B REFERENCE MARK; referencemark
 14509 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 14510 % U+203D INTERROBANG
 14511 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 14512 % U+2044 FRACTION SLASH; fraction
 14513 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 14514 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 14515 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 14516 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 14517 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 14518 % U+2052 COMMERCIAL MINUS SIGN
 14519 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

14520 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 14521 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 14522 % U+2074 SUPERSCRIPT FOUR; foursuperior
 14523 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 14524 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 14525 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 14526 % U+2076 SUPERSCRIPT SIX; sixsuperior
 14527 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 14528 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 14529 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 14530 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 14531 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 14532 % U+2079 SUPERSCRIPT NINE; ninesuperior
 14533 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 14534 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 14535 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 14536 % U+207B SUPERSCRIPT MINUS
 14537 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 14538 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 14539 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}

14540 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 14541 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 14542 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 14543 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 14544 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 14545 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 14546 % U+2080 SUBSCRIPT ZERO; zeroinferior
 14547 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 14548 % U+2081 SUBSCRIPT ONE; oneinferior
 14549 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 14550 % U+2082 SUBSCRIPT TWO; twoinferior
 14551 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 14552 % U+2083 SUBSCRIPT THREE; threeinferior
 14553 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 14554 % U+2084 SUBSCRIPT FOUR; fourinferior
 14555 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 14556 % U+2085 SUBSCRIPT FIVE; fiveinferior
 14557 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 14558 % U+2086 SUBSCRIPT SIX; sixinferior
 14559 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 14560 % U+2087 SUBSCRIPT SEVEN; seveninferior
 14561 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 14562 % U+2088 SUBSCRIPT EIGHT; eightinferior
 14563 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 14564 % U+2089 SUBSCRIPT NINE; nineinferior
 14565 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 14566 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 14567 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 14568 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 14569 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

14570 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 14571 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 14572 % U+20A4 LIRA SIGN; afii08941, *lira
 14573 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 14574 % U+20A6 NAIRA SIGN
 14575 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 14576 % U+20A7 PESETA SIGN; peseta
 14577 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 14578 % U+20A9 WON SIGN; won
 14579 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 14580 % U+20AB DONG SIGN; dong
 14581 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 14582 % U+20AC EURO SIGN; *Euro, euro
 14583 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 14584 % U+20B1 PESO SIGN
 14585 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 14586 % U+20B2 GUARANI SIGN
 14587 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

14588 % U+2103 DEGREE CELSIUS; centigrade
 14589 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 14590 % U+2116 NUMERO SIGN; *afii61352, numero
 14591 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 14592 % U+2117 SOUND RECORDING COPYRIGHT

14593 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 14594 % U+211E PRESCRIPTION TAKE; prescription
 14595 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 14596 % U+2120 SERVICE MARK
 14597 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 14598 % U+2122 TRADE MARK SIGN; trademark
 14599 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 14600 % U+2126 OHM SIGN; Ohm, Omega
 14601 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 14602 % U+2127 INVERTED OHM SIGN
 14603 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 14604 % U+212B ANGSTROM SIGN; angstrom
 14605 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 14606 % U+212E ESTIMATED SYMBOL; estimated
 14607 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 14608 % U+2135 ALEF SYMBOL; aleph
 14609 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

14610 % U+2190 LEFTWARDS ARROW; arrowleft
 14611 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 14612 % U+2191 UPWARDS ARROW; arrowup
 14613 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 14614 % U+2192 RIGHTWARDS ARROW; arrowright
 14615 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 14616 % U+2193 DOWNWARDS ARROW; arrowdown
 14617 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

14618 % U+2212 MINUS SIGN; minus
 14619 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 14620 % U+221A SQUARE ROOT; radical
 14621 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14622 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 14623 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 14624 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 14625 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

14626 % U+2422 BLANK SYMBOL
 14627 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 14628 % U+2423 OPEN BOX; blank
 14629 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14630 % U+2460 CIRCLED DIGIT ONE; onecircle
 14631 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 14632 % U+2461 CIRCLED DIGIT TWO; twocircle
 14633 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 14634 % U+2462 CIRCLED DIGIT THREE; threecircle
 14635 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 14636 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 14637 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 14638 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 14639 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464

14640 % U+2465 CIRCLED DIGIT SIX; sixcircle
 14641 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 14642 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
 14643 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 14644 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 14645 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 14646 % U+2468 CIRCLED DIGIT NINE; ninecircle
 14647 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 14648 % U+2469 CIRCLED NUMBER TEN; tencircle
 14649 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 14650 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 14651 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 14652 % U+246B CIRCLED NUMBER TWELVE; twelvencircle
 14653 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 14654 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 14655 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 14656 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 14657 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 14658 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 14659 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 14660 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 14661 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 14662 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 14663 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 14664 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 14665 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 14666 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 14667 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 14668 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 14669 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 14670 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 14671 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 14672 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 14673 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 14674 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 14675 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 14676 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 14677 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 14678 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 14679 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 14680 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 14681 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 14682 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 14683 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 14684 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 14685 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 14686 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 14687 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 14688 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 14689 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 14690 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 14691 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 14692 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 14693 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 14694 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 14695 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 14696 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle

14697 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
14698 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
14699 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
14700 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
14701 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
14702 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
14703 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
14704 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
14705 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
14706 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
14707 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
14708 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
14709 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
14710 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
14711 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
14712 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
14713 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
14714 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
14715 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
14716 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
14717 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
14718 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
14719 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
14720 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
14721 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
14722 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
14723 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
14724 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
14725 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
14726 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
14727 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
14728 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
14729 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
14730 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
14731 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
14732 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
14733 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
14734 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
14735 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
14736 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
14737 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
14738 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
14739 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
14740 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
14741 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
14742 % U+24DA CIRCLED LATIN SMALL LETTER K; kcicle
14743 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
14744 % U+24DB CIRCLED LATIN SMALL LETTER L; lcicle
14745 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
14746 % U+24DC CIRCLED LATIN SMALL LETTER M; mcicle
14747 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
14748 % U+24DD CIRCLED LATIN SMALL LETTER N; ncicle
14749 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
14750 % U+24DE CIRCLED LATIN SMALL LETTER O; ocicle
14751 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
14752 % U+24DF CIRCLED LATIN SMALL LETTER P; pcicle
14753 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF

14754 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 14755 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 14756 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 14757 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 14758 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 14759 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 14760 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 14761 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 14762 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 14763 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 14764 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 14765 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 14766 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 14767 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 14768 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 14769 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 14770 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 14771 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 14772 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 14773 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 14774 % U+24EA CIRCLED DIGIT ZERO
 14775 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

14776 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 14777 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 14778 % U+25EF LARGE CIRCLE; largecircle
 14779 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14780 % U+266A EIGHTH NOTE; musicalnote
 14781 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 14782 % U+26AD MARRIAGE SYMBOL
 14783 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 14784 % U+26AE DIVORCE SYMBOL
 14785 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14786 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 14787 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 14788 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 14789 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

14790 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14791 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 14792 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14793 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

14794 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

14795 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
 14796 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}

```

14797 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14798 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14799 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14800 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14801 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14802 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

14803 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14804 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14805 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14806 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14807 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

14808 </puenc>

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50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14809 <*puvnenc>

14810 \DeclareTextCommand{\abreve}{PU}{\81\003}
14811 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14812 \DeclareTextCommand{\dj}{PU}{\81\021}
14813 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14814 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14815 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14816 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14817 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14818 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14819 \DeclareTextCommand{\DJ}{PU}{\81\020}
14820 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14821 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14822 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14823 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14824 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14825 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14826 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14827 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14828 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14829 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14830 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14831 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14832 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14833 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14834 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14835 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
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14838 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
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14842 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14843 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14844 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14845 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14846 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}

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14847 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14848 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14849 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14850 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14851 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14852 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14853 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
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14855 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14856 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
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14858 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14859 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
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14863 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
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14874 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
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14887 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
14888 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
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14890 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
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14918 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14919 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14920 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
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14942 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14943 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14944 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

14945 <*puarenc>
14946 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
14947 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
14948 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
14949 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
14950 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW

```

14951 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE

14952 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

14953 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

14954 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

14955 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

14956 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LET-
TER THEH

14957 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LET-
TER JEEM

14958 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

14959 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

14960 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

14961 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

14962 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

14963 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

14964 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

14965 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-
TER SHEEN

14966 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD

14967 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD

14968 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

14969 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

14970 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

14971 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LET-
TER GHAIN

14972 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL

14973 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH

14974 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

14975 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF

14976 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM

14977 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LET-
TER MEEM

14978 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

14979 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH

14980 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW

14981 \DeclareTextCommand{\alefmaqsurah}{PU}{\86\111}% 0649;afii57449;ARABIC LET-
TER ALEF MAKSURA

14982 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14983 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN

14984 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

14985 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN

14986 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

14987 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

14988 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA

14989 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

14990 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14991 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH

14992 \DeclareTextCommand{\tchah}{PU}{\86\206}% 0686;afii57507;ARABIC LET-
TER TCHEH

14993 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH

14994 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LET-
TER KAF

14995 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF

14996 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LET-
TER YEH

```
14997 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14998 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
14999 \puarenc
```

51 End of file hyccheck.tex

```
15000 \*check
15001 \typeout{}
15002 \begin{document}
15003 \end{document}
15004 \check
```


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12055, 12317, 12441

\za 14969

\zay 14963

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