

# Hypertext marks in L<sup>A</sup>T<sub>E</sub>X

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## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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


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

**Options** This file provides a short option summary.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X”

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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  $\text{\LaTeX}$  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  $\text{\LaTeX}$ 's definitions is parsed.

```

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

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

216 \x\)%
217 \x\[%
218 \x\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<sup>A</sup>T<sub>E</sub>X, 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<sup>A</sup>T<sub>E</sub>X 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 `\hypercaltcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercaltcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercaltcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercaltcbpdef`. Limitations:
  - Works only in options that use `\hypercaltcbpdef` (currently only `pdfstartview`).
  - For calculations package `calc` has to be loaded.
  - The expansion of the argument is done at definition time.

Example (T<sub>E</sub>X):

```

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

\hypercaltcbp
340 \begingroup\expandafter\expandafter\expandafter\endgroup
341 \expandafter\ifx\csname dimexpr\endcsname\relax
342   \def\hypercaltcbpdef#1#2{%
343     \begingroup
344       \toks@{}%
345       \HyCal@scan#2\hypercaltcbp\@nil
346       \expandafter\endgroup
347       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
348   }%
349   \def\HyCal@scan#1\hypercaltcbp#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\hypercaltcbp\space needs\MessageBreak
362       package calc or e-TeX%
363     }%
364   }%
365   \setlength{\dimen@}{#1}%
366   \setlength{\dimen@}{0.99626401\dimen@}%
367   \edef\x{%
368     \toks@{%
369       \the\toks@
370       \strip@pt\dimen@
371     }%
372   }\x
373   \HyCal@scan#2\@nil

```

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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



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

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

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

```
382 \begingroup
```

### 6.2.1 Preprocessing

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

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

The escape sequences start with a backslash. By \string it will be printed. Therefore it is ensured that the T<sub>E</sub>X escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard L<sup>A</sup>T<sub>E</sub>X behaviour.

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

From the view of T<sub>E</sub>X 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\sffamily\@empty
437 \let\ttfamily\@empty
438 \let\bfseries\@empty
439 \let\mdseries\@empty
440 \let\itshape\@empty
441 \let\scshape\@empty
442 \let\slshape\@empty
443 \let\upshape\@empty
444 \let\em\@empty
445 \let\rm\@empty
446 \let\Huge\@empty
447 \let\LARGE\@empty
448 \let\Large\@empty
449 \let\footnotesize\@empty
450 \let\huge\@empty
451 \let\large\@empty
452 \let\normalsize\@empty
453 \let\scriptsize\@empty
454 \let\small\@empty
455 \let\tiny\@empty
456 \let\mathversion\@gobble
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@BabelPatch

```

```

469 \let\@safe@activetrue\relax
470 \let\@safe@activesfalse\relax

  Disable \cyr, used in russianb.ldf.
471 \let\cyr\relax

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

```

**Package german.**

```

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

481 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

482 \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.

```

483 \let\hspace\HyPsd@hspace

```

**Commands of referencing and indexing systems.** Some L<sup>A</sup>T<sub>E</sub>X commands that are legal in \section commands have to be disabled here.

```

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

```

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

```

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

```

### Miscellaneous commands.

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

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

```
495 \def\halign{\pdfstringdefWarn\halign\@gobble}%
496 \let\ignorespaces\HyPsd@ignorespaces
497 \let\Hy@SectionAnchor\@empty
```

### Patch for cjk bookmarks.

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

```
501 \Hy@pdfstringtrue
502 \pdfstringdefPreHook
```

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

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

### Package xspace.

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

**Redefinitions of miscellaneous commands.** Hyphenation does not make sense.

```
515 \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:

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

Support for package ‘xargs’:

```
520 \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).

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

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

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

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

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

### 6.2.3 Postprocessing

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

```
538 \ifx#1\@empty
539 \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.

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

```

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

```

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

```
556 \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.

```

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



```

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

```

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

```

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

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

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

```
596 \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.

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

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

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

**Try conversion back to PDFDocEncoding.**

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

```

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

```

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

```

642 \pdfstringdefPostHook#1%
643 \endgroup
644 }

```

`\Hy@pdfstringdef`

```

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

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

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

```

```

667 \ifHyPsd@XeTeXBigChars
668 \EdefEscapeHex\HyPsd@UnescapedString{%
669 \expandafter\@gobbletwo\HyPsd@UnescapedString
670 }%
671 \begingroup
672 \toks@{}%
673 \lccode'0='0\relax
674 \lccode'1='1\relax
675 \lccode'2='2\relax
676 \lccode'3='3\relax
677 \lccode'4='4\relax
678 \lccode'5='5\relax
679 \lccode'6='6\relax
680 \lccode'7='7\relax
681 \lccode'8='8\relax
682 \lccode'9='9\relax
683 \lccode'A='a\relax
684 \lccode'B='b\relax
685 \lccode'C='c\relax
686 \lccode'D='d\relax
687 \lccode'E='e\relax
688 \lccode'F='f\relax
689 \escapechar=92\relax
690 \let\x\HyPsd@ToBigChar
691 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
692 \relax\relax\relax\relax\relax\relax\relax
693 \edef\x{%
694 \endgroup
695 \gdef\noexpand#1{\the\toks@}%
696 }%
697 \x
698 \fi
699 }%
700 \def\HyPsd@ToBigChar#1#2#3#4{%
701 \ifx\relax#1\relax
702 \let\x\relax
703 \else
704 \count@="#1#2#3#4\relax
705 \let\y\@empty
706 \lccode\z@=\count@
707 \ifnum\count@=40 % (
708 \let\y\@backslashchar
709 \else
710 \ifnum\count@=41 % )
711 \let\y\@backslashchar
712 \else
713 \ifnum\count@=92 % backslash
714 \let\y\@backslashchar
715 \else
716 \ifnum\count@=10 % newline
717 \edef\y##1{\string\n}%
718 \else
719 \ifnum\count@=13 % carriage return
720 \edef\y##1{\string\r}%
721 \fi
722 \fi
723 \fi

```

```

724     \fi
725     \fi
726     \lowercase{%
727     \toks@\expandafter{%
728     \the\expandafter\toks@
729     \y
730     ^^@%
731     }%
732     }%
733     \fi
734     \x
735     }%
736 }
737 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

738 \@ifpackageloaded{linguex}{%
739 \let\HyLinguex@OrgB\b
740 \let\HyLinguex@OrgC\c
741 \let\HyLinguex@OrgD\d
742 \def\HyLinguex@Restore{%
743 \let\b\HyLinguex@OrgB
744 \let\c\HyLinguex@OrgC
745 \let\d\HyLinguex@OrgD
746 }%
747 \AtEndOfPackage{%
748 \pdfstringdefDisableCommands{%
749 \@ifundefined{oldb}{-}{\let\b\oldb}%
750 \@ifundefined{oldc}{-}{\let\c\oldc}%
751 \@ifundefined{oldd}{-}{\let\d\oldd}%
752 }%
753 }%
754 }{%
755 \let\HyLinguex@Restore\relax
756 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>E</sub>X'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<sub>E</sub>X does not process it anyway. So use CM.

```

757 \@ifundefined{T@PD1}{%
758 \input{pd1enc.def}%
759 \HyLinguex@Restore
760 }{}
761 \DeclareFontFamily{PD1}{pdf}{}
762 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
763 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X'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`.

```

764 \def\HyPsd@InitUnicode{%
765   \ifundefined{T@PU}{%
766     \input{puenc.def}%
767     \HyLinguex@Restore
768   }{}%
769   \DeclareFontFamily{PU}{pdf}{}%
770   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
771   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
772   \let\HyPsd@InitUnicode\relax
773 }
```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

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

```

774 \def\texorpdfstring{%
775   \ifHy@pdfstring
776     \expandafter\@secondoftwo
777   \else
778     \expandafter\@firstoftwo
779   \fi
780 }
```

### 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`.

```

781 \@ifundefined{pdfstringdefPreHook}{%
782   \let\pdfstringdefPreHook\@empty
783 }{}
784 \@ifundefined{pdfstringdefPostHook}{%
785   \let\pdfstringdefPostHook\@gobble
786 }{}
```

`\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  $\TeX$  commands like `\@gobble` or `\@firstofone`.

```
787 \def\pdfstringdefDisableCommands{%
788   \begingroup
789   \makeatletter
790   \HyPsd@DisableCommands
791 }
```

`\HyPsd@DisableCommands`

```
792 \long\def\HyPsd@DisableCommands#1{%
793   \toks0=\expandafter{\pdfstringdefPreHook}%
794   \toks1={#1}%
795   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
796   \endgroup
797 }
```

`\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`.

```
798 \def\pdfstringdefWarn#1{%
799   \expandafter\noexpand\csname<>-string#1\endcsname
800 }
```

## 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.

```
801 \begingroup
802 \catcode0=12 %
803 \def\x{\endgroup
804   \def\HyPsd@ignorespaces{%
805     \romannumeral\expandafter'\expandafter^^@%
806     \romannumeral'^^@%
807   }%
808 }%
809 \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`.

```

810 \def\HyPsd@BabelPatch{%
811   \let\HyOrg@languageshorthands\languageshorthands
812   \let\languageshorthands\HyPsd@LanguageShorthands
813 }
814 \RequirePackage{pdfcmds}[2009/04/10]
815 \begingroup\expandafter\expandafter\expandafter\endgroup
816 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
817   \let\HyPsd@langshort@system@empty
818   \def\HyPsd@LanguageShorthands#1{%
819     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
820       \HyPsd@langshort@system
821     \expandafter\@gobble
822   \else
823     \expandafter\@firstofone
824   \fi
825   {%
826     \HyOrg@languageshorthands{#1}%
827   }%
828 }%
829 \else
830   \def\HyPsd@LanguageShorthands#1{%
831     \ifnum\pdf@strcmp{#1}{system}=\z@
832       \expandafter\@gobble
833     \else
834       \expandafter\@firstofone
835     \fi
836     {%
837       \HyOrg@languageshorthands{#1}%
838     }%
839   }%
840 \fi
841 \def\Hy@temp{%
842   \@ifpackageloaded{babel}{%
843     \@ifpackagelater{babel}{2008/03/16}{%
844       \let\Hy@temp@empty
845     }{%
846       \def\HyPsd@BabelPatch{%
847         \let\HyOrg@languageshorthands\languageshorthands
848       }%
849     }%
850   }{}%
851 }
852 \Hy@temp
853 \expandafter\AtBeginDocument\expandafter{\Hy@temp}
854 \newif\ifHy@next

```

Nothing to do for english.

```

855 \@ifundefined{danish@sh@"@sel}{%
856   \def\HyPsd@babel@danish{%
857     \declare@shorthand{danish}{"}{}%
858     \declare@shorthand{danish}{"}~}{-}%
859   }%
860 }

```



```

861 \@ifundefined{dutch@sh@"@sel}{-}{-}%
862 \def\HyPsd@babel@dutch{%
863   \declare@shorthand{dutch}{-}{-}%
864   \declare@shorthand{dutch}{-}{-}%
865 }%
866 }
867 \@ifundefined{finnish@sh@"@sel}{-}{-}%
868 \def\HyPsd@babel@finnish{%
869   \declare@shorthand{finnish}{-}{-}%
870 }%
871 }
872 \@ifundefined{french@sh@"@sel}{-}{-}%
873 \def\HyPsd@babel@frenchb{%
874   \def\guill@spacing{ }%
875 }%
876 }
877 \@ifundefined{german@sh@"@sel}{-}{-}%
878 \def\HyPsd@babel@german{%
879   \declare@shorthand{german}{f}{f}%
880   \declare@shorthand{german}{-}{-}%
881   \declare@shorthand{german}{-}{-}%
882 }%
883 }
884 \@ifundefined{macedonian@sh@"@sel}{-}{-}%
885 \def\HyPsd@babel@macedonian{%
886   \declare@shorthand{macedonian}{-}{-}%
887   \declare@shorthand{macedonian}{-}{-}%
888 }%
889 }{}
890 \@ifundefined{ngerman@sh@"@sel}{-}{-}%
891 \def\HyPsd@babel@ngerman{%
892   \declare@shorthand{ngerman}{-}{-}%
893   \declare@shorthand{ngerman}{-}{-}%
894 }%
895 }
896 \@ifundefined{portuges@sh@"@sel}{-}{-}%
897 \def\HyPsd@babel@portuges{%
898   \declare@shorthand{portuges}{-}{-}%
899 }%
900 }
901 \@ifundefined{russian@sh@"@sel}{-}{-}%
902 \def\HyPsd@babel@russian{%
903   \declare@shorthand{russian}{-}{-}%
904   \declare@shorthand{russian}{-}{-}%
905 }%
906 }
907 \@ifundefined{slovene@sh@"@sel}{-}{-}%
908 \def\HyPsd@babel@slovene{%
909   \declare@shorthand{slovene}{-}{-}%
910 }%
911 }

```

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

```

912 \@ifundefined{spanish@sh>@sel}{-}{-}%
913 \def\HyPsd@babel@spanish{%
914   \declare@shorthand{spanish}{<<}{\guillemotleft}%
915   \declare@shorthand{spanish}{>>}{\guillemotright}%
916   \declare@shorthand{spanish}{=}{-}%

```

```

917 \declare@shorthand{spanish}{~}{-}%
918 \declare@shorthand{spanish}{!}{\textexclamdown}%
919 \declare@shorthand{spanish}{?}{\textquestiondown}%
920 }%
921 }
922 \ifundefined{swedish@sh@"@sel}{-}{%
923 \def\HyPsd@babel@swedish{%
924 \declare@shorthand{swedish}{"}{|}%
925 \declare@shorthand{swedish}{~}{-}%
926 }%
927 }
928 \ifundefined{ukrainian@sh@"@sel}{-}{%
929 \def\HyPsd@babel@ukrainian{%
930 \declare@shorthand{ukrainian}{"}{|}%
931 \declare@shorthand{ukrainian}{~}{-}%
932 }%
933 }
934 \ifundefined{usorbian@sh@"@sel}{-}{%
935 \def\HyPsd@babel@usorbian{%
936 \declare@shorthand{usorbian}{f}{f}%
937 \declare@shorthand{usorbian}{"}{|}%
938 }%
939 }
940 \ifundefined{greek@sh@\string~@sel}{-}{%
941 \let\HyPsd@GreekPatch\@empty
942 }{%
943 \def\HyPsd@GreekPatch{%
944 \let\greeknumeral\HyPsd@greeknumeral
945 \let\Greeknumeral\HyPsd@Greeknumeral
946 }%
947 }
948 \def\HyPsd@greeknumeral#1{%
949 \HyPsd@GreekNum\@firstoftwo{#1}%
950 }
951 \def\HyPsd@Greeknumeral#1{%
952 \HyPsd@GreekNum\@secondoftwo{#1}%
953 }
954 \def\HyPsd@GreekNum#1#2{%
955 \ifHy@unicode
956 \ifnum#2<\@ne
957 \@arabic{#2}%
958 \else
959 \ifnum#2<1000000 %
960 \HyPsd@@GreekNum#1{#2}%
961 \else
962 \@arabic{#2}%
963 \fi
964 \fi
965 \else
966 \@arabic{#2}%
967 \fi
968 }
969 \def\HyPsd@@GreekNum#1#2{%
970 \ifnum#2<\@m
971 \ifnum#2<10 %
972 \expandafter\HyPsd@GreekNumI
973 \expandafter\@gobble\expandafter#1\number#2%

```

```

974 \else
975 \ifnum#2<100 %
976 \expandafter\HyPsd@GreekNumII
977 \expandafter\@gobble\expandafter#1\number#2%
978 \else
979 \expandafter\HyPsd@GreekNumIII
980 \expandafter\@gobble\expandafter#1\number#2%
981 \fi
982 \fi
983 \ifnum#2>\z@
984 \textnumeralsigngreek
985 \fi
986 \else
987 \ifnum#2<\@M
988 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
989 \else
990 \ifnum#2<100000 %
991 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
992 \else
993 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
994 \fi
995 \fi
996 \fi
997 }
998 \def\HyPsd@GreekNumI#1#2#3{%
999 #1{%
1000 \ifnum#3>\z@
1001 \textnumeralsignlowergreek
1002 \fi
1003 }%
1004 \expandafter#2%
1005 \ifcase#3 %
1006 {}{}%
1007 \or\textalpha\textAlpha
1008 \or\textbeta\textBeta
1009 \or\textgamma\textGamma
1010 \or\textdelta\textDelta
1011 \or\textepsilon\textEpsilon
1012 \or\textstigmagreek\textStigmagreek
1013 \or\textzeta\textZeta
1014 \or\texteta\textEta
1015 \or\texttheta\textTheta
1016 \else
1017 {}{}%
1018 \fi
1019 }
1020 \def\HyPsd@GreekNumII#1#2#3#4{%
1021 #1{%
1022 \ifnum#3>\z@
1023 \textnumeralsignlowergreek
1024 \fi
1025 }%
1026 \expandafter#2%
1027 \ifcase#3 %
1028 {}{}%
1029 \or\textiota\textIota
1030 \or\textkappa\textKappa

```

```

1031 \or\textlambda\textLambda
1032 \or\textmu\textMu
1033 \or\textnu\textNu
1034 \or\textxi\textXi
1035 \or\textomicron\textOmicron
1036 \or\textpi\textPi
1037 \or\textkoppagreek\textKoppagreek
1038 \else
1039   {}{}%
1040 \fi
1041 \HyPsd@GreekNumI#1#2#4%
1042 }
1043 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1044   #1{%
1045     \ifnum#3>\z@
1046       \textnumeralsignlowergreek
1047     \fi
1048   }%
1049   \expandafter#2%
1050   \ifcase#3 %
1051     {}{}%
1052   \or\extrho\textRho
1053   \or\textsigma\textSigma
1054   \or\texttau\textTau
1055   \or\textupsilon\textUpsilon
1056   \or\textphi\textPhi
1057   \or\textchi\textChi
1058   \or\textpsi\textPsi
1059   \or\textomega\textOmega
1060   \or\textsampigreek\textSampigreek
1061   \else
1062     {}{}%
1063   \fi
1064   \HyPsd@GreekNumII#1#2#4#5%
1065 }
1066 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1067   \HyPsd@GreekNumI\@firstofone#1#2%
1068   \HyPsd@@GreekNum#1{#3#4#5}%
1069 }
1070 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1071   \HyPsd@GreekNumII\@firstofone#1#2#3%
1072   \HyPsd@@GreekNum#1{#4#5#6}%
1073 }
1074 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1075   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1076   \HyPsd@@GreekNum#1{#5#6#7}%
1077 }

```

### 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 ( $\geq 0x40$ ).

```

1078 \begingroup
1079 \catcode"7F=\active
1080 \toks@{%
1081 \let\CJK@ignorespaces\empty
1082 \def\CJK@char#1{\@gobbletwo}%
1083 \let\CJK@charx\@gobblefour
1084 \let\CJK@punctchar\@gobblefour
1085 \def\CJK@punctcharx#1{\@gobblefour}%
1086 \catcode"7F=\active
1087 \def^^7f#1^^7f#2^^7f{%
1088 \string #1\HyPsd@DecimalToOctal{#2}%
1089 }%
1090 % ... ?
1091 \ifHy@unicode
1092 \def\Hy@cjkpu{\80}%
1093 \else
1094 \let\Hy@cjkpu\@empty
1095 \fi
1096 \HyPsd@CJKActiveChars
1097 }%
1098 \count@=127 %
1099 \@whilenum\count@<255 \do{%
1100 \advance\count@ by 1 %
1101 \lccode'\~=\count@
1102 \lowercase{%
1103 \toks@\expandafter{\the\toks@ ~}%
1104 }%
1105 }%
1106 \toks@\expandafter{\the\toks@ !}%
1107 \xdef\HyPsd@CJKhook{\the\toks@}%
1108 \endgroup

```

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

```

1109 \def\HyPsd@CJKActiveChars#1{%
1110 \ifx#1!%
1111 \let\HyPsd@CJKActiveChars\relax
1112 \else
1113 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1114 \fi
1115 \HyPsd@CJKActiveChars
1116 }

```

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

```

1117 \def\HyPsd@DecimalToOctal#1{%
1118 \ifcase #1 %
1119 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1120 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1121 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1122 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1123 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1124 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1125 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1126 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1127 \or @\or A\or B\or C\or D\or E\or F\or G%

```

```

1128 \or H\or I\or J\or K\or L\or M\or N\or O%
1129 \or P\or Q\or R\or S\or T\or U\or V\or W%
1130 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1131 \or \140\or a\or b\or c\or d\or e\or f\or g%
1132 \or h\or i\or j\or k\or l\or m\or n\or o%
1133 \or p\or q\or r\or s\or t\or u\or v\or w%
1134 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1135 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1136 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1137 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1138 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1139 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1140 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1141 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1142 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1143 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1144 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1145 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1146 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1147 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1148 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1149 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1150 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1151 \fi
1152 }

```

#### 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  $\text{\LaTeX}$  2<sub>ε</sub> 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 ( $\text{\LaTeX}$  2<sub>ε</sub> 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\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typesetprotect
    \@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}

1153 \def\HyPsd@inmathwarn#1#2{%
1154   \ifx#2\expandafter
1155     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1156       \HyPsd@GLYPHERR
1157       \expandafter\@gobble\string#1%
1158       >%
1159       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1160     \else
1161       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1162     \fi
1163   \else
1164     \expandafter#2%
1165   \fi
1166 }
1167 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1168 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1169 \def\HyPsd@add@accent#1#2{%
1170   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1171   #2%
1172 }%

```

### 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.

```

1173 \def\HyPsd@LetUnexpandableSpace#1{%
1174   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1175 }

```

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

```

1176 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.6 Marker for commands

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

```
1177 \edef\HyPsd@XSPACE{\string#\string X}
1178 \edef\HyPsd@ITALCORR{\string#\string I}
1179 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.7 `\hspace fix`

`\HyPsd@hspace`

```
1180 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1181 \def\HyPsd@@hspace#1*#2\END{%
1182   \ifx\#2\%
1183     \HyPsd@hspacetest{#1}%
1184   \else
1185     \expandafter\HyPsd@hspacetest
1186   \fi
1187 }
```

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

```
1188 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.8 Fix for AMS classes

```
1189 \@ifundefined{tocsection}{%
1190   \let\HyPsd@AMSclassfix\relax
1191 }{%
1192   \def\HyPsd@AMSclassfix{%
1193     \let\tocpart\HyPsd@tocsection
1194     \let\tocchapter\HyPsd@tocsection
1195     \let\tocappendix\HyPsd@tocsection
1196     \let\tocsection\HyPsd@tocsection
1197     \let\tocsubsection\HyPsd@tocsection
1198     \let\tocsubsubsection\HyPsd@tocsection
1199     \let\tocparagraph\HyPsd@tocsection
1200   }%
1201   \def\HyPsd@tocsection#1#2#3{%
1202     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1203     #3%
1204   }%
1205 }
```

### 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.

```
1206 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1207 \def\HyPsd@@ref#1*#2\END{%
```



```

1208 \ifx\\#2\\%
1209 \HyPsd@@@ref{#1}%
1210 \else
1211 \expandafter\HyPsd@@@ref
1212 \fi
1213 }%

```

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

```

1214 \def\HyPsd@@@ref#1{%
1215 \expandafter\ifx\csname r@#1\endcsname\relax
1216 ??%
1217 \else
1218 \expandafter\expandafter\expandafter
1219 \@car\csname r@#1\endcsname\@nil
1220 \fi
1221 }

```

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

```

1222 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1223 \def\HyPsd@@pageref#1*#2\END{%
1224 \ifx\\#2\\%
1225 \HyPsd@@@pageref{#1}%
1226 \else
1227 \expandafter\HyPsd@@@pageref
1228 \fi
1229 }

```

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

```

1230 \def\HyPsd@@@pageref#1{%
1231 \expandafter\ifx\csname r@#1\endcsname\relax
1232 ??%
1233 \else
1234 \expandafter\expandafter\expandafter\expandafter
1235 \expandafter\expandafter\expandafter\@car
1236 \expandafter\expandafter\expandafter\@gobble
1237 \csname r@#1\endcsname{}\@nil
1238 \fi
1239 }

```

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

```

1240 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1241 \def\HyPsd@@nameref#1*#2\END{%
1242 \ifx\\#2\\%
1243 \HyPsd@@@nameref{#1}%
1244 \else
1245 \expandafter\HyPsd@@@nameref
1246 \fi
1247 }

```

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

```

1248 \def\HyPsd@@@nameref#1{%
1249   \expandafter\ifx\csname r@#1\endcsname\relax
1250     ??%
1251   \else
1252     \expandafter\expandafter\expandafter\expandafter
1253     \expandafter\expandafter\expandafter\@car
1254     \expandafter\expandafter\expandafter\@gobbletwo
1255     \csname r@#1\endcsname\}\}\@nil
1256   \fi
1257 }
```

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

```

1258 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1259 \def\HyPsd@@autoref#1*#2\END{%
1260   \ifx\#2\%
1261     \HyPsd@@@autoref{#1}%
1262   \else
1263     \expandafter\HyPsd@@@autoref
1264   \fi
1265 }
```

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

```

1266 \def\HyPsd@@@autoref#1{%
1267   \expandafter\ifx\csname r@#1\endcsname\relax
1268     ??%
1269   \else
1270     \expandafter\expandafter\expandafter\HyPsd@autorefname
1271     \csname r@#1\endcsname\}\}\}\@nil
1272     \expandafter\expandafter\expandafter
1273     \@car\csname r@#1\endcsname\@nil
1274   \fi
1275 }
```

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

```

1276 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1277   \ifx\#4\%
1278   \else
1279     \HyPsd@@autorefname#4.\@nil
1280   \fi
1281 }
```

`\HyPsd@@autorefname`

```

1282 \def\HyPsd@@autorefname#1.#2\@nil{%
1283   \@ifundefined{#1autorefname}{%
1284     \@ifundefined{#1name}{%
1285       }{%
1286         \csname#1name\endcsname\space
1287       }%
1288     }{%
1289       \csname#1autorefname\endcsname\space
1290     }%
1291 }
```

## 6.5.10 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1292 \begingroup
1293 \def\x#1#2{%
1294   \endgroup
1295   \let#1\def
1296   \def\HyPsd@DefCommand##1##2###{%
1297     #1%
1298     \expandafter\noexpand
1299     \csname\expandafter\@gobble\string##1\@empty\endcsname
1300     \@gobble
1301   }%
1302   \let#2\let
1303   \def\HyPsd@LetCommand##1{%
1304     \expandafter\ifx\csname##1\expandafter\endcsname
1305       \csname iftrue\endcsname
1306     \pdfstringdefWarn\let
1307     \expandafter\@gobble
1308   \else
1309     \expandafter\ifx\csname##1\expandafter\endcsname
1310       \csname iffalse\endcsname
1311     \pdfstringdefWarn\let
1312     \expandafter\expandafter\expandafter\@gobble
1313   \else
1314     #2%
1315     \expandafter\noexpand
1316     \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1317     \fi
1318     \fi
1319   }%
1320 }%
1321 \expandafter\x\csname <def>-command\expandafter\endcsname
1322     \csname <let>-command\endcsname
1323 \def\HyPsd@LetCommand#1{%
1324   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1325     \expandafter\expandafter\expandafter{%
1326     \expandafter\@gobble\string#1\@empty
1327   }%
1328 }

```

### 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).

```

1329 \def\HyPsd@ifnextchar#1{%
1330   \pdfstringdefWarn#1%
1331   \expandafter\@gobbletwo\@gobble
1332 }

```

### 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`.

```

1333 \def\HyPsd@protected@testopt#1{%
1334   \pdfstringdefWarn#1%
1335   \@gobbletwo
1336 }

```

## 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:

```

1337 \def\HyPsd@Warning#1{%
1338   \begingroup
1339     \def\space{ }%
1340     \Hy@Warning{#1}%
1341   \endgroup
1342 }

```

## 6.6.2 Protecting spaces

```

1343 \RequirePackage{etexcmds}[2007/09/09]
1344 \ifetex@unexpanded
1345   \expandafter\@secondoftwo
1346 \else
1347   \expandafter\@firstoftwo
1348 \fi
1349 {%

```

`\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`.

```

1350   \def\HyPsd@ProtectSpaces#1{%
1351     \iftrue
1352       \expandafter\HyPsd@@ProtectSpacesFi
1353       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1354     \fi
1355   }%

```

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

```

1356   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1357     \fi
1358     \ifx\scrollmode#2\scrollmode
1359       \HyPsd@RemoveMask#1\HyPsd@End#3%
1360     \else
1361       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1362       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1363     \fi
1364   }%

```

### 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.

```

1365   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1366     \toks@{\expandafter{#1}}%
1367     \xdef#2{\the\toks@}%
1368   }%

1369 }{%
1370   \let\HyPsd@fi\fi
1371   \def\HyPsd@ProtectSpaces#1{%
1372     \xdef#1{%
1373       \iftrue
1374         \expandafter\HyPsd@@ProtectSpacesFi
1375         \expandafter|\expandafter\@empty#1| %
1376       \HyPsd@fi
1377     }%
1378     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1379   }%
1380   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1381     \fi
1382     \etex@unexpanded{#1}%
1383     \ifx\scrollmode#2\scrollmode
1384     \else
1385       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1386 \HyPsd@fi
1387 }%
1388 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1389 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1390 }%
1391 }

```

### 6.6.3 Remove grouping braces

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

```

1392 \def\HyPsd@RemoveBraces#1{%
1393 \ifx\scrollmode#1\scrollmode
1394 \else
1395 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1396 \fi
1397 }

```

`\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`.

```

1398 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1399 \fi
1400 \def\Hy@temp@A{#1#2}%
1401 \def\Hy@temp@B{#3}%
1402 \ifx\Hy@temp@A\Hy@temp@B
1403 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1404 \HyPsd@String#1%
1405 }%
1406 \ifx\scrollmode#2\scrollmode
1407 \else
1408 \Hy@ReturnAfterFiFiEnd{%
1409 \HyPsd@RemoveBraces{#2}%
1410 }%
1411 \fi
1412 \else
1413 \def\Hy@temp@A{#1}%
1414 \HyPsd@AppendItalcrr\HyPsd@String
1415 \ifx\Hy@temp@A\@empty
1416 \Hy@ReturnAfterElseFiFiEnd{%
1417 \HyPsd@RemoveBraces{#2}%
1418 }%
1419 \else
1420 \HyPsd@ProtectSpaces\Hy@temp@A
1421 \HyPsd@AppendItalcrr\Hy@temp@A
1422 \Hy@ReturnAfterFiFiEnd{%
1423 \expandafter\HyPsd@RemoveBraces\expandafter
1424 {\Hy@temp@A#2}%
1425 }%
1426 \fi
1427 \fi

```

```

1428 \Hy@ReturnEnd
1429 }

```

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

```

1430 \def\HyPsd@AppendItalcrr#1{%
1431   \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1}%
1432 }
1433 \def\HyPsd@@AppendItalcrr#1#2{%
1434   \expandafter\def\expandafter#2\expandafter{#2#1}%
1435 }

```

#### 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).

```

1436 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1437   \global\let\HyPsd@Rest\relax
1438   \ifcat\relax\noexpand#1\relax
1439     \ifx#1\protect
1440       \else
1441         \ifx#1\penalty
1442           \setbox\z@=\hbox{%
1443             \afterassignment\HyPsd@AfterCountRemove
1444             \count@=#2\HyPsd@End
1445           }%
1446         \else
1447           \ifx#1\kern
1448             \setbox\z@=\hbox{%
1449               \afterassignment\HyPsd@AfterDimenRemove
1450               \dimen@=#2\HyPsd@End
1451             }%
1452           \else
1453             \ifx#1\hskip
1454               \setbox\z@=\hbox{%
1455                 \afterassignment\HyPsd@AfterSkipRemove
1456                 \skip@=#2\HyPsd@End
1457               }%
1458             \else
1459               \HyPsd@CatcodeWarning{#1}%
1460             \fi
1461           \fi
1462         \fi
1463       \else
1464         \ifcat#1A% letter
1465           \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1467     \HyPsd@String#1%
1468   }%
1469 \else
1470   \ifcat#1 % SPACE
1471     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1472       \HyPsd@String\HyPsd@SPACEOPTI
1473     }%
1474 \else
1475   \ifcat$#1%
1476     \HyPsd@CatcodeWarning{math shift}%
1477 \else
1478   \ifcat&#1%
1479     \HyPsd@CatcodeWarning{alignment tab}%
1480 \else
1481   \ifcat^#1%
1482     \HyPsd@CatcodeWarning{superscript}%
1483 \else
1484   \ifcat_#1%
1485     \HyPsd@CatcodeWarning{subscript}%
1486 \else
1487     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1488       \HyPsd@String#1%
1489     }%
1490   \fi
1491 \fi
1492 \fi
1493 \fi
1494 \fi
1495 \fi
1496 \fi
1497 \ifx\HyPsd@Rest\relax
1498   \ifx\scrollmode#2\scrollmode
1499   \else
1500     \Hy@ReturnAfterFiFiEnd{%
1501       \HyPsd@CheckCatcodes#2\HyPsd@End
1502     }%
1503   \fi
1504 \else
1505   \ifx\HyPsd@Rest\@empty
1506   \else
1507     \Hy@ReturnAfterFiFiEnd{%
1508       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1509     }%
1510   \fi
1511 \fi
1512 \Hy@ReturnEnd
1513 }

```

### Remove counts, dimens, skips.

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

```

1514 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1515   \gdef\HyPsd@Rest{#1}%
1516 }

```

`\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.

```

1517 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1518 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1519 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1520 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1521 \else
1522 \ifdim\dimen@=\z@
1523 \else
1524 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1525 \fi
1526 \gdef\HyPsd@Rest{#1}%
1527 \fi
1528 }

```

`\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).

```

1529 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1530 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1531 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1532 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1533 \else
1534 \ifdim\skip@=\z@
1535 \else
1536 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1537 \fi
1538 \gdef\HyPsd@Rest{#1}%
1539 \fi
1540 }

```

### Catcode warnings.

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

```

1541 \def\HyPsd@CatcodeWarning#1{%
1542 \HyPsd@Warning{%
1543 Token not allowed in a PDF string (%
1544 \ifHy@unicode
1545 Unicode%
1546 \else
1547 PDFDocEncoding%
1548 \fi
1549 ):%
1550 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1551 }%
1552 }
1553 \begingroup
1554 \catcode‘\|=0 %
1555 \catcode‘\|=12 %
1556 |gdef|HyPsd@RemoveCmdPrefix#1{%
1557 |expandafter|HyPsd@@RemoveCmdPrefix
1558 |string#1|@empty\<>-|@empty|@empty
1559 }%
1560 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1561 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1562 \def\HyPsd@RemoveSpaceWarning#1{%
1563   \HyPsd@Warning{%
1564     Token not allowed in a PDF string (%)
1565     \ifHy@unicode
1566       Unicode%
1567     \else
1568       PDFDocEncoding%
1569     \fi
1570   }:%
1571   \MessageBreak #1\MessageBreak
1572   removed%
1573 }%
1574 }

```

\HyPsd@ReplaceSpaceWarning

```

1575 \def\HyPsd@ReplaceSpaceWarning#1{%
1576   \HyPsd@Warning{%
1577     Token not allowed in a PDF string (%)
1578     \ifHy@unicode
1579       Unicode%
1580     \else
1581       PDFDocEncoding%
1582     \fi
1583   }:%
1584   \MessageBreak #1\MessageBreak
1585   replaced by space%
1586 }%
1587 }

```

### 6.6.5 Check for wrong glyphs

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

```

1588 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1589   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1590     \HyPsd@String#1%
1591   }%
1592   \ifx\#2\%
1593     \else
1594       \Hy@ReturnAfterFi{%
1595         \HyPsd@GlyphProcessWarning#2\@empty
1596       }%
1597     \fi
1598 }
1599 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1600   \HyPsd@@@GlyphProcessWarning#1++>%
1601   \HyPsd@GlyphProcess#2\@empty
1602 }
1603 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1604   \ifx\#2\%
1605     \HyPsd@Warning{%
1606       Glyph not defined in %
1607       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1608       removing ‘\@backslashchar#1’%
1609     }%
1610   \else
1611     \HyPsd@Warning{%

```

```

1612 Composite letter '@backslashchar#1+#2'\MessageBreak
1613 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1614 \MessageBreak
1615 removing '@backslashchar#1'%
1616 }%
1617 \fi
1618 }

```

### 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`.

```

1619 \def\HyPsd@spaceopti#1{ % first space
1620 \ifx\HyPsd@spaceopti#1%
1621 \040%
1622 \else
1623 #1%
1624 \fi
1625 }%

```

### 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.

```

1626 \def\HyPsd@Subst#1#2#3{%
1627 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1628 \fi
1629 ##1%
1630 \ifx\scrollmode##2\scrollmode
1631 \else
1632 #2%
1633 \HyPsd@@ReplaceFi##2\END
1634 \fi
1635 }%
1636 \xdef#3{%
1637 \iftrue
1638 \expandafter\HyPsd@@ReplaceFi#3#1\END
1639 \fi
1640 }%
1641 }

```

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

```

1642 \def\HyPsd@StringSubst#1{%
1643 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1644 }

```

### 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.

```

1645 \def\HyPsd@doxspace#1{%
1646   \ifx#1\relax\else
1647     \ifx#1.\else
1648       \ifx#1:\else
1649         \ifx#1,\else
1650           \ifx#1;\else
1651             \ifx#1!\else
1652               \ifx#1?\else
1653                 \ifx#1/\else
1654                   \ifx#1-\else
1655                     \ifx#1'\else
1656                       \HyPsd@SPACEOPTI
1657                     \fi
1658                   \fi
1659                 \fi
1660               \fi
1661             \fi
1662           \fi
1663         \fi
1664       \fi
1665     \fi
1666   \fi
1667   #1%
1668 }%

```

### 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.

```

1669 \begingroup
1670   \catcode'\|=0 %
1671   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1672 |gdef|HyPsd@ConvertToUnicode#1{%
1673   |xdef#1{%
1674     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1675   }%
1676   |ifx#1|@empty
1677   |else
1678     |xdef#1{%
1679       \376\377%
1680       #1%
1681     }%
1682   |fi
1683 }%

```

\HyPsd@DoConvert

```

1684 |gdef|HyPsd@DoConvert#1{%
1685   |ifx#1|@empty
1686   |else
1687     |Hy@ReturnAfterFi{%
1688       |ifx#1\%%
1689       \%%

```

```

1690     |expandafter|HyPsd@DoEscape
1691     |else
1692     |HyPsd@Char{#1}%
1693     |expandafter|HyPsd@DoConvert
1694     |fi
1695   }%
1696 |fi
1697 }%

```

\HyPsd@DoEscape

```

1698 |gdef|HyPsd@DoEscape#1{%
1699   |ifx#19%
1700   |expandafter|HyPsd@GetTwoBytes
1701   |else
1702   |Hy@ReturnAfterFi{%
1703   |ifx#18%
1704   00%
1705   |expandafter|HyPsd@GetTwoBytes
1706   |else
1707   #1%
1708   |expandafter|HyPsd@GetOneByte
1709   |fi
1710   }%
1711 |fi
1712 }%

```

\HyPsd@GetTwoBytes

```

1713 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1714   #1\#2#3#4%
1715   |HyPsd@DoConvert
1716   }%

```

\HyPsd@GetOneByte

```

1717 |gdef|HyPsd@GetOneByte#1#2{%
1718   #1#2%
1719   |HyPsd@DoConvert
1720   }%
1721 |endgroup

```

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

```

1722 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1723   \xdef#4{#4#1#2}%
1724   \HyPsd@@ConvertToUnicode#3\END#4%
1725 }

```

\HyPsd@Char

```

1726 \RequirePackage{intcalc}[2007/09/27]
1727 \begingroup
1728   \catcode'\^=7 %
1729   \catcode'\^^=12 %
1730   \catcode'\^^^=12 %
1731   \def\x{^^^^0000}%
1732 \expandafter\endgroup
1733 \ifx\x\@empty
1734   \def\HyPsd@Char#1{%
1735     \ifnum'#1<128 %

```

```

1736 \ backlashchar 000#1%
1737 \else
1738 \ifnum'#1<65536 %
1739 \expandafter\HyPsd@CharTwoByte\number'#1!%
1740 \else
1741 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1742 \intcalcSub{'#1}{65536}!%
1743 \fi
1744 \fi
1745 }%
1746 \def\HyPsd@CharTwoByte#1!{%
1747 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1748 \IntCalcDiv#1!256!!%
1749 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1750 \IntCalcMod#1!256!!%
1751 }%
1752 \def\HyPsd@CharOctByte#1!{%
1753 \ backlashchar
1754 \IntCalcDiv#1!64!%
1755 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1756 \IntCalcMod#1!8!%
1757 }%
1758 \def\HyPsd@CharSurrogate#1!{%
1759 \ backlashchar 33%
1760 \IntCalcDiv#1!262144!%
1761 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1762 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1763 \ backlashchar 33%
1764 \expandafter\expandafter\expandafter\IntCalcAdd
1765 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1766 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1767 \IntCalcMod#1!256!!%
1768 }%
1769 \else
1770 \def\HyPsd@Char#1{%
1771 \ backlashchar 000#1%
1772 }%
1773 \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`

```

1774 \begingroup\expandafter\expandafter\expandafter\endgroup
1775 \expandafter\ifx\csname numexpr\endcsname\relax
1776 \let\HyPsd@UTFviii\relax
1777 \else
1778 \begingroup

```

```

1779 \lccode'\~='^f4\relax
1780 \lowercase{\endgroup
1781 \def\HyPsd@UTFviii{%
1782 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1783 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1784 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1785 \ifx~\HyPsd@UTFviii@ccxliv@undef
1786 \let~\HyPsd@UTFviii@ccxliv@def
1787 \fi
1788 \let\unichar\HyPsd@unichar
1789 }%
1790 }%
1791 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1792 \edef\HyPsd@UTFviii@ccxliv@def{%
1793 \noexpand\UTFviii@four@octets\string ^f4%
1794 }%

```

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.

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

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

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

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

$$(5)$$

```

1795 \def\HyPsd@UTFviii@two#1#2{%
1796 \expandafter\HyPsd@UTFviii@@two
1797 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1798 \number'#1\expandafter| %
1799 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
1800 \number'#2 \@nil
1801 }%
1802 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1803 \expandafter\8%
1804 \number\numexpr #1-48\expandafter\relax
1805 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1806 \number\numexpr #3-8*%
1807 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1808 \number\numexpr #4-8*#3\relax
1809 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1810 \def\HyPsd@UTFviii@three#1#2#3{%

```

```

1811 \expandafter\HyPsd@UTFviii@@three
1812 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
1813 \number'#1\expandafter| %
1814 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
1815 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
1816 \number'#2\expandafter| %
1817 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
1818 \number'#3 \@nil
1819 }%
1820 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1821 \expandafter\9%
1822 \number\dimexpr #1-56\expandafter\relax
1823 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1824 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1825 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1826 \number\dimexpr #6-16\expandafter\relax
1827 \number\dimexpr #7-8*#6\relax
1828 }%

```

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

```

```

1829 \def\HyPsd@UTFviii@four#1#2{%
1830 \expandafter\HyPsd@@UTFviii@four\number
1831 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1832 \expandafter|\number
1833 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1834 }%
1835 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1836 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1837 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1838 \ifodd#2 %
1839 \number\dimexpr(#2-1)/2\relax
1840 \else
1841 \number\dimexpr#2/2\relax
1842 \fi
1843 \number\dimexpr\ifodd#2 4+\fi
1844 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1845 \933%
1846 \expandafter\HyPsd@@@UTFviii@four\number
1847 \dimexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1848 }%
1849 \def\HyPsd@@@UTFviii@four#1|#2{%
1850 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1851 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1852 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1853 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1854 }%

```

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

```

1855 \def\HyPsd@unichar#1{%
1856 \ifHy@unicode
1857 \ifnum#1>"10FFFF %

```



```

1858      \HyPsd@UnicodeReplacementCharacter % illegal
1859      \else
1860      \ifnum#1>"FFFF %

```

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

```

1861      \expandafter\HyPsd@unichar\expandafter{%
1862      \number\numexpr 55296+%
1863      \dimexpr.0009765625\dimexpr\number#1sp-\p@
1864      \relax\relax\relax
1865      }%

```

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

```

1866      \expandafter\HyPsd@unichar\expandafter{%
1867      \number\numexpr#1-9216%
1868      -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1869      \relax\relax\relax
1870      }%
1871      \else
1872      \ifnum#1>"7FF %
1873      \9%
1874      \expandafter\HyPsd@unichar@first@byte\expandafter{%
1875      \number
1876      \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1877      }%
1878      \else
1879      \8%
1880      \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1881      \fi
1882      \expandafter\HyPsd@unichar@second@byte\expandafter{%
1883      \number
1884      \numexpr#1-256*\number
1885      \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1886      }%
1887      \fi
1888      \fi
1889      \else
1890      .% unsupported (Unicode -> PDF Doc Encoding)
1891      \fi
1892      }%
1893      \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1894      \def\HyPsd@unichar@first@byte#1{%
1895      \number\dimexpr.015625\dimexpr#1sp\relax\relax
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@second@byte#1{%
1903      \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1904      \expandafter\HyPsd@unichar@octtwo\expandafter{%
1905      \number
1906      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1907      \relax\relax\relax
1908      }%
1909      }%
1910      \def\HyPsd@unichar@octtwo#1{%
1911      \number\dimexpr.125\dimexpr#1sp\relax\relax

```

```

1912 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1913 \relax\relax\relax
1914 }%
1915 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

1916 \@ifclassloaded{memoir}{%
1917 \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1918 }{}

```

### 7.2 Package subfigure

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

```

1919 \@ifpackageloaded{subfigure}{%
1920 \@ifundefined{sub@label}{%
1921 \Hy@hypertexnamesfalse
1922 }{%
1923 \renewcommand*{\sub@label}[1]{%
1924 \@bsphack
1925 \subfig@oldlabel{#1}%
1926 \if@filesw
1927 \begingroup
1928 \edef\@currentlabstr{%
1929 \expandafter\strip@prefix\meaning\@currentlabelname
1930 }%
1931 \protected@write\@auxout{}{%
1932 \string\newlabel{sub@#1}{%
1933 {\@nameuse{@@thesub}\@capytype}}%
1934 {\thepage}%
1935 }%
1936 \expandafter\strip@period\@currentlabstr
1937 \relax.\relax\@@@%
1938 }%
1939 {\@currentHref}%
1940 }}%
1941 }%
1942 }%
1943 \endgroup
1944 \fi
1945 \@esphack
1946 }%
1947 \@ifpackagelater{subfigure}{2002/03/26}{%
1948 \providecommand*\toclevel@subfigure{1}%
1949 \providecommand*\toclevel@subtable{1}%
1950 }%
1951 }%
1952 }{}

```

### 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:

```

1953 \@ifundefined{XR@addURL}{%

```

```
1954 }{%
```

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.

```
1955 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
1956 \def\XR@dURL#1#2#3#4#5\\{%
1957   {#1}{#2}%
1958   \if!#4!%
1959   \else
1960     {#3}{#4}{\XR@URL}%
1961   \fi
1962 }%
1963 }

1964 \def\Hy@true{true}
1965 \def\Hy@false{false}
```

Providing dummy definitions.

```
1966 \let\literalps@out\@gobble
1967 \newcommand\pdfbookmark[3]{}{}
1968 \def\Acrobatmenu#1#2{\leavevmode#2}
1969 \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

```
1970 \let\HyperRaiseLinkHook\@empty
1971 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
1972 \def\Hy@raisedlink#1{%
1973   \ifvmode
1974     #1%
1975   \else
1976     \penalty\@M
1977     \smash{%
1978       \begingroup
1979         \let\HyperRaiseLinkLength\@tempdima
1980         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1981         \HyperRaiseLinkHook
1982       \expandafter\endgroup
1983       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1984     }%
1985   \fi
1986 }
```

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

```

1987 \def\Hy@SaveLastskip{%
1988   \let\Hy@RestoreLastskip\relax
1989   \ifvmode
1990     \ifdim\lastskip=\z@
1991       \let\Hy@RestoreLastskip\nobreak
1992     \else
1993       \begingroup
1994         \skip@=-\lastskip
1995       \edef\x{%
1996         \endgroup
1997         \def\noexpand\Hy@RestoreLastskip{%
1998           \noexpand\ifvmode
1999             \noexpand\nobreak
2000             \vskip\the\skip@
2001             \vskip\the\lastskip\relax
2002           \noexpand\fi
2003         }%
2004       }%
2005     \x
2006   \fi
2007 \else
2008   \ifhmode
2009     \ifdim\lastskip=\z@
2010       \let\Hy@RestoreLastskip\nobreak
2011     \else
2012       \begingroup
2013         \skip@=-\lastskip
2014       \edef\x{%
2015         \endgroup
2016         \def\noexpand\Hy@RestoreLastskip{%
2017           \noexpand\ifhmode
2018             \noexpand\nobreak
2019             \hskip\the\skip@
2020             \hskip\the\lastskip\relax
2021           \noexpand\fi
2022         }%
2023       }%
2024     \x
2025   \fi
2026 \fi
2027 \fi
2028 }%
```

## 9 Options

### 9.1 Help macros

`\Hy@boolkey`

```

2029 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2030 \def\Hy@@boolkey[#1]#2#3{%
2031   \edef\Hy@tempa{#3}%
2032   \lowercase\expandafter{%
2033     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2034   }%
2035   \ifx\Hy@tempa\@empty
```

```

2036 \let\Hy@tempa\Hy@true
2037 \fi
2038 \ifx\Hy@tempa\Hy@true
2039 \else
2040 \ifx\Hy@tempa\Hy@false
2041 \else
2042 \let\Hy@tempa\relax
2043 \fi
2044 \fi
2045 \ifx\Hy@tempa\relax
2046 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2047 \else
2048 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2049 \csname Hy@#2\Hy@tempa\endcsname
2050 \fi
2051 }

```

\Hy@WarnOptionValue

```

2052 \def\Hy@WarnOptionValue#1#2#3{%
2053 \Hy@Warning{%
2054 Unexpected value ‘#1’\MessageBreak
2055 of option ‘#2’ instead of\MessageBreak
2056 #3%
2057 }%
2058 }

```

\Hy@DisableOption

```

2059 \def\Hy@DisableOption#1{%
2060 \@ifundefined{KV@Hyp@#1@default}{%
2061 \define@key{Hyp}{#1}%
2062 }{%
2063 \define@key{Hyp}{#1}[]%
2064 }%
2065 {\Hy@WarnOptionDisabled{#1}}%
2066 }

```

\Hy@WarnOptionDisabled

```

2067 \def\Hy@WarnOptionDisabled#1{%
2068 \Hy@Warning{%
2069 Option ‘#1’ has already been used,\MessageBreak
2070 setting the option has no effect%
2071 }%
2072 }

```

\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.

```

2073 \def\Hy@CheckOptionValue#1#2#3{%
2074 \begingroup
2075 \edef\x{#1}%
2076 \@onelevel@sanitize\x
2077 \let\y=y%
2078 \def\do##1##2{%
2079 \def\z{##1}%
2080 \@onelevel@sanitize\z
2081 \ifx\x\z
2082 \let\y=n%
2083 \let\do\@gobbletwo

```

```

2084 \fi
2085 }%
2086 #3%
2087 \ifx\y y%
2088 \def\do##1##2{%
2089 * '##1'%
2090 \ifx\##2\\\else\space(##2)\fi
2091 \MessageBreak
2092 }%
2093 \Hy@Warning{%
2094 Values of option '#2':\MessageBreak
2095 #3%
2096 * An empty value disables the option.\MessageBreak
2097 Unknown value '\x'%
2098 }%
2099 \fi
2100 \endgroup
2101 }

```

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

```

2102 \def\Hy@DefNameKey#1{%
2103 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2104 }

```

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

```

2105 \def\Hy@@DefNameKey#1#2#3{%
2106 \define@key{Hyp}{#2}{%
2107 \edef#1{##1}%
2108 \ifx#1\@empty
2109 \else
2110 \Hy@CheckOptionValue{##1}{#2}{#3}%
2111 \fi
2112 }%
2113 \let#1\@empty
2114 }

```

`\Hy@UseNameKey`

```

2115 \def\Hy@UseNameKey#1#2{%
2116 \ifx#2\@empty
2117 \else
2118 /#1/#2%
2119 \fi
2120 }

```

## 9.2 Defining the options

```

2121 \define@key{Hyp}{implicit}[true]{%
2122 \Hy@boolkey{implicit}{#1}%
2123 }
2124 \define@key{Hyp}{draft}[true]{%
2125 \Hy@boolkey{draft}{#1}%
2126 }

```

```

2127 \define@key{Hyp}{final}[true]{%
2128   \Hy@boolkey{final}{#1}%
2129 }
2130 \let\KV@Hyp@nolinks\KV@Hyp@draft
2131 \def\Hy@ObsoletePaperOption#1{%
2132   \Hy@WarningNoLine{%
2133     Option '#1' is no longer used%
2134   }%
2135   \define@key{Hyp}{#1}[true]{}%
2136 }
2137 \def\Hy@temp#1{%
2138   \define@key{Hyp}{#1}[true]{%
2139     \Hy@ObsoletePaperOption{#1}%
2140   }%
2141 }
2142 \Hy@temp{a4paper}
2143 \Hy@temp{a5paper}
2144 \Hy@temp{b5paper}
2145 \Hy@temp{letterpaper}
2146 \Hy@temp{legalpaper}
2147 \Hy@temp{executivepaper}
2148 \define@key{Hyp}{setpagesize}[true]{%
2149   \Hy@boolkey{setpagesize}{#1}%
2150 }
2151 \define@key{Hyp}{debug}[true]{%
2152   \Hy@boolkey[debug]{verbose}{#1}%
2153 }
2154 \define@key{Hyp}{linktocpage}[true]{%
2155   \Hy@boolkey{linktocpage}{#1}%
2156   \ifHy@linktocpage
2157     \let\Hy@linktoc\Hy@linktoc@page
2158   \else
2159     \let\Hy@linktoc\Hy@linktoc@section
2160   \fi
2161 }
2162 \chardef\Hy@linktoc@none=0 %
2163 \chardef\Hy@linktoc@section=1 %
2164 \chardef\Hy@linktoc@page=2 %
2165 \chardef\Hy@linktoc@all=3 %
2166 \ifHy@linktocpage
2167   \let\Hy@linktoc\Hy@linktoc@page
2168 \else
2169   \let\Hy@linktoc\Hy@linktoc@section
2170 \fi
2171 \define@key{Hyp}{linktoc}{%
2172   \@ifundefined{Hy@linktoc@#1}{%
2173     \Hy@Warning{%
2174       Unexpected value '#1' of\MessageBreak
2175       option 'linktoc' instead of 'none',\MessageBreak
2176       'section', 'page' or 'all'%
2177     }%
2178   }{%
2179     \expandafter\let\expandafter\Hy@linktoc
2180     \csname Hy@linktoc@#1\endcsname
2181   }%
2182 }
2183 \define@key{Hyp}{extension}{\def\XR@ext{#1}}

```

```

2184 \let\XR@ext\relax
2185 \define@key{Hyp}{verbose}[true]{%
2186   \Hy@boolkey{verbose}{#1}%
2187 }
2188 \define@key{Hyp}{typexml}[true]{%
2189   \Hy@boolkey{typexml}{#1}%
2190 }

```

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.

```

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

```

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

```

2194 \def\Hy@setbreaklinks#1{%
2195   \csname breaklinks#1\endcsname
2196 }

2197 \def\Hy@breaklinks@unsupported{%
2198   \ifx\Hy@setbreaklinks\@gobble
2199     \ifHy@breaklinks
2200       \Hy@WarningNoLine{%
2201         You have enabled option 'breaklinks'.\MessageBreak
2202         But driver '\Hy@driver.def' does not support this.\MessageBreak
2203         Expect trouble with the link areas of broken links%
2204       }%
2205     \fi
2206   \fi
2207 }

2208 \define@key{Hyp}{breaklinks}[true]{%
2209   \Hy@boolkey{breaklinks}{#1}%
2210   \let\Hy@setbreaklinks\@gobble
2211 }

```

Determines whether an automatic anchor is put on each page

```

2212 \define@key{Hyp}{pageanchor}[true]{%
2213   \Hy@boolkey{pageanchor}{#1}%
2214 }

```

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.

```

2215 \define@key{Hyp}{plainpages}[true]{%
2216   \Hy@boolkey{plainpages}{#1}%
2217 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L<sup>A</sup>T<sub>E</sub>X provides?

```

2218 \define@key{Hyp}{naturalnames}[true]{%
2219   \Hy@boolkey{naturalnames}{#1}%
2220 }

```

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

```

2221 \define@key{Hyp}{hypertexnames}[true]{%
2222   \Hy@boolkey{hypertexnames}{#1}%
2223 }

```

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



```

2224 \define@key{Hyp}{nesting}[true]{%
2225   \Hy@boolkey{nesting}{#1}%
2226 }

2227 \define@key{Hyp}{unicode}[true]{%
2228   \Hy@boolkey{unicode}{#1}%
2229   \ifHy@unicode
2230     \def\HyPsd@pdfencoding{unicode}%
2231   \else
2232     \def\HyPsd@pdfencoding{pdfdoc}%
2233   \fi
2234   \HyPsd@LoadUnicode
2235 }

2236 \def\HyPsd@LoadUnicode{%
2237   \@ifundefined{T@PU}{%
2238     \input{puenc.def}%
2239     \HyLinguex@Restore
2240   }{}%
2241   \DeclareFontFamily{PU}{pdf}{}%
2242   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2243   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2244   \global\let\HyPsd@LoadUnicode\relax
2245 }

2246 \AtBeginDocument{%
2247   \ifx\HyPsd@LoadUnicode\relax
2248   \else
2249     \def\HyPsd@LoadUnicode{%
2250       \PackageError{hyperref}{%
2251         Unicode support for bookmarks is not available.\MessageBreak
2252         Activate unicode support by using one of the options\MessageBreak
2253         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2254         in the preamble%
2255       }\@ehc
2256       \global\let\HyPsd@LoadUnicode\relax
2257       \global\Hy@unicodedefalse
2258       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2259     }%
2260   \fi
2261 }

2262 \define@key{Hyp}{pdfencoding}{%
2263   \edef\HyPsd@temp{#1}%
2264   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2265     \let\HyPsd@pdfencoding\HyPsd@temp
2266     \Hy@unicodedefalse
2267   \else
2268     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2269       \z@
2270     \else
2271       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2272         \z@
2273       \else
2274         \@ne
2275       \fi
2276     \fi
2277     \let\HyPsd@pdfencoding\HyPsd@temp
2278     \hypersetup{unicode}%
2279     \ifHy@unicode
2280       \def\HyPsd@pdfencoding{#1}%

```

```

2281 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2282 \HyPsd@LoadStringEnc
2283 \fi
2284 \else
2285 \Hy@Warning{Cannot switch to unicode bookmarks}%
2286 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2287 \fi
2288 \else
2289 \@onelevel@sanitize\HyPsd@temp
2290 \Hy@Warning{%
2291 Values of option 'pdfencoding':\MessageBreak
2292 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2293 Ignoring unknown value '\HyPsd@temp'%
2294 }%
2295 \fi
2296 \fi
2297 }
2298 \def\HyPsd@pdfencoding@auto{auto}
2299 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2300 \def\HyPsd@pdfencoding@unicode{unicode}
2301 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2302 \def\HyPsd@LoadStringEnc{%
2303 \RequirePackage{stringenc}[2009/12/15]%
2304 \let\HyPsd@LoadStringEnc\relax
2305 }
2306 \AtBeginDocument{%
2307 \ifpackageloaded{stringenc}{%
2308 \let\HyPsd@LoadStringEnc\relax
2309 }{%
2310 \def\HyPsd@LoadStringEnc{%
2311 \Hy@WarningNoLine{%
2312 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2313 in the preamble or load the package there%
2314 }%
2315 }%
2316 }%
2317 }
2318 \newif\ifHy@setpdfversion
2319 \define@key{Hyp}{pdfversion}{%
2320 \@ifundefined{Hy@pdfversion@#1}{%
2321 \PackageWarning{hyperref}{%
2322 Unsupported PDF version '#1'.\MessageBreak
2323 Valid values: 1.2 until 1.9%
2324 }%
2325 }{%
2326 \Hy@setpdfversiontrue
2327 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2328 }%
2329 }
2330 \@namedef{Hy@pdfversion@1.2}{2}%
2331 \@namedef{Hy@pdfversion@1.3}{3}%
2332 \@namedef{Hy@pdfversion@1.4}{4}%
2333 \@namedef{Hy@pdfversion@1.5}{5}%
2334 \@namedef{Hy@pdfversion@1.6}{6}%
2335 \@namedef{Hy@pdfversion@1.7}{7}%
2336 \@namedef{Hy@pdfversion@1.8}{8}%
2337 \@namedef{Hy@pdfversion@1.9}{9}%

```

```
2338 \def\Hy@pdfversion{2}
```

## 10 Options for different drivers

```
2339 \define@key{Hyp}{hyperref}[true]{}
2340 \define@key{Hyp}{tex4ht}[true]{%
2341   \Hy@texhttrue
2342   \setkeys{Hyp}{colorlinks=true}%
2343   \def\BeforeTeXIVht{\usepackage{color}}%
2344   \def\Hy@driver{htex4ht}%
2345   \def\MaybeStopEarly{%
2346     \typeout{Hyperref stopped early}%
2347     \AfterBeginDocument{}
2348     \PDF@FinishDoc
2349     \gdef\PDF@FinishDoc{}%
2350   }%
2351   \endinput
2352 }%
2353 }
2354 \define@key{Hyp}{pdftex}[true]{%
2355   \def\Hy@driver{hpdftex}%
2356 }
2357 \define@key{Hyp}{nativepdf}[true]{%
2358   \def\Hy@driver{hdvips}%
2359 }
2360 \define@key{Hyp}{dvipdfm}[true]{%
2361   \def\Hy@driver{hdvipdfm}%
2362 }
2363 \define@key{Hyp}{dvipdfmx}[true]{%
2364   \def\Hy@driver{hdvipdfm}%
2365 }
2366 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2367   \expandafter\ifx\csname if#1\expandafter\endcsname
2368     \csname iftrue\endcsname
2369     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2370   \else
2371     \chardef\SpecialDvipdfmxOutlineOpen\z@
2372   \fi
2373 }
2374 \define@key{Hyp}{xetex}[true]{%
2375   \def\Hy@driver{hxetex}%
2376 }
2377 \define@key{Hyp}{pdfmark}[true]{%
2378   \def\Hy@driver{hdvips}%
2379 }
2380 \define@key{Hyp}{dvips}[true]{%
2381   \def\Hy@driver{hdvips}%
2382 }
2383 \define@key{Hyp}{hypertex}[true]{%
2384   \def\Hy@driver{hypertex}%
2385 }
2386 \let\Hy@MaybeStopNow\relax
2387 \define@key{Hyp}{vtex}[true]{%
2388   \begingroup\expandafter\expandafter\expandafter\endgroup
2389   \expandafter\ifx\csname OpMode\endcsname\relax
2390     \@latex@error{Non-VTeX processor}{}%
2391     \global\let\Hy@MaybeStopNow\endinput
```

```

2392 \endinput
2393 \else
2394 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2395 \def\Hy@driver{hvtex}%
2396 \else
2397 \ifnum\OpMode=10\relax
2398 \def\Hy@driver{hvtexhtm}%
2399 \def\MaybeStopEarly{%
2400 \typeout{Hyperref stopped early}%
2401 \AfterBeginDocument{%
2402 \PDF@FinishDoc
2403 \gdef\PDF@FinishDoc{}}%
2404 }%
2405 \endinput
2406 }%
2407 \else
2408 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2409 \global\let\Hy@MaybeStopNow\endinput
2410 \endinput
2411 \fi
2412 \fi
2413 \fi
2414 }
2415 \define@key{Hyp}{vtexpdfmark}[true]{%
2416 \begingroup\expandafter\expandafter\expandafter\endgroup
2417 \expandafter\ifx\csname OpMode\endcsname\relax
2418 \@latex@error{Non-VTeX processor}{}%
2419 \let\Hy@MaybeStopNow\endinput
2420 \endinput
2421 \else
2422 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2423 \def\Hy@driver{hvtexmrk}%
2424 \else
2425 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2426 \let\Hy@MaybeStopNow\endinput
2427 \endinput
2428 \fi
2429 \fi
2430 }
2431 \define@key{Hyp}{dviwindo}[true]{%
2432 \def\Hy@driver{hdviwind}%
2433 \setkeys{Hyp}{colorlinks}%
2434 \PassOptionsToPackage{dviwindo}{color}%
2435 }
2436 \define@key{Hyp}{dvipsone}[true]{%
2437 \def\Hy@driver{hdvipson}%
2438 }
2439 \define@key{Hyp}{textures}[true]{%
2440 \def\Hy@driver{htexture}%
2441 }
2442 \define@key{Hyp}{latex2html}[true]{%
2443 \AtBeginDocument{\@@latextohtmlX}%
2444 }

```

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

```

2445 \define@key{Hyp}{ps2pdf}[true]{%
2446 \def\Hy@driver{hdvips}%
2447 \providecommand*\@pdfborder{0 0 1}%

```

2448 }

## 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.

```
2449 \define@key{Hyp}{hyperfigures}[true]{%
2450   \Hy@boolkey[hyperfigures]{figures}{#1}%
2451 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2452 \define@key{Hyp}{hyperfootnotes}[true]{%
2453   \Hy@boolkey{hyperfootnotes}{#1}%
2454 }
```

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

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

```

2497 \PassOptionsToPackage{hyperpageref}{backref}%
2498 \Hy@backreftrue
2499 \else
2500 \ifx\Hy@tempa\Hy@false
2501 \Hy@backreffalse
2502 \else
2503 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2504 \fi
2505 \fi
2506 }

```

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

```

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

```

Configuration of encap char.

```

2510 \define@key{Hyp}{encap}[|]{%
2511 \def\HyInd@EncapChar{#1}%
2512 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2513 \def\HyLang@afrikaans{%
2514 \def\equationautorefname{Vergelyking}%
2515 \def\footnoteautorefname{Voetnota}%
2516 \def\itemautorefname{Item}%
2517 \def\figureautorefname{Figuur}%
2518 \def\tableautorefname{Tabel}%
2519 \def\partautorefname{Deel}%
2520 \def\appendixautorefname{Bylae}%
2521 \def\chapterautorefname{Hoofstuk}%
2522 \def\sectionautorefname{Afdeling}%
2523 \def\subsectionautorefname{Subafdeling}%
2524 \def\subsubsectionautorefname{Subsubafdeling}%
2525 \def\paragraphautorefname{Paragraaf}%
2526 \def\subparagraphautorefname{Subparagraaf}%
2527 \def\FancyVerbLineautorefname{Lyn}%
2528 \def\theoremautorefname{Teorema}%
2529 \def\pageautorefname{Bladsy}%
2530 }
2531 \def\HyLang@english{%
2532 \def\equationautorefname{Equation}%
2533 \def\footnoteautorefname{footnote}%
2534 \def\itemautorefname{item}%
2535 \def\figureautorefname{Figure}%
2536 \def\tableautorefname{Table}%
2537 \def\partautorefname{Part}%
2538 \def\appendixautorefname{Appendix}%
2539 \def\chapterautorefname{chapter}%
2540 \def\sectionautorefname{section}%
2541 \def\subsectionautorefname{subsection}%
2542 \def\subsubsectionautorefname{subsubsection}%
2543 \def\paragraphautorefname{paragraph}%
2544 \def\subparagraphautorefname{subparagraph}%

```

```

2545 \def\FancyVerbLineautorefname{line}%
2546 \def\theoremautorefname{Theorem}%
2547 \def\pageautorefname{page}%
2548 }
2549 \def\HyLang@french{%
2550 \def\equationautorefname{'Equation}%
2551 \def\footnoteautorefname{note}%
2552 \def\itemautorefname{item}%
2553 \def\figureautorefname{Figure}%
2554 \def\tableautorefname{Tableau}%
2555 \def\partautorefname{Partie}%
2556 \def\appendixautorefname{Appendice}%
2557 \def\chapterautorefname{chapitre}%
2558 \def\sectionautorefname{section}%
2559 \def\subsectionautorefname{sous-section}%
2560 \def\subsubsectionautorefname{sous-sous-section}%
2561 \def\paragraphautorefname{paragraphe}%
2562 \def\subparagraphautorefname{sous-paragraphe}%
2563 \def\FancyVerbLineautorefname{ligne}%
2564 \def\theoremautorefname{Th\'eor\'eme}%
2565 \def\pageautorefname{page}%
2566 }
2567 \def\HyLang@german{%
2568 \def\equationautorefname{Gleichung}%
2569 \def\footnoteautorefname{Fu\ss note}%
2570 \def\itemautorefname{Punkt}%
2571 \def\figureautorefname{Abbildung}%
2572 \def\tableautorefname{Tabelle}%
2573 \def\partautorefname{Teil}%
2574 \def\appendixautorefname{Anhang}%
2575 \def\chapterautorefname{Kapitel}%
2576 \def\sectionautorefname{Abschnitt}%
2577 \def\subsectionautorefname{Unterabschnitt}%
2578 \def\subsubsectionautorefname{Unterunterabschnitt}%
2579 \def\paragraphautorefname{Absatz}%
2580 \def\subparagraphautorefname{Unterabsatz}%
2581 \def\FancyVerbLineautorefname{Zeile}%
2582 \def\theoremautorefname{Theorem}%
2583 \def\pageautorefname{Seite}%
2584 }
2585 \def\HyLang@italian{%
2586 \def\equationautorefname{Equazione}%
2587 \def\footnoteautorefname{nota}%
2588 \def\itemautorefname{punto}%
2589 \def\figureautorefname{Figura}%
2590 \def\tableautorefname{Tabella}%
2591 \def\partautorefname{Parte}%
2592 \def\appendixautorefname{Appendice}%
2593 \def\chapterautorefname{Capitolo}%
2594 \def\sectionautorefname{sezione}%
2595 \def\subsectionautorefname{sottosezione}%
2596 \def\subsubsectionautorefname{sottosottosezione}%
2597 \def\paragraphautorefname{paragrafo}%
2598 \def\subparagraphautorefname{sottoparagrafo}%
2599 \def\FancyVerbLineautorefname{linea}%
2600 \def\theoremautorefname{Teorema}%
2601 \def\pageautorefname{Pag.\@}%

```

```

2602 }
2603 \def\HyLang@magyar{%
2604   \def\equationautorefname{Egyenlet}%
2605   \def\footnoteautorefname{l\'abjegyzet}%
2606   \def\itemautorefname{Elem}%
2607   \def\figureautorefname{'Abra}%
2608   \def\tableautorefname{T\'abl\'azat}%
2609   \def\partautorefname{R\'esz}%
2610   \def\appendixautorefname{F\'uggel\'ek}%
2611   \def\chapterautorefname{fejezet}%
2612   \def\sectionautorefname{szakasz}%
2613   \def\subsectionautorefname{alszakasz}%
2614   \def\subsubsectionautorefname{alalszakasz}%
2615   \def\paragraphautorefname{bekezd\'es}%
2616   \def\subparagraphautorefname{albekezd\'es}%
2617   \def\FancyVerbLineautorefname{sor}%
2618   \def\theoremautorefname{T\'etel}%
2619   \def\pageautorefname{oldal}%
2620 }
2621 \def\HyLang@portuges{%
2622   \def\equationautorefname{Equa\c c\~ao}%
2623   \def\footnoteautorefname{Nota de rodap\'e}%
2624   \def\itemautorefname{Item}%
2625   \def\figureautorefname{Figura}%
2626   \def\tableautorefname{Tabela}%
2627   \def\partautorefname{Parte}%
2628   \def\appendixautorefname{Ap\^endice}%
2629   \def\chapterautorefname{Cap\'itulo}%
2630   \def\sectionautorefname{Se\c c\~ao}%
2631   \def\subsectionautorefname{Subse\c c\~ao}%
2632   \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2633   \def\paragraphautorefname{par\'agrafo}%
2634   \def\subparagraphautorefname{subpar\'agrafo}%
2635   \def\FancyVerbLineautorefname{linha}%
2636   \def\theoremautorefname{Teorema}%
2637   \def\pageautorefname{P\'agina}%
2638 }

```

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`.

```

2639 \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`?

```

2640   \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`.

```

2641 %   \def\equationautorefname{%
2642 %     \cyr\cyrv\cyrery\cyr\cyra\cyrzh\cyre\cyrn\cyri\cyre
2643 %   }%

```



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

```
2644 \def\footnoteautorefname{%
2645   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2646 }%
```

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

```
2647 % \def\footnoteautorefname{%
2648 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
2649 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
2650 % }%
```

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

```
2651 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2652 % \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.

```
2653 \def\itemautorefname{\cyr\cyrp.}%
2654 % \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.

```
2655 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2656 \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.

```
2657 \def\partautorefname{\cyr\cyrch.}%
2658 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2659 \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.

```
2660 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2661 % \def\appendixautorefname{%
2662 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
2663 % }%
```

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.

```
2664 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2665 \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.

```
2666 \def\paragraphautorefname{\cyr\cyrp.}%
2667 \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.

```
2668 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2669 % \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.

```
2670 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2671 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
2672 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2673 % \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 . . .

```
2674 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2675 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
2676 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2677 \def\pageautorefname{\cyr\cyrs.}%
```

```
2678 }
```

```
2679 \def\HyLang@spanish{%
```

```
2680 \def\equationautorefname{Ecuaci'on}%
```

```
2681 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
2682 \def\itemautorefname{Elemento}%
```

```
2683 \def\figureautorefname{Figura}%
```

```
2684 \def\tableautorefname{Tabla}%
```

```
2685 \def\partautorefname{Parte}%
```

```
2686 \def\appendixautorefname{Ap'endice}%
```

```
2687 \def\chapterautorefname{Cap'itulo}%
```

```
2688 \def\sectionautorefname{Secci'on}%
```

```
2689 \def\subsectionautorefname{Subsecci'on}%
```

```
2690 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
2691 \def\paragraphautorefname{P'arrafo}%
```

```
2692 \def\subparagraphautorefname{Subp'arrafo}%
```

```
2693 \def\FancyVerbLineautorefname{L'inea}%
```

```
2694 \def\theoremautorefname{Teorema}%
```

```
2695 \def\pageautorefname{P'agina}%
```

```
2696 }
```

```
2697 \def\HyLang@vietnamese{%
```

```
2698 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\inh}%
```

```
2699 \def\footnoteautorefname{Ch'u th'ich}%
```

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

```
2701 \def\figureautorefname{H\inh}%
```

```
2702 \def\tableautorefname{B\h{a}ng}%
```

```
2703 \def\partautorefname{Ph'\acircumflex{}n}%
```

```
2704 \def\appendixautorefname{Ph\du{ }l\du{c}}%
```

```
2705 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
```

```
2706 \def\sectionautorefname{m\du{c}}%
```

```
2707 \def\subsectionautorefname{m\du{c}}%
```

```
2708 \def\subsubsectionautorefname{m\du{c}}%
```

```
2709 \def\paragraphautorefname{\dj{ }o\da{n}}%
```

```

2710 \def\subparagraphautorefname{\dj{}o\da{n}%
2711 \def\FancyVerbLineautorefname{d\ong}%
2712 \def\theoremautorefname{\DJ{}d{i}nh 1\y}%
2713 \def\pageautorefname{Trang}%
2714 }

```

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

```

2715 \def\HyLang@addto#1#2{%
2716   #2%
2717   \@temptokena{#2}%
2718   \ifx#1\relax
2719     \let#1\@empty
2720   \fi
2721   \ifx#1\undefined
2722     \edef#1{\the\@temptokena}%
2723   \else
2724     \toks@\expandafter{#1}%
2725     \edef#1{\the\toks@\the\@temptokena}%
2726   \fi
2727   \@temptokena{}\toks@\@temptokena
2728 }

2729 \def\HyLang@DeclareLang#1#2#3{%
2730   \begingroup
2731   \edef\x##1##2{%
2732     \noexpand\ifx##2\relax
2733       \errmessage{No definitions for language #2' found!}%
2734     \noexpand\fi
2735   \endgroup
2736   \noexpand\define@key{Hyp}{#1}[]{%
2737     \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2738     #3%
2739   }%
2740   }%
2741   \expandafter\x\csname extras#1\expandafter\endcsname
2742     \csname HyLang@#2\endcsname
2743 }

2744 \HyLang@DeclareLang{english}{english}{}
2745 \HyLang@DeclareLang{UKenglish}{english}{}
2746 \HyLang@DeclareLang{british}{english}{}
2747 \HyLang@DeclareLang{USenglish}{english}{}
2748 \HyLang@DeclareLang{american}{english}{}
2749 \HyLang@DeclareLang{german}{german}{}
2750 \HyLang@DeclareLang{austrian}{german}{}
2751 \HyLang@DeclareLang{ngerman}{german}{}
2752 \HyLang@DeclareLang{naustrian}{german}{}
2753 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2754 \HyLang@DeclareLang{brazil}{portuges}{}
2755 \HyLang@DeclareLang{brazilian}{portuges}{}
2756 \HyLang@DeclareLang{portuguese}{portuges}{}
2757 \HyLang@DeclareLang{spanish}{spanish}{}
2758 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2759 \HyLang@DeclareLang{french}{french}{}
2760 \HyLang@DeclareLang{frenchb}{french}{}
2761 \HyLang@DeclareLang{français}{french}{}
2762 \HyLang@DeclareLang{acadian}{french}{}
2763 \HyLang@DeclareLang{canadien}{french}{}

```

```

2764 \HyLang@DeclareLang{italian}{italian}{}
2765 \HyLang@DeclareLang{magyar}{magyar}{}
2766 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2767 \define@key{Hyp}{vietnamese}[]{}%
2768 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2769 \AtEndOfPackage{%
2770 \ifundefined{T@PU}{}{}%
2771 \input{puvnenc.def}%
2772 }%
2773 }%
2774 }
2775 \define@key{Hyp}{vietnam}[]{}%
2776 \HyLang@addto\extravietnam\HyLang@vietnamese
2777 \AtEndOfPackage{%
2778 \ifundefined{T@PU}{}{}%
2779 \input{puvnenc.def}%
2780 }%
2781 }%
2782 }

```

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

```

2783 \define@key{Hyp}{arabic}[]{}%
2784 \AtEndOfPackage{%
2785 \ifundefined{T@PU}{}{}%
2786 \input{puarenc.def}%
2787 }%
2788 }%
2789 }

```

## 13 Options to change appearance of links

Colouring links at the L<sup>A</sup>T<sub>E</sub>X level is useful for debugging, perhaps.

```

2790 \define@key{Hyp}{colorlinks}[true]{}%
2791 \Hy@boolkey{colorlinks}{#1}%
2792 }
2793 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2794 \Hy@boolkey{ocgcolorlinks}{#1}%
2795 }
2796 \AtBeginDocument{%
2797 \begingroup
2798 \ifundefined{OBJ@OCG@view}{}%
2799 \ifHy@ocgcolorlinks
2800 \Hy@Warning{%
2801 Driver does not support ‘ocgcolorlinks’,\MessageBreak
2802 using ‘colorlinks’ instead%
2803 }%
2804 \fi
2805 }{}%
2806 \endgroup
2807 }
2808 \define@key{Hyp}{frenchlinks}[true]{}%
2809 \Hy@boolkey{frenchlinks}{#1}%
2810 }

```

## 14 Bookmarking

```

2811 \begingroup\expandafter\expandafter\expandafter\endgroup
2812 \expandafter\ifx\csname chapter\endcsname\relax
2813   \def\toclevel@part{0}%
2814 \else
2815   \def\toclevel@part{-1}%
2816 \fi
2817 \def\toclevel@chapter{0}
2818 \def\toclevel@section{1}
2819 \def\toclevel@subsection{2}
2820 \def\toclevel@subsubsection{3}
2821 \def\toclevel@paragraph{4}
2822 \def\toclevel@subparagraph{5}
2823 \def\toclevel@figure{0}
2824 \def\toclevel@table{0}
2825 \@ifpackageloaded{listings}{%
2826   \providecommand*\theHlstlisting{\thelstlisting}%
2827   \providecommand*\toclevel@lstlisting{0}%
2828 }{}
2829 \@ifpackageloaded{listing}{%
2830   \providecommand*\theHlisting{\thelisting}%
2831   \providecommand*\toclevel@listing{0}%
2832 }{}
2833 \define@key{Hyp}{bookmarks}[true]{%
2834   \Hy@boolkey{bookmarks}{#1}%
2835 }
2836 \define@key{Hyp}{bookmarksopen}[true]{%
2837   \Hy@boolkey{bookmarksopen}{#1}%
2838 }

```

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.

```

2839 \let\Hy@bookmarksdepth\c@tocdepth
2840 \define@key{Hyp}{bookmarksdepth}[]{}%
2841 \begingroup
2842   \edef\x{#1}%
2843   \ifx\x\empty
2844     \global\let\Hy@bookmarksdepth\c@tocdepth
2845   \else
2846     \@ifundefined{toclevel@\x}{}%
2847     \@onelevel@sanitize\x
2848     \edef\y{\expandafter\@car\x\@nil}%
2849     \ifcase 0\expandafter\ifx\y-1\fi
2850       \expandafter\ifnum\expandafter\y>47 %
2851       \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
2852     \Hy@Warning{Unknown document division name (\x)}%
2853   \else
2854     \setbox\z@=\hbox{%

```

```

2855         \count@=\x
2856         \xdef\Hy@bookmarksdepth{\the\count@}%
2857     }%
2858     \fi
2859 }{%
2860     \setbox\z@=\hbox{%
2861         \count@=\csname toplevel@\x\endcsname
2862         \xdef\Hy@bookmarksdepth{\the\count@}%
2863     }%
2864 }%
2865 \fi
2866 \endgroup
2867 }

```

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

```

2868 \define@key{Hyp}{bookmarksopenlevel}{%
2869   \def\@bookmarksopenlevel{#1}%
2870 }
2871 \def\@bookmarksopenlevel{\maxdimen}
2872 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2873 \define@key{Hyp}{bookmarkstype}{%
2874   \def\Hy@bookmarkstype{#1}%
2875 }
2876 \def\Hy@bookmarkstype{toc}

```

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

```

2877 \define@key{Hyp}{bookmarksnumbered}[true]{%
2878   \Hy@boolkey{bookmarksnumbered}{#1}%
2879 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2880 \define@key{Hyp}{CJKbookmarks}[true]{%
2881   \Hy@boolkey{CJKbookmarks}{#1}%
2882 }

2883 \def\Hy@temp#1{%
2884   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2885 }

2886 \def\Hy@@temp#1#2#3{%
2887   \define@key{Hyp}{#2color}{%
2888     \HyColor@HyperrefColor{##1}{#1}%
2889   }%
2890   \def#1{#3}%
2891 }

2892 \Hy@temp{link}{red}
2893 \Hy@temp{anchor}{black}
2894 \Hy@temp{cite}{green}
2895 \Hy@temp{file}{cyan}
2896 \Hy@temp{url}{magenta}
2897 \Hy@temp{menu}{red}
2898 \Hy@temp{run}{\@filecolor}
2899 \define@key{Hyp}{pagecolor}{%
2900   \Hy@WarningPageColor
2901 }
2902 \def\Hy@WarningPageColor{%
2903   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2904   \global\let\Hy@WarningPageColor\relax
2905 }

```

```

2906 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2907 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2908 \let\@baseurl\@empty
2909 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2910 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2911 \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.

```

2912 \let\@pdfpagetransition\relax
2913 \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.

```

2914 \let\@pdfpageduration\relax
2915 \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.

```

2916 \newif\ifHy@useHidKey
2917 \Hy@useHidKeyfalse
2918 \define@key{Hyp}{pdfpagehidden}[true]{%
2919   \Hy@boolkey{pdfpagehidden}{#1}%
2920   \ifHy@pdfpagehidden
2921     \global\Hy@useHidKeytrue
2922   \fi
2923 }

```

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).

```

2924 \def\Hy@ColorList{cite,file,link,menu,run,url}
2925 \@for\Hy@temp:=\Hy@ColorList\do{%
2926   \edef\Hy@temp{%
2927     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2928       \noexpand\HyColor@HyperrefBorderColor
2929       {##1}%
2930       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2931       {hyperref}%
2932       {\Hy@temp bordercolor}%
2933     }%
2934   }%
2935   \Hy@temp
2936 }
2937 \define@key{Hyp}{pagebordercolor}{%
2938   \Hy@WarningPageBorderColor

```

```

2939 }
2940 \def\Hy@WarningPageBorderColor{%
2941 \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2942 \global\let\Hy@WarningPageBorderColor\relax
2943 }

2944 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2945 \Hy@DefNameKey{pdfhighlight}{%
2946 \do{/I}{Invert}%
2947 \do{/N}{None}%
2948 \do{/O}{Outline}%
2949 \do{/P}{Push}%
2950 }

2951 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2952 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2953 \def\Hy@setpdfborder{%
2954 \ifx\@pdfborder\@empty
2955 \else
2956 /Border[\@pdfborder]%
2957 \fi
2958 \ifx\@pdfborderstyle\@empty
2959 \else
2960 /BS<<\@pdfborderstyle>>%
2961 \fi
2962 }

2963 \Hy@DefNameKey{pdfpagemode}{%
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{pdfnonfullscreenpagemode}{%
2972 \do{UseNone}{}%
2973 \do{UseOutlines}{}%
2974 \do{UseThumbs}{}%
2975 \do{FullScreen}{}%
2976 \do{UseOC}{PDF 1.5}%
2977 \do{UseAttachments}{PDF 1.6}%
2978 }

2979 \Hy@DefNameKey{pdfdirection}{%
2980 \do{L2R}{Left to right}%
2981 \do{R2L}{Right to left}%
2982 }

2983 \Hy@DefNameKey{pdfviewarea}{%
2984 \do{MediaBox}{}%
2985 \do{CropBox}{}%
2986 \do{BleedBox}{}%
2987 \do{TrimBox}{}%
2988 \do{ArtBox}{}%
2989 }

2990 \Hy@DefNameKey{pdfviewclip}{%
2991 \do{MediaBox}{}%
2992 \do{CropBox}{}%
2993 \do{BleedBox}{}%
2994 \do{TrimBox}{}%
2995 \do{ArtBox}{}%

```



```

2996 }
2997 \Hy@DefNameKey{pdfprintarea}{%
2998   \do{MediaBox}{}%
2999   \do{CropBox}{}%
3000   \do{BleedBox}{}%
3001   \do{TrimBox}{}%
3002   \do{ArtBox}{}%
3003 }
3004 \Hy@DefNameKey{pdfprintclip}{%
3005   \do{MediaBox}{}%
3006   \do{CropBox}{}%
3007   \do{BleedBox}{}%
3008   \do{TrimBox}{}%
3009   \do{ArtBox}{}%
3010 }
3011 \Hy@DefNameKey{pdfprintscaling}{%
3012   \do{AppDefault}{}%
3013   \do{None}{}%
3014 }
3015 \Hy@DefNameKey{pdfduplex}{%
3016   \do{Simplex}{}%
3017   \do{DuplexFlipShortEdge}{}%
3018   \do{DuplexFlipLongEdge}{}%
3019 }
3020 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3021   \do{true}{}%
3022   \do{false}{}%
3023 }
3024 \define@key{Hyp}{pdfprintpagerange}{%
3025   \def\@pdfprintpagerange{#1}%
3026 }
3027 \Hy@DefNameKey{pdfnumcopies}{%
3028   \do{2}{two copies}%
3029   \do{3}{three copies}%
3030   \do{4}{four copies}%
3031   \do{5}{five copies}%
3032 }
3033 \define@key{Hyp}{pdfusetitle}[true]{%
3034   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3035 }
3036 \def\HyXeTeX@CheckUnicode{%
3037   \ifxetex
3038     \ifHy@unicode
3039     \else
3040       \Hy@WarningNoLine{%
3041         XeTeX driver only supports unicode.\MessageBreak
3042         Enabling option 'unicode'%
3043       }%
3044       \setkeys{Hyp}{unicode}%
3045     \fi
3046   \else
3047     \let\HyXeTeX@CheckUnicode\relax
3048   \fi
3049 }
3050 \define@key{Hyp}{pdftitle}{%
3051   \HyXeTeX@CheckUnicode
3052   \HyPsd@XeTeXBigCharstrue

```

```

3053 \pdfstringdef\@pdftitle{#1}%
3054 }
3055 \define@key{Hyp}{pdfauthor}{%
3056 \HyXeTeX@CheckUnicode
3057 \HyPsd@XeTeXBigCharstrue
3058 \pdfstringdef\@pdfauthor{#1}%
3059 }
3060 \define@key{Hyp}{pdfproducer}{%
3061 \HyXeTeX@CheckUnicode
3062 \HyPsd@XeTeXBigCharstrue
3063 \pdfstringdef\@pdfproducer{#1}%
3064 }
3065 \define@key{Hyp}{pdfcreator}{%
3066 \HyXeTeX@CheckUnicode
3067 \HyPsd@XeTeXBigCharstrue
3068 \pdfstringdef\@pdfcreator{#1}%
3069 }
3070 \define@key{Hyp}{pdfcreationdate}{%
3071 \begingroup
3072 \Hy@unicodedefalse
3073 \pdfstringdef\@pdfcreationdate{#1}%
3074 \endgroup
3075 }
3076 \define@key{Hyp}{pdfmoddate}{%
3077 \begingroup
3078 \Hy@unicodedefalse
3079 \pdfstringdef\@pdfmoddate{#1}%
3080 \endgroup
3081 }
3082 \define@key{Hyp}{pdfsubject}{%
3083 \HyXeTeX@CheckUnicode
3084 \HyPsd@XeTeXBigCharstrue
3085 \pdfstringdef\@pdfsubject{#1}%
3086 }
3087 \define@key{Hyp}{pdfkeywords}{%
3088 \HyXeTeX@CheckUnicode
3089 \HyPsd@XeTeXBigCharstrue
3090 \pdfstringdef\@pdfkeywords{#1}%
3091 }
3092 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3093 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3094 \let\setpdfinkmargin\@gobble
3095 \def\calculate@pdfview#1 #2\\\{%
3096 \def\@pdfview{#1}%
3097 \ifx\#2\\\%
3098 \def\@pdfviewparams{-32768}%
3099 \else
3100 \def\@pdfviewparams{#2}%
3101 \fi
3102 }
3103 \begingroup\expandafter\expandafter\expandafter\endgroup
3104 \expandafter\ifx\csname numexpr\endcsname\relax
3105 \def\Hy@number#1{%
3106 \expandafter\@firstofone\expandafter{\number#1}%
3107 }%
3108 \else
3109 \def\Hy@number#1{%

```

```

3110 \the\numexpr#1\relax
3111 }%
3112 \fi
3113 \define@key{Hyp}{pdfstartpage}{%
3114 \ifx\#1\%
3115 \def\@pdfstartpage{}%
3116 \else
3117 \edef\@pdfstartpage{\Hy@number{#1}}%
3118 \fi
3119 }%
3120 \define@key{Hyp}{pdfstartview}{%
3121 \ifx\#1\%
3122 \def\@pdfstartview{}%
3123 \else
3124 \hypercalcbpdef\@pdfstartview{ /#1 }%
3125 \fi
3126 }
3127 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3128 \define@key{Hyp}{pdftoolbar}[true]{%
3129 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3130 }
3131 \define@key{Hyp}{pdfmenubar}[true]{%
3132 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3133 }
3134 \define@key{Hyp}{pdfwindowui}[true]{%
3135 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3136 }
3137 \define@key{Hyp}{pdffitwindow}[true]{%
3138 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3139 }
3140 \define@key{Hyp}{pdfcenterwindow}[true]{%
3141 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3142 }
3143 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3144 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3145 }
3146 \define@key{Hyp}{pdfa}[true]{%
3147 \Hy@boolkey{pdfa}{#1}%
3148 }
3149 \define@key{Hyp}{pdfnewwindow}[true]{%
3150 \def\Hy@temp{#1}%
3151 \ifx\Hy@temp\@empty
3152 \Hy@newwindowsetfalse
3153 \else
3154 \Hy@newwindowsettrue
3155 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3156 \fi
3157 }
3158 \def\Hy@SetNewWindow{%
3159 \ifHy@newwindowset
3160 /NewWindow %
3161 \ifHy@newwindow true\else false\fi
3162 \fi
3163 }
3164 \Hy@DefNameKey{pdfpagelayout}{%
3165 \do{SinglePage}{}%
3166 \do{OneColumn}{}%

```

```

3167 \do{TwoColumnLeft}{}%
3168 \do{TwoColumnRight}{}%
3169 \do{TwoPageLeft}{PDF 1.5}%
3170 \do{TwoPageRight}{PDF 1.5}%
3171 }
3172 \define@key{Hyp}{pdflang}{%
3173   \def\@pdflang{#1}%
3174 }
3175 \define@key{Hyp}{pdfpagelabels}[true]{%
3176   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3177 }
3178 \define@key{Hyp}{pdfescapeform}[true]{%
3179   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3180 }

```

Default values:

```

3181 \def\@linkbordercolor{1 0 0}
3182 \def\@urlbordercolor{0 1 1}
3183 \def\@menubordercolor{1 0 0}
3184 \def\@filebordercolor{0 .5 .5}
3185 \def\@runbordercolor{0 .7 .7}
3186 \def\@citebordercolor{0 1 0}
3187 \def\@pdfhighlight{/I}
3188 \def\@pdftitle{}
3189 \def\@pdfauthor{}
3190 \let\@pdfproducer\relax
3191 \def\@pdfcreator{LaTeX with hyperref package}
3192 \def\@pdfcreationdate{}
3193 \def\@pdfmoddate{}
3194 \def\@pdfsubject{}
3195 \def\@pdfkeywords{}
3196 \def\@pdfpagescrop{}
3197 \def\@pdfstartview{/Fit }
3198 \def\@pdfstartpage{1}
3199 \def\@pdfprintpagerange{}
3200 \def\@pdflang{}
3201 \let\PDF@SetupDoc\@empty
3202 \let\PDF@FinishDoc\@empty
3203 \let\phantomsection\@empty
3204 \let\special@paper\@empty
3205 \def\HyperDestNameFilter#1{#1}
3206 \AtBeginDocument{%
3207   \begingroup
3208     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3209     \dimen@=\x\relax
3210     \ifdim\dimen@>\z@
3211       \else
3212         \dimen@=11in\relax
3213         \Hy@WarningNoLine{%
3214           Height of page (\expandafter\string\x) %
3215           is invalid (\the\x),\MessageBreak
3216           using 11in%
3217         }%
3218         \fi
3219         \dimen@=0.99626401\dimen@
3220         \xdef\Hy@pageheight{\strip@pt\dimen@}%
3221       \endgroup
3222 }

```

```

3223 \def\HyInd@EncapChar{\|}
3224 \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.

```

3225 \let\hyper@normalise\ExecuteOptions
3226 \let\ExecuteOptions\hypersetup
3227 \Hy@RestoreCatcodes
3228 \InputIfFileExists{hyperref.cfg}{\}{}
3229 \Hy@SetCatcodes
3230 \let\ExecuteOptions\hyper@normalise
3231 \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.

```

3232 \RequirePackage{kvoptions}[2009/04/10]

```

Add option tex4ht if package tex4ht is loaded.

```

3233 \ifpackageloaded{tex4ht}{\%
3234   \ifpackagewith{hyperref}{tex4ht}{\}%
3235   \PassOptionsToPackage{tex4ht}{hyperref}%
3236 }%
3237 \}{}

3238 \let\ReadBookmarks\relax
3239 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3240 \AtBeginDocument{\%
3241   \ifHy@draft
3242     \let\hyper@@anchor\@gobble
3243     \gdef\hyper@link#1#2#3{#3}%
3244     \let\hyper@anchorstart\@gobble
3245     \let\hyper@anchorend\@empty
3246     \let\hyper@linkstart\@gobbletwo
3247     \let\hyper@linkend\@empty
3248     \def\hyper@linkurl#1#2{#1}%
3249     \def\hyper@linkfile#1#2#3{#1}%
3250     \def\hyper@link@{#1}#2#3{}%
3251     \def\Acrobatmenu#1#2{\leavevmode#2}%
3252     \let\PDF@SetupDoc\@empty
3253     \let\PDF@FinishDoc\@empty
3254     \let\@fifthoffive\@secondoftwo
3255     \let\@secondoffive\@secondoftwo
3256     \let\ReadBookmarks\relax
3257     \let\WriteBookmarks\relax
3258     \Hy@WarningNoLine{ draft mode on}%
3259   \fi
3260   \Hy@DisableOption{draft}%
3261   \Hy@DisableOption{nolinks}%
3262   \Hy@DisableOption{final}%
3263 }

```

## 15.1 PDF/A

```
3264 \Hy@DisableOption{pdfa}
3265 \ifHy@pdfa
3266   \setkeys{Hyp}{pdfversion=1.4}%
3267   \def\Hy@Acrobatmenu#1#2{%
3268     \leavevmode
3269     \begingroup
3270     \edef\x{#1}%
3271     \@onelevel@sanitize\x
3272     \ifx\x\Hy@NextPage
3273       \let\y=Y%
3274     \else
3275       \ifx\x\Hy@PrevPage
3276         \let\y=Y%
3277       \else
3278         \ifx\x\Hy@FirstPage
3279           \let\y=Y%
3280         \else
3281           \ifx\x\Hy@LastPage
3282             \let\y=Y%
3283           \else
3284             \let\y=N%
3285           \fi
3286         \fi
3287       \fi
3288     \fi
3289     \expandafter\endgroup
3290     \ifx\y Y%
3291     \else
3292       \PackageError{hyperref}{%
3293         PDF/A: Named action ‘#1’ is not permitted%
3294       }\@ehc
3295       {#2}%
3296       \expandafter\@gobble
3297     \fi
3298   }%
3299   \def\Hy@temp#1{%
3300     \expandafter\def\csname Hy@#1\endcsname{#1}%
3301     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3302   }%
3303   \Hy@temp{NextPage}%
3304   \Hy@temp{PrevPage}%
3305   \Hy@temp{FirstPage}%
3306   \Hy@temp{LastPage}%
3307 \else
3308   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3309 \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.

```
3310 \Hy@nextfalse
3311 \ifundefined{spanish@sh@}{}{\Hy@nexttrue}
3312 \ifundefined{galician@sh@}{}{\Hy@nexttrue}
3313 \ifundefined{estonian@sh@}{}{\Hy@nexttrue}
3314 \ifHy@next
```

```

3315 \let\texttilde\~%
3316 \fi

3317 \ifHy@figures
3318 \Hy@Info{Hyper figures ON}%
3319 \else
3320 \Hy@Info{Hyper figures OFF}%
3321 \fi

3322 \ifHy@nesting
3323 \Hy@Info{Link nesting ON}%
3324 \else
3325 \Hy@Info{Link nesting OFF}%
3326 \fi

3327 \ifHy@hyperindex
3328 \Hy@Info{Hyper index ON}%
3329 \else
3330 \Hy@Info{Hyper index OFF}%
3331 \fi

3332 \ifHy@plainpages
3333 \Hy@Info{Plain pages ON}%
3334 \else
3335 \Hy@Info{Plain pages OFF}%
3336 \fi

3337 \ifHy@backref
3338 \Hy@Info{Backreferencing ON}%
3339 \else
3340 \Hy@Info{Backreferencing OFF}%
3341 \fi

3342 \ifHy@typexml
3343 \AtEndOfPackage{%
3344 \RequirePackage{color}%
3345 \RequirePackage{nameref}%
3346 }%
3347 \fi

3348 \Hy@DisableOption{typexml}
3349 \ifHy@implicit
3350 \typeout{Implicit mode ON; LaTeX internals redefined}%
3351 \else
3352 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3353 \def\MaybeStopEarly{%
3354 \typeout{Hyperref stopped early}%
3355 \AfterBeginDocument{%
3356 \PDF@FinishDoc
3357 \gdef\PDF@FinishDoc{}%
3358 }%
3359 \endinput
3360 }%
3361 \AtBeginDocument{%
3362 \let\autoref\ref
3363 \let\autopageref\pageref
3364 \ifx\@pdfpagemode\@empty
3365 \gdef\@pdfpagemode{UseNone}%
3366 \fi
3367 \global\Hy@backreffalse
3368 }%
3369 \AtEndOfPackage{%
3370 \global\let\ReadBookmarks\relax
3371 \global\let\WriteBookmarks\relax

```

```

3372 }%
3373 \fi
3374 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3375 \AtEndOfPackage{%
3376 \ifpackageloaded{tex4ht}{%
3377 \def\Hy@driver{htex4ht}%
3378 \Hy@texhttrue
3379 }{}%

```

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.

```

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

```



```

3424 \else
3425 \Hy@WarningNoLine{%
3426   Wrong driver '\Hy@driver.def';\MessageBreak
3427   VTeX is running in HTML mode.\MessageBreak
3428   Forcing driver '\Hy@temp.def'%
3429 }%
3430 \let\Hy@driver\Hy@temp
3431 \fi
3432 \else
3433 \ifx\Hy@driver\Hy@temp
3434 \Hy@WarningNoLine{%
3435   Wrong driver '\Hy@driver.def';\MessageBreak
3436   VTeX is not running in HTML mode.\MessageBreak
3437   Using default driver%
3438 }%
3439 \let\Hy@driver\@empty
3440 \fi
3441 \fi
3442 \fi

```

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

```

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

```

```

3480 \fi
3481 \typeout{*hyperref using default driver \Hy@driver*}%
3482 \else
3483 \typeout{*hyperref using driver \Hy@driver*}%
3484 \fi
3485 \input{\Hy@driver.def}%
3486 \let\@unprocessedoptions\relax
3487 \Hy@RestoreCatcodes
3488 }

```

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.

```

3489 \newif\ifHy@DvipdfmxOutlineOpen
3490 \ifxetex
3491 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3492 \else
3493 \Hy@DvipdfmxOutlineOpentrue
3494 \fi
3495 \fi
3496 \begingroup\expandafter\expandafter\expandafter\endgroup
3497 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3498 \else
3499 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3500 \Hy@DvipdfmxOutlineOpentrue
3501 \fi
3502 \fi
3503 \Hy@DisableOption{tex4ht}
3504 \Hy@DisableOption{pdftex}
3505 \Hy@DisableOption{nativelpdf}
3506 \Hy@DisableOption{dvipdfm}
3507 \Hy@DisableOption{dvipdfmx}
3508 \Hy@DisableOption{dvipdfmx-outline-open}
3509 \Hy@DisableOption{pdfmark}
3510 \Hy@DisableOption{dvips}
3511 \Hy@DisableOption{hypertex}
3512 \Hy@DisableOption{vtex}
3513 \Hy@DisableOption{vtexpdfmark}
3514 \Hy@DisableOption{dviwindo}
3515 \Hy@DisableOption{dvipsone}
3516 \Hy@DisableOption{textures}
3517 \Hy@DisableOption{latex2html}
3518 \Hy@DisableOption{ps2pdf}
3519 \Hy@DisableOption{xetex}
3520 \AtEndOfPackage{%
3521 \Hy@DisableOption{pdfversion}%
3522 }

```

### 15.2.2 Bookmarks

```

3523 \def\WriteBookmarks{0}
3524 \def\@bookmarkopenstatus#1{%
3525 \ifHy@bookmarksopen

```

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

```

3526 \ifnum#1<\expandafter\@firstofone\expandafter
3527 {\number\@bookmarksopenlevel} % explicit space
3528 \else

```

```

3529    -%
3530    \fi
3531  \else
3532    -%
3533    \fi
3534 }
3535 \ifHy@bookmarks
3536   \Hy@Info{Bookmarks ON}%
3537   \ifx\@pdfpagemode\@empty
3538     \def\@pdfpagemode{UseOutlines}%
3539   \fi
3540 \else
3541   \def\@bookmarkopenstatus#1{%
3542     \Hy@Info{Bookmarks OFF}%
3543     \AtEndOfPackage{%
3544       \global\let\ReadBookmarks\relax
3545       \global\let\WriteBookmarks\relax
3546     }%
3547     \ifx\@pdfpagemode\@empty
3548       \def\@pdfpagemode{UseNone}%
3549     \fi
3550   \fi
3551 \Hy@DisableOption{bookmarks}

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

```

```

3585 \TMP@EnsureCode{96}{12}% ‘
3586 \TMP@EnsureCode{124}{12}% |
3587 \TMP@EnsureCode{126}{13}% ~ (active)
3588 #1\relax
3589 \Hy@endWrap
3590 }

```

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

```

3591 \AtBeginDocument{%
3592   \ifHy@ocgcolorlinks
3593     \setkeys{Hyp}{colorlinks}%
3594     \ifHy@pdfa
3595       \Hy@Warning{%
3596         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3597         using ‘colorlinks’ instead of ‘ocgcolorlinks’%
3598       }%
3599     \Hy@ocgcolorlinksfalse
3600   \fi
3601 \fi
3602 \ifHy@ocgcolorlinks
3603 \else
3604   \Hy@DisableOption{ocgcolorlinks}%
3605 \fi
3606 \ifHy@colorlinks
3607   \def\@pdfborder{0 0 0}%
3608   \let\@pdfborderstyle\@empty
3609   \ifHy@typexml
3610   \else
3611     \Hy@CatcodeWrapper{%
3612       \RequirePackage{color}%
3613     }%
3614   \fi
3615   \def\Hy@colorlink#1{%
3616     \begingroup
3617     \HyColor@UseColor#1%
3618   }%
3619   \def\Hy@endcolorlink{\endgroup}%
3620   \Hy@Info{Link coloring ON}%
3621 \else
3622   \ifHy@frenchlinks
3623     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3624     \def\Hy@endcolorlink{\endgroup}%
3625     \Hy@Info{French linking ON}%
3626   \else

```

for grouping consistency:

```

3627     \def\Hy@colorlink#1{\begingroup}%
3628     \def\Hy@endcolorlink{\endgroup}%
3629     \Hy@Info{Link coloring OFF}%
3630   \fi
3631 \fi
3632 \Hy@DisableOption{colorlinks}%
3633 \Hy@DisableOption{frenchlinks}%
3634 \ifHy@texht
3635   \long\def\@firstoffive#1#2#3#4#5{#1}%
3636   \long\def\@secondoffive#1#2#3#4#5{#2}%
3637   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3638   \long\def\@fourthoffive#1#2#3#4#5{#4}%

```

```

3639 \long\def\@fifthoffive#1#2#3#4#5{#5}%
3640 \providecommand*\@safe@activetrue{}%
3641 \providecommand*\@safe@activesfalse{}%
3642 \def\T@ref#1{%
3643   \Hy@safe@activetrue
3644   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3645   \Hy@safe@activesfalse
3646 }%
3647 \def\T@pageref#1{%
3648   \Hy@safe@activetrue
3649   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3650   \Hy@safe@activesfalse
3651 }%
3652 \else
3653 \ifHy@typexml
3654 \else
3655   \Hy@CatcodeWrapper{%
3656     \RequirePackage{nameref}%
3657   }%
3658 \fi
3659 \fi
3660 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3661 \DeclareRobustCommand\pageref{%
3662   \@ifstar\@pagerefstar\T@pageref
3663 }%
3664 }
3665 \AfterBeginDocument{%
3666   \ifHy@texht
3667   \else
3668     \Hy@CatcodeWrapper{%
3669       \ReadBookmarks
3670     }%
3671   \fi
3672 }
3673 \ifHy@backref
3674   \RequirePackage{backref}%
3675 \else
3676   \let\Hy@backout\@gobble
3677 \fi
3678 \Hy@DisableOption{backref}
3679 \Hy@DisableOption{pagebackref}
3680 \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.

```

3681 \begingroup
3682   \endlinechar=-1 %
3683   \catcode'\^^A=14 %
3684   \catcode'\^^M\active
3685   \catcode'\%\active

```

```

3686 \catcode'\#\active
3687 \catcode'\_\active
3688 \catcode'\$\active
3689 \catcode'\&\active
3690 \gdef\hyper@normalise{^^A
3691 \begingroup
3692 \catcode'\^^M\active
3693 \def^^M{ }^^A
3694 \catcode'\%\active
3695 \let%\@percentchar
3696 \let%\_\@percentchar
3697 \catcode'\#\active
3698 \def#{\hyper@hash}^^A
3699 \def\#{\hyper@hash}^^A
3700 \@makeother\&^^A
3701 \edef&{\string&}^^A
3702 \edef&{\string&}^^A
3703 \edef\textunderscore{\string_}^^A
3704 \let_\textunderscore
3705 \catcode'\_\active
3706 \let_\textunderscore
3707 \let~\hyper@tilde
3708 \let~\hyper@tilde
3709 \let\textasciitilde\hyper@tilde
3710 \let\\ \@backslashchar
3711 \edef${\string$}^^A
3712 \Hy@safe@activestrue
3713 \hyper@n@rmalise
3714 }^^A
3715 \catcode'\#=6 ^^A
3716 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3717 \gdef\hyper@n@rmalise#1#2{^^A
3718 \def\Hy@tempa{#2}^^A
3719 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3720 \Hy@ReturnAfterElseFi{^^A
3721 \hyper@@normalise{#1}^^A
3722 }^^A
3723 \else
3724 \Hy@ReturnAfterFi{^^A
3725 \hyper@@normalise{#1}{#2}^^A
3726 }^^A
3727 \fi
3728 }^^A
3729 \gdef\hyper@@normalise#1#2{^^A
3730 \edef\Hy@tempa{^^A
3731 \endgroup
3732 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3733 }^^A
3734 \Hy@tempa
3735 }^^A
3736 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3737 #1^^A
3738 \ifx\limits#2\limits
3739 \else
3740 \Hy@ReturnAfterFi{^^A
3741 \Hy@RemovePercentCr #2\@nil
3742 }^^A

```

```

3743   \fi
3744 }^^A
3745 \endgroup
3746 \providecommand*\hyper@chars{%
3747   \let\#\hyper@hash
3748   \let\%\@percentchar
3749   \Hy@safe@activetrue
3750 }

3751 \def\hyperlink#1#2{%
3752   \hyper@@link#{#1}{#2}%
3753 }

3754 \DeclareRobustCommand*\href{%
3755   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3756 }
3757 \def\Hy@href#1{%
3758   \hyper@normalise\href@
3759 }

3760 \begingroup
3761   \catcode'\$=6 %
3762   \catcode'\#=12 %
3763   \gdef\href$1{\expandafter\href@split$1##\}%
3764   \gdef\href@split$1#$2#$3\{%
3765     \hyper@@link{$1}{$2}%
3766   }%
3767 \endgroup

```

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

```

3768 \RequirePackage{url}
3769 \let\HyOrg@url\url
3770 \def\Hurl{\begingroup \Url}
3771 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3772 \def\nolinkurl@#1{\Hurl{#1}}
3773 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3774 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3775 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3776 \providecommand\hyper@image[2]{#2}

3777 \def\hypertarget#1#2{%
3778   \ifHy@nesting
3779     \hyper@@anchor{#1}{#2}%
3780   \else
3781     \hyper@@anchor{#1}{\relax}#2%
3782   \fi
3783 }

```

\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<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of \hyperref later, to avoid remembering the name and category.

```

3784 \DeclareRobustCommand*\hyperref{%
3785   \@ifnextchar[\Hy@babelnormalise\label@hyperref]\@hyperref
3786 }
3787 \def\Hy@babelnormalise#1[#2]{%
3788   \begingroup
3789     \Hy@safe@activetrue

```

```

3790 \edef\Hy@tempa{%
3791 \endgroup
3792 \noexpand#1[{#2}]%
3793 }%
3794 \Hy@tempa
3795 }
3796 \def\@hyperref{\hyper@normalise\@hyperref}
3797 \def\@hyperref#1#2#3{%
3798 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3799 \expandafter\tryhyper@link\ref@one\{#1}%
3800 }
3801 \def\tryhyper@link#1\#2{%
3802 \hyper@@link{#2}{#1}%
3803 }
3804 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
3805 \def\@hyperdef#1#2#3{%, category, name, text
3806 \ifx\#1\\%
3807 \def\Hy@AnchorName{#2}%
3808 \else
3809 \def\Hy@AnchorName{#1.#2}%
3810 \fi
3811 \ifHy@nesting
3812 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
3813 \else
3814 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
3815 \fi
3816 }

```

```

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

```



```

3844 \fi
3845 \@esphack
3846 \ifHy@nesting
3847   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
3848 \else
3849   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
3850 \fi
3851 }

```

## 17 Underlying basic hypertext macros

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

```

3852 \def\hyper@link{\let\Hy@reserved@a\relax
3853   \@ifnextchar{\hyper@link@}{\hyper@link@[link]}}%
3854 }
3855 \def\hyper@link@[#1]#2#3#4{%
3856   \begingroup
3857   \protected@edef\Hy@tempa{#2}%
3858   \Hy@safe@activetrue
3859   \edef\x{#3}%
3860   \ifx\Hy@tempa\@empty
3861     \toks0{\hyper@link{#1}}%
3862   \else
3863     \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3864   \fi
3865   \toks2{%
3866     \Hy@safe@activesfalse
3867     #4%
3868   }%
3869   \edef\Hy@tempa{\the\toks2}%
3870   \edef\x{\endgroup
3871     \ifx\Hy@tempa\@empty
3872       \noexpand\Hy@Warning{Suppressing empty link}%
3873     \else
3874       \the\toks0 {\x}{\the\toks2}}%
3875   \fi
3876   }%
3877   \x
3878 }

```

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.

```

3879 \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.

```
3880 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3881 }
```

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

```
3882 \def\@pdftempwordfile{file}%
3883 \def\@pdftempwordrun{run}%
3884 \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:

```
3885 \ifx\\#6\\%
3886 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3887 \else
3888 \ifx\\#4\\%
3889 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3890 \else
```

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

```
3891 \def\@pdftempa{#4}%
3892 \ifx\@pdftempa\@pdftempwordfile
3893 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3894 \else
```

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

```
3895 \ifx\@pdftempa\@pdftempwordrun
3896 \ifHy@pdfa
3897 \PackageError{hyperref}{%
3898 PDF/A: Launch action is prohibited%
3899 }\@ehc
3900 \begingroup
3901 \leavevmode
3902 #2%
3903 \endgroup
3904 \else
3905 \expandafter\@hyper@launch#7\\{#3}{#2}%
3906 \fi
3907 \else
```

otherwise its a URL

```
3908 \hyper@linkurl{#3}{#7\ifx\\#2\\%
3909 \fi
3910 \fi
3911 \fi
3912 \fi
3913 }
```

By default, turn run: into file:

```
3914 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3915 \hyper@linkurl{#2}{%
3916 \Hy@linkfileprefix
3917 #1%
```

```

3918 \ifx\\#3\\%
3919 \else
3920 \hyper@hash
3921 #3%
3922 \fi
3923 }%
3924 }

```

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

```

3925 \def\@hyper@linkfile file:#1\\#2#3{%
3926 %file url,link string, name
3927 \filename@parse{#1}%
3928 \ifx\filename@ext\relax
3929 \edef\filename@ext{\XR@ext}%
3930 \fi
3931 \def\use@file{\filename@area\filename@base.\filename@ext}%
3932 \ifx\filename@ext\XR@ext
3933 \hyper@linkfile{#2}{\use@file}{#3}%
3934 \else
3935 \ifx\@baseurl\@empty
3936 \hyper@linkurl{#2}{%
3937 \Hy@linkfileprefix\use@file\ifx\\#3\\%
3938 }%
3939 \else
3940 \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
3941 \fi
3942 \fi
3943 }

```

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.

```

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

```

```

3965     \fi
3966     \fi
3967     \fi
3968     \ifHy@activeanchor
3969         \anchor@spot
3970     \else
3971         \hyper@anchor{#1}%
3972     \fi
3973     \expandafter\put@me@back
3974 \fi
3975 \let\anchor@spot\@empty
3976 }

```

## 18 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

3977 \let\htmladding\hyperimage
3978 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3979 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3980 \def\htmlref#1#2{% anchor text, label
3981     \label@hyperref[{#2}]{#1}%
3982 }

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

3983 \def\@latextohtmlX{%
3984     \let\hhyperref\hyperref
3985     \def\hyperref##1##2##3##4{% anchor text for HTML
3986         % text to print before label in print
3987         % label
3988         % post-label text in print
3989     ##2\ref{##4}##3%
3990 }%
3991 }

```

## 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.

```

3992 \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  
 3993 \def\HyField@NewFlag#1#2{%  
 3994 \lowercase{\HyField@NewOption{#2}}%  
 3995 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
 3996 }

\HyField@NewFlagOnly  
 3997 \def\HyField@NewFlagOnly#1#2{%  
 3998 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%  
 3999 }

\HyField@NewOption #1: option name  
 4000 \def\HyField@NewOption#1{%  
 4001 \expandafter\newif\csname ifFld@#1\endcsname  
 4002 \define@key{Field}{#1}[true]{%  
 4003 \lowercase{\Field@boolkey{##1}}{#1}%  
 4004 }%  
 4005 }

\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  
 4006 \def\HyField@NewBitsetFlag#1#2#3#4{%  
 4007 \begingroup  
 4008 \count@=#4\relax  
 4009 \advance\count@\m@ne  
 4010 \def\x##1{%  
 4011 \endgroup  
 4012 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%  
 4013 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax  
 4014 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
 4015 (\number#4) #2%  
 4016 }%  
 4017 \else  
 4018 \expandafter\edef\csname HyField@#3@##1\endcsname{%  
 4019 \csname HyField@#3@##1\endcsname  
 4020 /#2%  
 4021 }%  
 4022 \fi  
 4023 }%  
 4024 \expandafter\x\expandafter{\the\count@}%  
 4025 }

\HyField@UseFlag The bit set is HyField@#1  
 4026 \def\HyField@UseFlag#1#2{%  
 4027 \lowercase{\HyField@UseFlag{#2}}{#1}%  
 4028 }

\HyField@@UseFlag

```
4029 \def\HyField@@UseFlag#1#2{%
4030   \bitsetSetValue{HyField@#2}{%
4031     \csname HyField@#2@#1\endcsname
4032   }{%
4033     \csname ifFld@#1\endcsname 1\else 0\fi
4034   }%
4035 }
```

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

```
4036 \def\HyField@SetFlag#1#2{%
4037   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4038 }
```

\HyField@@SetFlag

```
4039 \def\HyField@@SetFlag#1#2{%
4040   \bitsetSetValue{HyField@#2}{%
4041     \csname HyField@#2@#1\endcsname
4042   }{1}%
4043 }
```

\HyField@PrintFlags

```
4044 \def\HyField@PrintFlags#1#2{%
4045   \ifHy@verbose
4046     \begingroup
4047       \let\Hy@temp\@empty
4048       \let\MessageBreak\relax
4049       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4050       \bitsetGetSetBitList{HyField@#1}\do{%
4051         \edef\Hy@temp{%
4052           \Hy@temp
4053           \csname HyField@#1@\x\endcsname\MessageBreak
4054         }%
4055       }%
4056     \edef\x{\endgroup
4057       \noexpand\Hy@Info{%
4058         Field flags: %
4059         \expandafter\ifx\@car#1\@nil S\else/\fi
4060         #1 %
4061         \bitsetGetDec{HyField@#1} %
4062         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4063         \Hy@temp
4064         for #2%
4065       }%
4066     }\x
4067   \fi
4068 }
```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
4069 \HyField@NewFlag{Ff}{ReadOnly}{1}
4070 \HyField@NewFlag{Ff}{Required}{2}
4071 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
4072 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4073 \HyField@NewFlag{Ff}{Radio}{16}
4074 \HyField@NewFlag{Ff}{Pushbutton}{17}
4075 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
4076 \HyField@NewFlag{Ff}{Multiline}{13}
4077 \HyField@NewFlag{Ff}{Password}{14}
4078 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4079 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4080 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4081 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4082 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
4083 \HyField@NewFlag{Ff}{Combo}{18}
4084 \HyField@NewFlag{Ff}{Edit}{19}
4085 \HyField@NewFlag{Ff}{Sort}{20}
4086 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4087 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4088 \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.

```
4089 \newif\ifFld@popdown
4090 \define@key{Field}{popdown}[true]{%
4091   \lowercase{\Field@boolkey{#1}}{popdown}%
4092 }
```

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.

```
4093 \HyField@NewFlag{F}{Invisible}{1}
4094 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4095 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4096 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4097 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4098 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4099 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4100 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4101 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4102 \ifHy@pdfa
4103   \def\HyField@PDFAFldWarning#1#2{%
4104     \Hy@Warning{%
4105       PDF/A: Annotation flag ‘#1’ must\MessageBreak
4106       be set to ‘#2’%
4107     }%
4108   }%
4109   \Fld@invisiblefalse
4110   \def\Fld@invisibletrue{%
4111     \HyField@PDFAFldWarning{invisible}{false}%
4112   }%
4113   \Fld@hiddenfalse
4114   \def\Fld@hiddentrue{%
```

```

4115 \HyField@PDFAFIagWarning{hidden}{false}%
4116 }%
4117 \Fld@printrtrue
4118 \def\Fld@printfalse{%
4119 \HyField@PDFAFIagWarning{print}{true}%
4120 }%
4121 \Fld@nozoomtrue
4122 \def\Fld@nozoomfalse{%
4123 \HyField@PDFAFIagWarning{nozoom}{true}%
4124 }%
4125 \Fld@norotatetrue
4126 \def\Fld@norotatefalse{%
4127 \HyField@PDFAFIagWarning{norotate}{true}%
4128 }%
4129 \Fld@noviewfalse
4130 \def\Fld@noviewtrue{%
4131 \HyField@PDFAFIagWarning{noview}{false}%
4132 }%
4133 \fi

```

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

```

4134 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4135 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4136 \HyField@NewFlag{Submit}{GetMethod}{4}
4137 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4138 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4139 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4140 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4141 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4142 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4143 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4144 \HyField@NewFlag{Submit}{ExclFKey}{12}
4145 \HyField@NewFlag{Submit}{EmbedForm}{14}

4146 \define@key{Field}{export}{%
4147 \lowercase{\def\Hy@temp{#1}}%
4148 \@ifundefined{Fld@export@Hy@temp}{%
4149 \onelevel@sanitize\Hy@temp
4150 \PackageError{hyperref}{%
4151 Unknown export format '\Hy@temp'.\MessageBreak
4152 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4153 }\@ehc
4154 }{%
4155 \let\Fld@export\Hy@temp
4156 }%
4157 }
4158 \def\Fld@export{fdf}
4159 \@namedef{Fld@export@fdf}{0}%
4160 \@namedef{Fld@export@html}{1}%
4161 \@namedef{Fld@export@xdf}{2}%
4162 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4163 \def\HyField@FlagsSubmit{%
4164 \bitsetReset{HyField@Submit}%
4165 \ifcase\@nameuse{Fld@export@Fld@export} %

```



```

4166 % FDF
4167 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4168 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4169 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4170 \HyField@UseFlag{Submit}{IncludeAnnotations}%
4171 \HyField@UseFlag{Submit}{CanonicalFormat}%
4172 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4173 \HyField@UseFlag{Submit}{ExclFKey}%
4174 \HyField@UseFlag{Submit}{EmbedForm}%
4175 \or % HTML
4176 \HyField@SetFlag{Submit}{ExportFormat}%
4177 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4178 \HyField@UseFlag{Submit}{GetMethod}%
4179 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4180 \HyField@UseFlag{Submit}{CanonicalFormat}%
4181 \or % XFDF
4182 \HyField@SetFlag{Submit}{XFDF}%
4183 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4184 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4185 \HyField@UseFlag{Submit}{CanonicalFormat}%
4186 \or % PDF
4187 \HyField@SetFlag{Submit}{SubmitPDF}%
4188 \HyField@UseFlag{Submit}{GetMethod}%
4189 \fi
4190 \HyField@PrintFlags{Submit}{submit button field}%
4191 \bitsetIsEmpty{HyField@Submit}{%
4192 \def\Fld@submitflags{%
4193 }{%
4194 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
4195 }%
4196 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4197 \def\HyField@FlagsAnnot#1{%
4198 \bitsetReset{HyField@F}%
4199 \HyField@UseFlag{F}{Invisible}%
4200 \HyField@UseFlag{F}{Hidden}%
4201 \HyField@UseFlag{F}{Print}%
4202 \HyField@UseFlag{F}{NoZoom}%
4203 \HyField@UseFlag{F}{NoRotate}%
4204 \HyField@UseFlag{F}{NoView}%
4205 \HyField@UseFlag{F}{Locked}%
4206 \HyField@UseFlag{F}{ToggleNoView}%
4207 \HyField@UseFlag{F}{LockedContents}%
4208 \HyField@PrintFlags{F}{#1}%
4209 \bitsetIsEmpty{HyField@F}{%
4210 \def\Fld@annotflags{%
4211 }{%
4212 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
4213 }%
4214 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
4215 \def\HyField@FlagsPushButton{%
4216   \HyField@FlagsAnnot{push button field}%
4217   \bitsetReset{HyField@Ff}%
4218   \HyField@UseFlag{Ff}{ReadOnly}%
4219   \HyField@UseFlag{Ff}{Required}%
4220   \HyField@UseFlag{Ff}{NoExport}%
4221   \HyField@SetFlag{Ff}{Pushbutton}%
4222   \HyField@PrintFlags{Ff}{push button field}%
4223   \bitsetIsEmpty{HyField@Ff}{%
4224     \def\Fld@flags{%
4225     }{%
4226       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4227   }%
4228 }
```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```
4229 \def\HyField@FlagsCheckBox{%
4230   \HyField@FlagsAnnot{check box field}%
4231   \bitsetReset{HyField@Ff}%
4232   \HyField@UseFlag{Ff}{ReadOnly}%
4233   \HyField@UseFlag{Ff}{Required}%
4234   \HyField@UseFlag{Ff}{NoExport}%
4235   \HyField@PrintFlags{Ff}{check box field}%
4236   \bitsetIsEmpty{HyField@Ff}{%
4237     \def\Fld@flags{%
4238     }{%
4239       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4240   }%
4241 }
```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```
4242 \def\HyField@FlagsRadioButton{%
4243   \HyField@FlagsAnnot{radio button field}%
4244   \bitsetReset{HyField@Ff}%
4245   \HyField@UseFlag{Ff}{ReadOnly}%
4246   \HyField@UseFlag{Ff}{Required}%
4247   \HyField@UseFlag{Ff}{NoExport}%
4248   \HyField@UseFlag{Ff}{NoToggleToOff}%
4249   \HyField@SetFlag{Ff}{Radio}%
4250   \HyField@UseFlag{Ff}{RadiosInUnison}%
4251   \HyField@PrintFlags{Ff}{radio button field}%
4252   \bitsetIsEmpty{HyField@Ff}{%
4253     \def\Fld@flags{%
4254     }{%
4255       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4256   }%
4257 }
```

### 19.1.7 Text fields

\HyField@FlagsText

```
4258 \def\HyField@FlagsText{%
4259   \HyField@FlagsAnnot{text field}%
4260   \bitsetReset{HyField@Ff}%
4261   \HyField@UseFlag{Ff}{ReadOnly}%
4262   \HyField@UseFlag{Ff}{Required}%
4263   \HyField@UseFlag{Ff}{NoExport}%
4264   \HyField@UseFlag{Ff}{Multiline}%
4265   \HyField@UseFlag{Ff}{Password}%
4266   \HyField@UseFlag{Ff}{FileSelect}%
4267   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4268   \HyField@UseFlag{Ff}{DoNotScroll}%
4269   \ifFld@comb
4270     \ifcase0\ifFld@multiline
4271       \else\ifFld@password
4272       \else\ifFld@fileselect
4273       \else 1\fi\fi\fi\relax
4274     \PackageError{hyperref}{%
4275       Field option 'comb' cannot used together with\MessageBreak
4276       'multiline', 'password', or 'fileselect'%
4277     }\@ehc
4278   \else
4279     \HyField@UseFlag{Ff}{Comb}%
4280   \fi
4281 \fi
4282 \HyField@UseFlag{Ff}{RichText}%
4283 \HyField@PrintFlags{Ff}{text field}%
4284 \bitsetIsEmpty{HyField@Ff}{%
4285   \def\Fld@flags{%
4286   }{%
4287   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4288 }%
4289 }
```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```
4290 \def\HyField@FlagsChoice{%
4291   \HyField@FlagsAnnot{choice field}%
4292   \bitsetReset{HyField@Ff}%
4293   \HyField@UseFlag{Ff}{ReadOnly}%
4294   \HyField@UseFlag{Ff}{Required}%
4295   \HyField@UseFlag{Ff}{NoExport}%
4296   \HyField@UseFlag{Ff}{Combo}%
4297   \ifFld@combo
4298     \HyField@UseFlag{Ff}{Edit}%
4299   \fi
4300   \HyField@UseFlag{Ff}{Sort}%
4301   \HyField@UseFlag{Ff}{MultiSelect}%
4302   \ifFld@combo
4303     \ifFld@edit
4304       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4305     \fi
4306   \fi
4307   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```

```

4308 \HyField@PrintFlags{Ff}{choice field}%
4309 \bitsetIsEmpty{HyField@Ff}{%
4310 \def\Fld@flags{}%
4311 }{%
4312 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4313 }%
4314 }

```

## 19.2 Choice field

```
4315 \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.

```

4316 \def\HyField@PDFChoices#1{%
4317 \begingroup
4318 \gdef\Fld@choices{}%
4319 \def\HyTmp@optlist{}%
4320 \let\HyTmp@optitem\relax
4321 \count@=0 %
4322 \kv@parse{#1}{%
4323 \Hy@pdfstringdef\kv@key\kv@key
4324 \ifx\kv@value\relax
4325 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4326 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4327 \else
4328 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4329 \fi
4330 \else
4331 \Hy@pdfstringdef\kv@value\kv@value
4332 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4333 \fi
4334 \edef\HyTmp@optlist{%
4335 \HyTmp@optlist
4336 \HyTmp@optitem{\the\count@}{\kv@key}0%
4337 }%
4338 \advance\count@ by 1 %
4339 \@gobbletwo
4340 }%
4341 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4342 \ifFld@multiselect
4343 \HyField@@@PDFChoices{DV}\Fld@default
4344 \HyField@@@PDFChoices{V}\Fld@value
4345 \else
4346 \ifx\Fld@default\relax
4347 \else
4348 \pdfstringdef\Hy@gtemp\Fld@default
4349 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4350 \fi
4351 \ifx\Fld@value\relax
4352 \else
4353 \pdfstringdef\Hy@gtemp\Fld@value
4354 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4355 \fi
4356 \fi
4357 \endgroup

```

4358 }

\HyField@@PDFChoices

```
4359 \def\HyField@@PDFChoices#1#2{%
4360   \ifx#2\relax
4361   \else
4362     \count@=0 %
4363     \def\HyTmp@optitem##1##2##3{%
4364       \def\HyTmp@key{##2}%
4365       \ifx\HyTmp@key\Hy@gtemp
4366         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4367           \HyTmp@optlist
4368           \HyTmp@optitem{##1}{##2}1%
4369         }%
4370         \let\HyTmp@found=Y%
4371       \else
4372         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4373           \HyTmp@optlist
4374           \HyTmp@optitem{##1}{##2}##3%
4375         }%
4376       \fi
4377     }%
4378     \expandafter\comma@parse\expandafter{#2}{%
4379       \pdfstringdef\Hy@gtemp\comma@entry
4380       \let\HyTmp@found=N %
4381       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4382       \HyTmp@optlist
4383       \ifx\HyTmp@found Y%
4384         \advance\count@ by 1 %
4385       \else
4386         \@onelevel@sanitize\comma@entry
4387         \PackageWarning{hyperref}{%
4388           \string\ChoiceBox: Ignoring value '\comma@entry',%
4389           \MessageBreak
4390           it cannot be found in the choices%
4391         }%
4392       \fi
4393       \@gobble
4394     }%
4395     \def\HyTmp@optitem##1##2##3{%
4396       \ifnum##3=1 %
4397         (##2)%
4398       \fi
4399     }%
4400     \ifcase\count@
4401     \or
4402       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4403     \else
4404       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4405       \ifx#1V%
4406         \def\HyTmp@optitem##1##2##3{%
4407           \ifnum##3=1 %
4408             \@firstofone{ ##1}%
4409           \fi
4410         }%
4411       \edef\HyTmp@optlist{\HyTmp@optlist}%
4412       \xdef\Fld@choices{%
```

```

4413      \Fld@choices
4414      /I[\expandafter\@firstofone\HyTmp@optlist]%
4415      }%
4416      \fi
4417      \fi
4418      \fi
4419  }

```

## 19.3 Forms

\HyField@SetKeys

```

4420 \def\HyField@SetKeys{%
4421   \setkeys{Field}%
4422 }

4423 \newif\ifFld@checked
4424 \newif\ifFld@disabled
4425 \Fld@checkedfalse
4426 \Fld@disabledfalse
4427 \newcount\Fld@menulength
4428 \newdimen\Fld@Width
4429 \newdimen\Fld@charsize
4430 \Fld@charsize=10\p@
4431 \def\Fld@maxlen{0}
4432 \def\Fld@align{0}
4433 \def\Fld@color{0 0 0 rg}
4434 \def\Fld@bcolor{1 1 1}
4435 \def\Fld@bordercolor{1 0 0}
4436 \def\Fld@bordersep{1\p@}
4437 \def\Fld@borderwidth{1}
4438 \def\Fld@borderstyle{S}
4439 \def\Fld@cbsymbol{4}
4440 \def\Fld@radiosymbol{H}
4441 \def\Fld@rotation{0}
4442 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4443 \def\endForm{\@endForm}
4444 \newif\ifForm@html
4445 \Form@htmlfalse
4446 \def\Form@boolkey#1#2{%
4447   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4448 }
4449 \define@key{Form}{action}{%
4450   \hyper@normalise\Hy@DefFormAction{#1}%
4451 }
4452 \def\Hy@DefFormAction{\def\Form@action}
4453 \def\enc@html{html}
4454 \define@key{Form}{encoding}{%
4455   \def\Hy@tempa{#1}%
4456   \ifx\Hy@tempa\enc@html
4457     \Form@htmltrue
4458   \def\Fld@export{html}%
4459   \else
4460     \typeout{hyperref: form 'encoding' key set to #1 %
4461       -- unknown type%
4462   }%
4463   \Form@htmlfalse
4464   \fi

```

```

4465 }
4466 \define@key{Form}{method}{%
4467   \lowercase{\def\Hy@temp{#1}}}%
4468   \@ifundefined{Form@method@Hy@temp}{%
4469     \@onelevel@sanitize\Hy@temp
4470     \PackageError{hyperref}{%
4471       Unknown method '\Hy@temp'.\MessageBreak
4472       Known values are 'post' and 'get'%
4473     }\@ehc
4474   }{%
4475     \let\Form@method\Hy@temp
4476     \ifcase\@nameuse{Form@method@Hy@temp} %
4477       \Fld@getmethodfalse
4478     \else
4479       \Fld@getmethodtrue
4480     \fi
4481   }%
4482 }
4483 \def\Form@method{}
4484 \@namedef{Form@method@post}{0}
4485 \@namedef{Form@method@get}{1}
4486 \def\Field@boolkey#1#2{%
4487   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4488 }
4489 \newtoks\Field@toks
4490 \Field@toks={ }%
4491 \def\Field@addtoks#1#2{%
4492   \edef\@processme{\Field@toks\the\Field@toks\space #1="#2"}}%
4493   \@processme
4494 }
4495 \def\Fld@checkequals#1=#2=#3\{\%
4496   \def\@currDisplay{#1}%
4497   \ifx\#2\%
4498     \def\@currValue{#1}%
4499   \else
4500     \def\@currValue{#2}%
4501   \fi
4502 }
4503 \define@key{Field}{loc}{%
4504   \def\Fld@loc{#1}%
4505 }
4506 \define@key{Field}{checked}[true]{%
4507   \lowercase{\Field@boolkey{#1}}{checked}%
4508 }
4509 \define@key{Field}{disabled}[true]{%
4510   \lowercase{\Field@boolkey{#1}}{disabled}%
4511 }
4512 \define@key{Field}{accesskey}{%
4513   \Field@addtoks{accesskey}{#1}%
4514 }
4515 \define@key{Field}{tabkey}{%
4516   \Field@addtoks{tabkey}{#1}%
4517 }
4518 \define@key{Field}{name}{%
4519   \def\Fld@name{#1}%
4520 }
4521 \define@key{Field}{width}{%

```

```

4522 \def\Fld@width{#1}%
4523 \Field@Width#1\setbox0=\hbox{m}%
4524 }
4525 \define@key{Field}{maxlen}{%
4526 \def\Fld@maxlen{#1}%
4527 }
4528 \define@key{Field}{menulength}{%
4529 \Fld@menulength=#1\relax
4530 }
4531 \define@key{Field}{height}{%
4532 \def\Fld@height{#1}%
4533 }
4534 \define@key{Field}{charsize}{%
4535 \Fld@charsize=#1%
4536 }
4537 \define@key{Field}{borderwidth}{%
4538 \def\Fld@borderwidth{#1}%
4539 }
4540 \define@key{Field}{borderstyle}{%
4541 \def\Fld@borderstyle{#1}%
4542 }
4543 \define@key{Field}{bordersep}{%
4544 \def\Fld@bordersep{#1}%
4545 }
4546 \define@key{Field}{default}{%
4547 \def\Fld@default{#1}%
4548 }
4549 \define@key{Field}{align}{%
4550 \def\Fld@align{#1}%
4551 }
4552 \define@key{Field}{value}{%
4553 \def\Fld@value{#1}%
4554 }
4555 \define@key{Field}{checkboxsymbol}{%
4556 \Fld@DingDef\Fld@cbsymbol{#1}%
4557 }
4558 \define@key{Field}{radiosymbol}{%
4559 \Fld@DingDef\Fld@radiosymbol{#1}%
4560 }
4561 \def\Fld@DingDef#1#2{%
4562 \def\Fld@temp{}%
4563 \Fld@@DingDef#2\ding{}\@nil
4564 \let#1\Fld@temp
4565 }
4566 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4567 \expandafter\def\expandafter\Fld@temp\expandafter{%
4568 \Fld@temp
4569 #1%
4570 }%
4571 \ifx\\#3\\%
4572 \expandafter\@gobble
4573 \else
4574 \begingroup
4575 \lccode'0=#2\relax
4576 \lowercase{\endgroup
4577 \expandafter\def\expandafter\Fld@temp\expandafter{%
4578 \Fld@temp

```



```

4579     0%
4580   }%
4581 }%
4582 \expandafter\@firstofone
4583 \fi
4584 {%
4585   \Fld@@DingDef#3\@nil
4586 }%
4587 }

4588 \define@key{Field}{rotation}{%
4589   \def\Fld@rotation{#1}%
4590 }

4591 \define@key{Field}{backgroundcolor}{%
4592   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4593 }
4594 \define@key{Field}{bordercolor}{%
4595   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4596 }
4597 \define@key{Field}{color}{%
4598   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4599 }

4600 \def\Fld@onclick@code{}
4601 \def\Fld@format@code{}
4602 \def\Fld@validate@code{}
4603 \def\Fld@calculate@code{}
4604 \def\Fld@keystroke@code{}
4605 \def\Fld@onfocus@code{}
4606 \def\Fld@onblur@code{}
4607 \def\Fld@onmousedown@code{}
4608 \def\Fld@onmouseup@code{}
4609 \def\Fld@onenter@code{}
4610 \def\Fld@onexit@code{}
4611 \def\Hy@temp#1{%
4612   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4613 }
4614 \def\Hy@@temp#1#2{%
4615   \ifHy@pdfa
4616     \define@key{Field}{#2}{%
4617       \PackageError{hyperref}{%
4618         PDF/A: Additional action ‘#2’ is prohibited%
4619       }\@ehc
4620     }%
4621   \else
4622     \define@key{Field}{#2}{%
4623       \def#1{##1}%
4624     }%
4625   \fi
4626 }
4627 \Hy@temp{keystroke}
4628 \Hy@temp{format}
4629 \Hy@temp{validate}
4630 \Hy@temp{calculate}
4631 \Hy@temp{onfocus}
4632 \Hy@temp{onblur}
4633 \Hy@temp{onenter}
4634 \Hy@temp{onexit}

```

```

4635 \def\Hy@temp#1{%
4636   \define@key{Field}{#1}{%
4637     \Field@addtoks{#1}{##1}%
4638   }%
4639 }
4640 \Hy@temp{onselect}
4641 \Hy@temp{onchange}
4642 \Hy@temp{ondblclick}
4643 \Hy@temp{onmousedown}
4644 \Hy@temp{onmouseup}
4645 \Hy@temp{onmouseover}
4646 \Hy@temp{onmousemove}
4647 \Hy@temp{onmouseout}
4648 \Hy@temp{onkeypress}
4649 \Hy@temp{onkeydown}
4650 \Hy@temp{onkeyup}
4651 \ifHy@pdfa
4652   \define@key{Field}{onclick}{%
4653     \PackageError{hyperref}{%
4654       PDF/A: Action 'onclick' is prohibited%
4655     }\@ehc
4656   }%
4657 \else
4658   \define@key{Field}{onclick}{%
4659     \def\Fld@onclick@code{#1}%
4660     \Field@addtoks{onclick}{#1}%
4661   }%
4662 \fi

4663 \DeclareRobustCommand\TextField{%
4664   \@ifnextchar[{\@TextField}{\@TextField[]}%
4665 }
4666 \DeclareRobustCommand\ChoiceMenu{%
4667   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4668 }
4669 \DeclareRobustCommand\CheckBox{%
4670   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4671 }
4672 \DeclareRobustCommand\PushButton{%
4673   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4674 }
4675 \DeclareRobustCommand\Gauge{%
4676   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4677 }
4678 \DeclareRobustCommand\Submit{%
4679   \@ifnextchar[{\@Submit}{\@Submit[]}%
4680 }
4681 \DeclareRobustCommand\Reset{%
4682   \@ifnextchar[{\@Reset}{\@Reset[]}%
4683 }
4684 \def\LayoutTextField#1#2{% label, field
4685   #1 #2%
4686 }
4687 \def\LayoutChoiceField#1#2{% label, field
4688   #1 #2%
4689 }
4690 \def\LayoutCheckField#1#2{% label, field
4691   #1 #2%

```

```

4692 }
4693 \def\LayoutPushButtonField#1{% button
4694   #1%
4695 }
4696 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4697 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4698 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4699 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4700 \def\MakeButtonField#1{%
4701   \sbox0{%
4702     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4703   }%
4704   \@tempdima\ht0 %
4705   \advance\@tempdima by \Fld@borderwidth bp %
4706   \advance\@tempdima by \Fld@borderwidth bp %
4707   \ht0\@tempdima
4708   \@tempdima\dp0 %
4709   \advance\@tempdima by \Fld@borderwidth bp %
4710   \advance\@tempdima by \Fld@borderwidth bp %
4711   \dp0\@tempdima
4712   \box0\relax
4713 }
4714 \def\DefaultHeightofSubmit{14pt}
4715 \def\DefaultWidthofSubmit{2cm}
4716 \def\DefaultHeightofReset{14pt}
4717 \def\DefaultWidthofReset{2cm}
4718 \def\DefaultHeightofCheckBox{\baselineskip}
4719 \def\DefaultWidthofCheckBox{\baselineskip}
4720 \def\DefaultHeightofChoiceMenu{\baselineskip}
4721 \def\DefaultWidthofChoiceMenu{\baselineskip}
4722 \def\DefaultHeightofText{\baselineskip}
4723 \def\DefaultHeightofTextMultiline{4\baselineskip}
4724 \def\DefaultWidthofText{3cm}
4725 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4726 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4727 \def\DefaultOptionsofPushButton{print}
4728 \def\DefaultOptionsofCheckBox{print}
4729 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4730 \def\DefaultOptionsofListBox{print}
4731 \def\DefaultOptionsofComboBox{print,edit,sort}
4732 \def\DefaultOptionsofPopdownBox{print}
4733 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

4734 \ifHy@figures
4735   \Hy@Info{Hyper figures ON}%
4736 \else
4737   \Hy@Info{Hyper figures OFF}%
4738 \fi
4739 \ifHy@nesting
4740   \Hy@Info{Link nesting ON}%
4741 \else
4742   \Hy@Info{Link nesting OFF}%
4743 \fi

```

```

4744 \ifHy@hyperindex
4745   \Hy@Info{Hyper index ON}%
4746 \else
4747   \Hy@Info{Hyper index OFF}%
4748 \fi
4749 \ifHy@backref
4750   \Hy@Info{backreferencing ON}%
4751 \else
4752   \Hy@Info{backreferencing OFF}%
4753 \fi
4754 \ifHy@colorlinks
4755   \Hy@Info{Link coloring ON}%
4756 \else
4757   \Hy@Info{Link coloring OFF}%
4758 \fi
4759 \ifHy@ocgcolorlinks
4760   \Hy@Info{Link coloring with OCG ON}%
4761 \else
4762   \Hy@Info{Link coloring with OCG OFF}%
4763 \fi
4764 \ifHy@pdfa
4765   \Hy@Info{PDF/A mode ON}%
4766 \else
4767   \Hy@Info{PDF/A mode OFF}%
4768 \fi

```

## 21 Low-level utility macros

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

```

4769 \edef\hyper@hash{\string#}
4770 \edef\hyper@tilde{\string~}
4771 \edef\hyper@quote{\string"}
4772 \let\@currentHref\@empty
4773 \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.

```

4774 \AfterBeginDocument{%
4775   \Hy@pdfstringtrue
4776   \PDF@SetupDoc
4777   \let\PDF@SetupDoc\@empty
4778   \Hy@DisableOption{pdfpagescrop}%
4779   \Hy@DisableOption{pdfpagemode}%
4780   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4781   \Hy@DisableOption{pdfdirection}%
4782   \Hy@DisableOption{pdfviewarea}%
4783   \Hy@DisableOption{pdfviewclip}%
4784   \Hy@DisableOption{pdfprintarea}%
4785   \Hy@DisableOption{pdfprintclip}%
4786   \Hy@DisableOption{pdfprintscaling}%
4787   \Hy@DisableOption{pdfduplex}%
4788   \Hy@DisableOption{pdfpicktraybypdfsize}%
4789   \Hy@DisableOption{pdfprintpagerange}%
4790   \Hy@DisableOption{pdfnumcopies}%
4791   \Hy@DisableOption{pdfstartview}%
4792   \Hy@DisableOption{pdfstartpage}%
4793   \Hy@DisableOption{pdftoolbar}%

```

```

4794 \Hy@DisableOption{pdfmenubar}%
4795 \Hy@DisableOption{pdfwindowui}%
4796 \Hy@DisableOption{pdffitwindow}%
4797 \Hy@DisableOption{pdfcenterwindow}%
4798 \Hy@DisableOption{pdfdisplaydoctitle}%
4799 \Hy@DisableOption{pdfpagelayout}%
4800 \Hy@DisableOption{pdflang}%
4801 \Hy@DisableOption{baseurl}%
4802 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4803 \Hy@pdfstringfalse
4804 }

```

Ignore star from referencing macros:

```

4805 \let\NoHy@OrgRef\ref
4806 \def\ref{%
4807   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
4808 }
4809 \let\NoHy@OrgPageRef\pageref
4810 \def\pageref{%
4811   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4812 }

```

## 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.

```

4813 \def\NoHyper{%
4814   \def\hyper@link@{##1}##2##3##4{##4}%
4815   \def\hyper@@anchor##1{}%
4816   \global\let\hyper@livelink\hyper@link
4817   \gdef\hyper@link##1##2##3{##3}%
4818   \def\hyper@anchorstart##1{}%
4819   \let\hyper@anchorend\@empty
4820   \def\hyper@linkstart##1##2{}%
4821   \let\hyper@linkend\@empty
4822   \def\hyper@linkurl##1##2{##1}%
4823   \def\hyper@linkfile##1##2##3{##1}%
4824   \def\hyper@link@{##1}##2##3{}%
4825   \let\Hy@backout\@gobble
4826 }
4827 \def\stop@hyper{%
4828   \def\hyper@link@{##1}##2##3##4{##4}%
4829   \let\Hy@backout\@gobble
4830   \def\hyper@@anchor##1{}%
4831   \def\hyper@link##1##2##3{##3}%
4832   \def\hyper@anchorstart##1{}%
4833   \let\hyper@anchorend\@empty
4834   \def\hyper@linkstart##1##2{}%
4835   \let\hyper@linkend\@empty
4836   \def\hyper@linkurl##1##2{##1}%
4837   \def\hyper@linkfile##1##2##3{##1}%
4838   \def\hyper@link@{##1}##2##3{}%
4839 }
4840 \def\endNoHyper{%

```

```

4841 \global\let\hyper@link\hyper@livelink
4842 }
4843 \</package>

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

4844 \*nohyperref
4845 \let\hyper@@anchor\@gobble
4846 \def\hyper@link#1#2#3{#3}%
4847 \let\hyper@anchorstart\@gobble
4848 \let\hyper@anchorend\@empty
4849 \let\hyper@linkstart\@gobbletwo
4850 \let\hyper@linkend\@empty
4851 \def\hyper@linkurl#1#2{#1}%
4852 \def\hyper@linkfile#1#2#3{#1}%
4853 \def\hyper@link@{#1}#2#3{#1}%
4854 \let\PDF@SetupDoc\@empty
4855 \let\PDF@FinishDoc\@empty
4856 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4857 \def\Acrobatmenu#1#2{\leavevmode#2}
4858 \let\pdfstringdefDisableCommands\@gobbletwo
4859 \let\texorpdfstring\@firstoftwo
4860 \let\pdfbookmark\@undefined
4861 \newcommand\pdfbookmark[3]{}
4862 \let\phantomsection\@empty
4863 \let\hypersetup\@gobble
4864 \let\hyperbaseurl\@gobble
4865 \let\href\@gobble
4866 \let\hyperdef\@gobbletwo
4867 \let\hyperlink\@gobble
4868 \let\hypertarget\@gobble
4869 \def\hyperref{%
4870   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4871 }
4872 \long\def\@gobbleopt[#1]{#1}
4873 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

4874 \let\NoHy@OrgRef\ref
4875 \def\ref{%
4876   \ifstar\NoHy@OrgRef\NoHy@OrgRef
4877 }
4878 \let\NoHy@OrgPageRef\pageref
4879 \def\pageref{%
4880   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
4881 }
4882 \</nohyperref>

```

## 24 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```
4883 \<package>
4884 \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.

```
4885 \if@filesw
4886 \ifHy@typexml
4887 \immediate\closeout\@mainaux
4888 \immediate\openout\@mainaux\jobname.aux\relax
4889 \immediate\write\@auxout{<relaxxml>\relax}%
4890 \fi
4891 \immediate\write\@auxout{%
4892 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4893 \global\let\string\oldcontentsline\string\contentsline^^J%
4894 \gdef\string\contentsline%
4895 \string#1\string#2\string#3\string#4{%
4896 \string\oldcontentsline%
4897 {\string#1}{\string#2}{\string#3}}^^J%
4898 \global\let\string\oldnewlabel\string\newlabel^^J%
4899 \gdef\string\newlabel\string#1\string#2{%
4900 \string\newlabelxx{\string#1}\string#2}^^J%
4901 \gdef\string\newlabelxx%
4902 \string#1\string#2\string#3\string#4\string#5\string#6{%
4903 \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%
```

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

```
4904 \string\AtEndDocument{%
4905 \let\string\contentsline\string\oldcontentsline^^J%
4906 \let\string\newlabel\string\oldnewlabel}^^J%
```

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

```
4907 \string\else^^J%
4908 \global\let\string\hyper@last\relax^^J%
4909 \string\fi^^J%
4910 }%
4911 \fi
```

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

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

```
4912 \ifx\hyper@last\@undefined
4913 \def\@starttoc#1{%
4914 \begingroup
4915 \makeatletter
4916 \IfFileExists{\jobname.#1}{%
4917 \Hy@WarningNoLine{%
4918 old #1 file detected, not used; run LaTeX again%
```

```

4919     }%
4920   }{}%
4921   \if@filesw
4922     \expandafter\newwrite\csname tf@#1\endcsname
4923     \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4924   \fi
4925   \@nobreakfalse
4926 \endgroup
4927 }%
4928 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4929 \fi
4930 }

```

## 25 Title strings

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

```

4931 \ifHy@usetitle
4932   \let\HyOrg@title\title
4933   \let\HyOrg@author\author
4934   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
4935   \def\Hy@scanopttitle[#1]{%
4936     \gdef\Hy@title{#1}%
4937     \HyOrg@title{#1}%
4938   }%
4939   \def\Hy@scantitle#1{%
4940     \gdef\Hy@title{#1}%
4941     \HyOrg@title{#1}%
4942   }%
4943   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4944   \def\Hy@scanoptauthor[#1]{%
4945     \gdef\Hy@author{#1}%
4946     \HyOrg@author{#1}%
4947   }%
4948   \def\Hy@scanauthor#1{%
4949     \gdef\Hy@author{#1}%
4950     \HyOrg@author{#1}%
4951   }%

```

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.

```

4952 \begingroup
4953   \def\process@me#1\@nil#2{%
4954     \expandafter\let\expandafter\x\csname @#2\endcsname
4955     \edef\y{\expandafter\strip@prefix\meaning\x}%
4956     \def\c##1#1##2\@nil{%
4957       \ifx\\##1\\%
4958         \else
4959           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4960             \expandafter{\x}%
4961         \fi
4962       }%
4963       \expandafter\c\y\relax#1\@nil
4964     }%
4965     \expandafter\process@me\string\@latex@\@nil{title}%
4966     \expandafter\process@me\string\@latex@\@nil{author}%

```



```

4967 \endgroup
4968 \fi
4969 \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.

```

4970 \def\Hy@UseMaketitleString#1{%
4971   \ifundefined{Hy@#1}{}%
4972   \begingroup
4973     \let\Hy@saved@hook\pdfstringdefPreHook
4974     \pdfstringdefDisableCommands{%
4975       \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4976       \let\newline\\%
4977     }%
4978     \expandafter\ifx\csname @pdf#1\endcsname \@empty
4979     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4980       \csname Hy@#1\endcsname \@empty
4981     }%
4982   \fi
4983   \global\let\pdfstringdefPreHook\Hy@saved@hook
4984 \endgroup
4985 }%
4986 }
4987 \def\Hy@newline@title#1{ #1}
4988 \def\Hy@newline@author#1{, #1}
4989 \def\Hy@UseMaketitleInfos{%
4990   \Hy@UseMaketitleString{title}%
4991   \Hy@UseMaketitleString{author}%
4992 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

4993 \RequirePackage{atbegshi}[2007/09/09]
4994 \def\Hy@EveryPageHook{}
4995 \def\Hy@EveryPageBoxHook{}
4996 \def\Hy@FirstPageHook{}
4997 \AtBeginShipout{%
4998   \Hy@EveryPageHook
4999   \ifx\Hy@EveryPageBoxHook \@empty
5000   \else
5001     \setbox\AtBeginShipoutBox=\vbox{%
5002       \offinterlineskip
5003       \Hy@EveryPageBoxHook
5004       \box\AtBeginShipoutBox

```

```

5005 }%
5006 \fi
5007 }
5008 \AtBeginShipoutFirst{%
5009 \Hy@FirstPageHook
5010 }
5011 \g@addto@macro\Hy@FirstPageHook{%
5012 \PDF@FinishDoc
5013 \gdef\PDF@FinishDoc{}}%
5014 }

```

## 27.1 PDF /PageLabels

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

```

5015 \ifHy@pagelabels
5016 \begingroup\expandafter\expandafter\expandafter\endgroup
5017 \expandafter\ifx\csname thepage\endcsname\relax
5018 \Hy@pagelabelsfalse
5019 \Hy@WarningNoLine{%
5020 Option 'pdfpagelabels' is turned off\MessageBreak
5021 because \string\thepage\space is undefined%
5022 }%
5023 \csname fi\endcsname
5024 \csname iffalse\expandafter\endcsname
5025 \fi

```

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

```

5026 \def\thispdfpagelabel#1{%
5027 \gdef\HyPL@thisLabel{#1}%
5028 }%
5029 \global\let\HyPL@thisLabel\relax

```

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

```

5030 \def\HyPL@Labels{}%

```

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

```

5031 \newcount\Hy@abspage
5032 \Hy@abspage=0 %

```

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

```

5033 \def\HyPL@LastType{init}%
5034 \def\HyPL@LastNumber{0}%
5035 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L<sup>A</sup>T<sub>E</sub>X pendants.

```

5036 \def\HyPL@arabic{D}%
5037 \def\HyPL@Roman{R}%
5038 \def\HyPL@roman{r}%
5039 \def\HyPL@Alph{A}%
5040 \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.

```

5041 \def\HyPL@EveryPage{%
5042 \begingroup
5043 \ifx\HyPL@thisLabel\relax

```

```

5044 \let\HyPL@page\thepage
5045 \else
5046 \let\HyPL@page\HyPL@thisLabel
5047 \global\let\HyPL@thisLabel\relax
5048 \fi
5049 \let\HyPL@Type\relax
5050 \ifnum\the\c@page>0 %
5051 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5052 \fi
5053 \let\Hy@temp Y%
5054 \ifx\HyPL@Type\HyPL@LastType
5055 \else
5056 \let\Hy@temp N%
5057 \fi
5058 \ifx\HyPL@Type\relax
5059 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5060 \else
5061 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5062 \fi
5063 \ifx\HyPL@Prefix\HyPL@LastPrefix
5064 \else
5065 \let\Hy@temp N%
5066 \fi
5067 \if Y\Hy@temp
5068 \advance\c@page by -1 %
5069 \ifnum\HyPL@LastNumber=\the\c@page\relax
5070 \else
5071 \let\Hy@temp N%
5072 \fi
5073 \Hy@StepCount\c@page
5074 \fi
5075 \if N\Hy@temp
5076 \ifx\HyPL@Type\relax
5077 \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
5078 \else
5079 \HyPL@storePageLabel{%
5080 \ifx\HyPL@Prefix\@empty
5081 \else
5082 /P(\HyPL@Prefix)%
5083 \fi
5084 /S/\csname HyPL\HyPL@Type\endcsname
5085 \ifnum\the\c@page=1 %
5086 \else
5087 \space/St \the\c@page
5088 \fi
5089 }%
5090 \fi
5091 \fi
5092 \xdef\HyPL@LastNumber{\the\c@page}%
5093 \global\let\HyPL@LastType\HyPL@Type
5094 \global\let\HyPL@LastPrefix\HyPL@Prefix
5095 \endgroup
5096 \Hy@GlobalStepCount\Hy@abspage
5097 }%

```

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

```

5098 \def\HyPL@CheckThePage#1\@nil{%

```

```

5099 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5100 }%

```

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

```

5101 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5102   \def\Hy@tempa{#4}%
5103   \def\Hy@tempb{\csname\endcsname\c@page}%
5104   \ifx\Hy@tempa\Hy@tempb
5105     \expandafter\ifx\csname HyPL#3\endcsname\relax
5106     \else
5107       \def\HyPL@Type{#3}%
5108       \def\HyPL@Prefix{#2}%
5109     \fi
5110   \else
5111     \begingroup
5112     \let\Hy@next\endgroup
5113     \let\HyPL@found\@undefined
5114     \def\arabic{\HyPL@Format{arabic}}%
5115     \def\Roman{\HyPL@Format{Roman}}%
5116     \def\roman{\HyPL@Format{roman}}%
5117     \def\Alph{\HyPL@Format{Alph}}%
5118     \def\alph{\HyPL@Format{alph}}%
5119     \protected@edef\Hy@temp{#1}%
5120     \ifx\HyPL@found\relax
5121       \toks@{\expandafter{\Hy@temp}}%
5122       \edef\Hy@next{\endgroup
5123         \noexpand\HyPL@@@CheckThePage\the\toks@
5124         \noexpand\HyPL@found\relax\noexpand\@nil
5125       }%
5126     \fi
5127     \Hy@next
5128   \fi
5129 }%

```

`\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`.

```

5130 \def\HyPL@Format#1#2{%
5131   \ifx\HyPL@found\@undefined
5132     \expandafter\ifx\csname c@#2\endcsname\c@page
5133       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5134     \else
5135       \expandafter\noexpand\csname#1\endcsname{#2}%
5136     \fi
5137   \else
5138     \expandafter\noexpand\csname#1\endcsname{#2}%
5139   \fi
5140 }%

```

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

```

5141 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5142   \def\Hy@tempa{#3}%

```

```

5143 \def\Hy@tempb{\HyPL@found\relax}%
5144 \ifx\Hy@tempa\Hy@tempb
5145   \def\HyPL@Type{@#2}%
5146   \def\HyPL@Prefix{#1}%
5147 \fi
5148 }%

```

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

```

5149 \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`.

```

5150 \def\HyPL@Useless{0<</S/D>>}%
5151 \@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.

```

5152 \def\HyPL@SetPageLabels{%
5153   \@onelevel@sanitize\HyPL@Labels
5154   \ifx\HyPL@Labels\@empty
5155   \else
5156     \ifx\HyPL@Labels\HyPL@Useless
5157     \else
5158       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5159     \fi
5160   \fi
5161 }%

```

```

5162 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5163 \fi

```

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

```

5164 \Hy@DisableOption{pdfpagelabels}
5165 </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`

```

5166 <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.

```

5167 <*vTeX>
5168 \providecommand*{\XR@ext}{pdf}
5169 \edef\Hy@VTeXversion{%
5170   \ifx\VTeXversion\@undefined
5171     \z@
5172   \else
5173     \ifx\VTeXversion\relax
5174     \z@
5175   \else

```

```

5176 \VTeXversion
5177 \fi
5178 \fi
5179 }
5180 \begingroup
5181 \ifnum\VTeXversion<660 %
5182 \gdef\Hy@PutCatalog#1{%
5183 \Hy@WarningNoLine{%
5184 VTeX 6.59g or above required for pdfpagelabels%
5185 }%
5186 }%
5187 \else
5188 \gdef\Hy@PutCatalog#1{%
5189 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5190 }%
5191 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5192 \ifx\#2\%
5193 \else
5194 \immediate\special{!pdfpagelabels #2}%
5195 \fi
5196 }%
5197 \fi
5198 \endgroup
5199 </vtex>

5200 <*pdfTeX | vtex>

```

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

```

5201 \ifHy@pagelabels
5202 \def\HyPL@StorePageLabel#1{%
5203 \toks@ \expandafter{\HyPL@Labels}%
5204 \xdef\HyPL@Labels{%
5205 \the\toks@
5206 \the\Hy@abspage<<#1>>%
5207 }%
5208 }%

```

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.

```

5209 \RequirePackage{atveryend}[2009/12/07]%
5210 \AtVeryEndDocument{%
5211 \HyPL@SetPageLabels
5212 }%

5213 \fi
5214 </pdfTeX | vtex>

```

### 27.1.2 xetex

```

5215 <*xetex>
5216 \HyPsd@LoadUnicode
5217 \Hy@unicodetrue
5218 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5219 \else
5220 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5221 \fi
5222 \HyPsd@LoadStringEncoding

```

```

5223 \define@key{Hyp}{unicode}[true]{%
5224   \Hy@boolkey{unicode}{#1}%
5225   \ifHy@unicode
5226   \else
5227     \Hy@Warning{%
5228       XeTeX driver only supports 'unicode=true'.\MessageBreak
5229       Ignoring option setting 'unicode=false'%
5230     }%
5231     \Hy@unicodetrue
5232   \fi
5233 }
5234 \define@key{Hyp}{pdfencoding}{%
5235   \edef\HyPsd@temp{#1}%
5236   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5237     \let\HyPsd@pdfencoding\HyPsd@temp
5238   \else
5239     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5240       \let\HyPsd@pdfencoding\HyPsd@temp
5241     \else
5242       \Hy@Warning{%
5243         XeTeX driver only supports 'pdfencoding=unicode|auto.%
5244         \MessageBreak
5245         Ignoring option setting 'pdfencoding=\HyPsd@temp'%
5246       }%
5247     \fi
5248   \fi
5249 }
5250 \let\HyXeTeX@CheckUnicode\relax
5251 \</xetex>

```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```

5252 \<pdfmarkbase>
5253 \begingroup
5254 \toks@{\expandafter{\Hy@FirstPageHook}}%
5255 \xdef\Hy@FirstPageHook{%
5256   \noexpand\headerps@out{%
5257     systemdict /pdfmark known%
5258     {%
5259       userdict /?pdfmark systemdict /exec get put%
5260     }{%
5261       userdict /?pdfmark systemdict /pop get put %
5262       userdict /pdfmark systemdict /cleartomark get put%
5263     }%
5264     ifelse%
5265   }%
5266   \the\toks@
5267 }%
5268 \endgroup
5269 \</pdfmarkbase>

\Hy@PutCatalog

5270 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5271 \<pdfmarkbase>
5272 \def\Hy@PutCatalog#1{%
5273   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog}\string} << #1 >>}}%
5274 }
5275 \</pdfmarkbase>

```

```

5276 <*pdfmarkbase | dvipdfm | xetex>
5277 \ifHy@pagelabels

```

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

```

5278 \def\HyPL@StorePageLabel#1{%
5279   \if@filesw
5280     \begingroup
5281     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5282     \immediate\write\@mainaux{%
5283       \string\HyPL@Entry{\Hy@tempa}%
5284     }%
5285   \endgroup
5286 \fi
5287 }%

```

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.

```

5288 \AfterBeginDocument{%
5289   \if@filesw
5290     \immediate\write\@mainaux{%
5291       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5292     }%
5293   \fi
5294   \ifx\HyPL@Labels\@empty
5295     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5296   \else
5297     \HyPL@SetPageLabels
5298   \fi
5299   \let\HyPL@Entry\@gobble
5300 }%

```

`\HyPL@Entry`

```

5301 \def\HyPL@Entry#1{%
5302   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5303     \HyPL@Labels
5304     #1%
5305   }%
5306 }%

5307 \fi
5308 </pdfmarkbase | dvipdfm | xetex>
5309 <*package>
5310 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.



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

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

Start with a fallback for equations

```

5311 \def\Hy@CounterExists#1{%
5312   \begingroup\expandafter\expandafter\expandafter\endgroup
5313   \expandafter\ifx\csname c@#1\endcsname\relax
5314     \expandafter\@gobble
5315   \else
5316     \begingroup\expandafter\expandafter\expandafter\endgroup
5317     \expandafter\ifx\csname the#1\endcsname\relax
5318       \expandafter\expandafter\expandafter\@gobble
5319     \else
5320       \expandafter\expandafter\expandafter\@firstofone
5321     \fi
5322   \fi
5323 }
5324 \Hy@CounterExists{section}{%
5325   \newcommand\theHequation{\theHsection.\arabic{equation}}%
5326 }
5327 \Hy@CounterExists{part}{%
5328   \newcommand\theHpart{\arabic{part}}%
5329 }
5330 \@ifundefined{thechapter}{%
5331   \newcommand\theHsection   {\arabic{section}}%
5332   \newcommand\theHfigure    {\arabic{figure}}%
5333   \newcommand\theHtable     {\arabic{table}}%
5334 }{%
5335   \newcommand\theHchapter   {\arabic{chapter}}%
5336   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}%
5337   \newcommand\theHtable     {\theHchapter.\arabic{table}}%
5338   \newcommand\theHsection   {\theHchapter.\arabic{section}}%
5339 }
5340 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5341 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5342 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
5343 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
5344 \newcommand\theHtheorem     {\theHsection.\arabic{theorem}}
5345 \newcommand\theHthm         {\theHsection.\arabic{thm}}

5346 \let\H@item\item
5347 \newcounter{Item}
5348 \def\theHItem{\arabic{Item}}
5349 \def\item{%
5350   \@hyper@itemfalse
5351   \if@nmbriest\@hyper@itemtrue\fi
5352   \H@item
5353 }

5354 \newcommand\theHenumi      {\theHItem}
5355 \newcommand\theHenumii     {\theHItem}
5356 \newcommand\theHenumiii    {\theHItem}

```

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.

```

5357 \newcommand\theHenumiv {\theHItem}
5358 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5359 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5360 \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.

```

5361 \let\H@refstepcounter\refstepcounter
5362 \edef\name@of@eq{equation}%
5363 \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.

```

5364 \newif\if@hyper@item
5365 \newif\if@skiphyperref
5366 \@hyper@itemfalse
5367 \@skiphyperreffalse
5368 \def\refstepcounter#1{%
5369   \ifHy@pdfstring
5370   \else
5371     \H@refstepcounter{#1}%
5372     \edef\This@name{#1}%
5373     \ifx\This@name\name@of@slide
5374     \else
5375       \if@skiphyperref
5376       \else
5377         \if@hyper@item
5378         \stepcounter{Item}%
5379         \hyper@refstepcounter{Item}%
5380         \@hyper@itemfalse
5381       \else
5382         \hyper@refstepcounter{#1}%
5383       \fi
5384     \fi
5385   \fi
5386 \fi
5387 }

```

AMST<sub>EX</sub> 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.

```

5388 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5389 \def\hyper@refstepcounter#1{%
5390   \edef\This@name{#1}%
5391   \ifx\This@name\name@of@eq
5392     \@ifundefined{theHequation}{%
5393       \make@stripped@name{\theequation}%
5394       \let\theHequation\newname
5395     }{}%
5396   \fi
5397   \@ifundefined{theH#1}{%
5398     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5399   }{}%
5400   \hyper@makecurrent{#1}%
5401   \ifmeasuring@

```

```

5402 \else
5403   \Hy@raisedlink{%
5404     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5405   }%
5406 \fi
5407 }

```

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`.

```

5408 \begingroup\expandafter\expandafter\expandafter\endgroup
5409 \expandafter\ifx\csname chapter\endcsname\relax
5410   \def\Hy@chapterstring{section}%
5411 \else
5412   \def\Hy@chapterstring{chapter}%
5413 \fi
5414 \def\Hy@appendixstring{appendix}
5415 \def\Hy@chapapp{\Hy@chapterstring}
5416 \let\HyOrg@appendix\appendix
5417 \def\appendix{%
5418   \@ifundefined{chapter}%
5419   {\gdef\theHsection{\Alph{section}}}%
5420   {\gdef\theHchapter{\Alph{chapter}}}%
5421   \xdef\Hy@chapapp{\Hy@appendixstring}%
5422   \HyOrg@appendix
5423 }

```

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

```

5424 \def\hyper@makecurrent#1{%
5425   \begingroup
5426     \edef\Hy@param{#1}%
5427     \ifx\Hy@param\Hy@chapterstring
5428       \let\Hy@param\Hy@chapapp
5429     \fi
5430     \ifHy@hypertextnames
5431       \let\@number\@firstofone
5432       \@ifundefined{latin@Alph}{-}{%
5433         \ifx\@Alph\greek@Alph
5434           \def\@Alph{Alph\@arabic}%
5435         \fi
5436       }%
5437       \ifx\@Alph\@Alph@bul
5438         \def\@Alph{Alph\@arabic}%
5439       \fi
5440       \ifx\@alph\@alph@bul
5441         \def\@alph{alph\@arabic}%
5442       \fi
5443       \ifHy@naturalnames
5444         \let\textlatin\@firstofone
5445         \xdef\@currentHlabel{\csname the#1\endcsname}%
5446       \else
5447         \xdef\@currentHlabel{%
5448           \csname

```

```

5449         the%
5450         \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5451         #1%
5452     \endcsname
5453 }%
5454 \fi
5455 \xdef\@currentHref{%
5456     \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5457 }%
5458 \else
5459     \Hy@GlobalStepCount\Hy@linkcounter
5460     \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5461 \fi
5462 \endgroup
5463 }

5464 \@ifpackageloaded{fancyvrb}{%
5465     \@ifpackagelater{fancyvrb}{1998/05/20}{%
5466         \def\FV@StepLineNo{%
5467             \FV@SetLineNo
5468             \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5469             \FV@StepLineNo
5470         }%
5471     }%
5472 }{}

```

## 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`

```

5473 \AtBeginDocument{%
5474     \@ifclassloaded{revtex4}{%
5475         \@namedef{ver@lastpage.sty}{1994/06/25}%
5476     }{}%
5477     \@ifpackageloaded{lastpage}{%
5478         \ifHy@pageanchor
5479         \else
5480             \Hy@WarningNoLine{%
5481                 The \string\pageref{LastPage} link doesn't work\MessageBreak
5482                 with disabled option 'pageanchor'%
5483             }%
5484         \fi
5485         \def\lastpage@putlabel{%
5486             \addtocounter{page}{-1}%
5487             \if@filesw
5488                 \begingroup
5489                 \let\@number\@firstofone
5490                 \ifHy@pageanchor
5491                     \ifHy@hypertextnames

```

```

5492     \ifHy@plainpages
5493       \def\Hy@temp{\arabic{page}}}%
5494     \else
5495       \Hy@unicodefalse
5496       \pdfstringdef\Hy@temp{\thepage}%
5497     \fi
5498   \else
5499     \def\Hy@temp{\the\Hy@pagecounter}%
5500   \fi
5501 \fi
5502 \immediate\write\@auxout{%
5503   \string\newlabel
5504     {LastPage}{\thepage}{\thepage}}%
5505   \ifHy@pageanchor page.\Hy@temp\fi}}}%
5506 }%
5507 \endgroup
5508 \fi
5509 \addtocounter{page}{1}%
5510 }%
5511 \@ifclassloaded{revtex4}{%
5512   \begingroup
5513     \toks@\expandafter{\lastpage@putlabel}%
5514     \edef\x{\endgroup
5515       \def\noexpand\lastpage@putlabel{%
5516         \noexpand\stepcounter{page}%
5517         \the\toks@
5518         \noexpand\addtocounter{page}\noexpand\m@ne
5519       }%
5520     }%
5521     \x
5522   }{}%
5523 }{}%
5524 }
5525 \</package>
5526 \<*check>
5527 \checkpackage{lastpage}[1994/06/25]
5528 \checkcommand\def\lastpage@putlabel{%
5529   \addtocounter{page}{-1}%
5530   \immediate\write\@auxout{%
5531     \string\newlabel{LastPage}{\thepage}}%
5532   }%
5533   \addtocounter{page}{1}%
5534 }
5535 \</check>
5536 \<*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.

```

5537 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5538 \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:

```
5539 \ifpackageloaded{titlesec}{%
5540   \def\ttl@Hy@steplink#1{%
5541     \Hy@GlobalStepCount\Hy@linkcounter
5542     \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5543     \def\ttl@Hy@saveanchor{%
5544       \Hy@raisedlink{%
5545         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5546       }%
5547     }%
5548   }%
5549   \def\ttl@Hy@refstepcounter#1{%
5550     \let\ttl@b\Hy@raisedlink
5551     \def\Hy@raisedlink##1{%
5552       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5553     }%
5554     \refstepcounter{#1}%
5555     \let\Hy@raisedlink\ttl@b
5556   }%
5557 }
```

Package titletoc support:

```
5558 \ifpackageloaded{titletoc}{%
5559   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5560 }
```

## 32 Package varioref support

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

```
5561 \def\Hy@varioref@undefined{???}{?}{-}{-}}
5562 \ifpackageloaded{varioref}{%
5563   \def\vref@pagenum#1#2{%
5564     \ifundefined{r@#2}{%
5565       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5566     }{}%
5567     \edef#1{\getpagerefnumber{#2}}%
5568   }%
5569 }
```

## 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

```
5570 \ifpackageloaded{longtable}{%
5571   \begingroup
5572     \def\y{\LT@array}%
5573     \ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
```

```

5574 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5575 \expandafter\endgroup
5576 \expandafter\def\y[##1]##2{%
5577 \H@refstepcounter{#1}%
5578 \hyper@makecurrent{table}%
5579 \let\Hy@LT@currentHlabel\@currentHlabel
5580 \let\Hy@LT@currentHref\@currentHref
5581 #2\@sharp####4%
5582 }%
5583 }%
5584 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
5585 \begingroup
5586 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5587 \endgroup
5588 \def\LT@start{%
5589 #1%
5590 \let\@currentHlabel\Hy@LT@currentHlabel
5591 \let\@currentHref\Hy@LT@currentHref
5592 \Hy@raisedlink{%
5593 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5594 }%
5595 \ifvoid\LT@firsthead\copy
5596 #2%
5597 }%
5598 }%
5599 \expandafter\x\LT@start\@nil
5600 }{}

```

## 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.

```

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

```

```

5620 }%
5621 \fi
5622 \fi
5623 }{%
5624 \def\equation{%
5625 \let\refstepcounter\H@refstepcounter
5626 \H@equation
5627 \@ifundefined{theHequation}{%
5628 \make@stripped@name{\theequation}%
5629 \let\theHequation\newname
5630 }{}%
5631 \hyper@makecurrent{equation}%
5632 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5633 \let\refstepcounter\new@refstepcounter
5634 }%
5635 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5636 }

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X 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.

```

5637 \newif\if@eqnstar
5638 \@eqnstarfalse
5639 \let\H@eqnarray\eqnarray
5640 \let\H@endeqnarray\endeqnarray
5641 \def\eqnarray{%
5642 \let\Hy@reserved@a\relax
5643 \def\@currentHref{}%
5644 \H@eqnarray
5645 \if@eqnstar
5646 \else
5647 \ifx\\\@currentHref\\%
5648 \else
5649 \@ifundefined{theHequation}{%
5650 \make@stripped@name{\theequation}%
5651 \let\theHequation\newname
5652 }{}%
5653 \hyper@makecurrent{equation}%
5654 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5655 \fi
5656 \fi
5657 }
5658 \def\endeqnarray{%
5659 \H@endeqnarray
5660 }

```

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.

```

5661 \@namedef{eqnarray*}{%
5662 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5663 }
5664 \@namedef{endeqnarray*}{%
5665 \nonumber\endeqnarray\@eqnstarfalse
5666 }

```

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



```

5667 \ifundefined{subeqnarray}{}%
5668 \let\H@subeqnarray\subeqnarray
5669 \let\H@endsubeqnarray\endsubeqnarray
5670 \def\subeqnarray{%
5671   \let\Hy@reserved@a\relax
5672   \H@subeqnarray
5673   \ifundefined{theHequation}{%
5674     \make@stripped@name{\theequation}%
5675     \let\theHequation\newname
5676   }{%
5677     \hyper@makecurrent{equation}%
5678     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5679   }%
5680   \def\endsubeqnarray{%
5681     \H@endsubeqnarray
5682   }%
5683   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5684 }

```

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

```

5685 \def\make@stripped@name#1{%
5686   \begingroup
5687   \escapechar\m@ne
5688   \global\let\newname\@empty
5689   \protected@edef\Hy@tempa{#1}%
5690   \edef\@tempb{%
5691     \noexpand\@tfor\noexpand\Hy@tempa:=%
5692     \expandafter\strip@prefix\meaning\Hy@tempa
5693   }%
5694   \@tempb\do{%
5695     \if\Hy@tempa\else
5696       \if\Hy@tempa\else
5697         \xdef\newname{\newname\Hy@tempa}%
5698       \fi
5699     \fi
5700   }%
5701   \endgroup
5702 }

```

Support for amsmath's subequations:

```

5703 \begingroup\expandafter\expandafter\expandafter\endgroup
5704 \expandafter\ifx\csname subequations\endcsname\relax
5705 \else
5706   \let\HyOrg@subequations\subequations
5707   \def\subequations{%
5708     \stepcounter{equation}%
5709     \protected@edef\theHparentequation{%
5710       \ifundefined{theHequation}\theequation\theHequation
5711     }%
5712     \addtocounter{equation}{-1}%
5713     \HyOrg@subequations
5714     \def\theHequation{\theHparentequation\alph{equation}}%
5715     \ignorespaces
5716   }%
5717 \fi

```

Support for package amsthm (Daniel Müllner):

```

5718 \ifpackageloaded{amsthm}{%

```

```

5719 \def\@thm#1#2#3{%
5720   \ifhmode
5721     \unskip\unskip\par
5722   \fi
5723   \normalfont
5724   \trivlist
5725   \let\thmheadnl\relax
5726   \let\thm@swap\@gobble
5727   \thm@notefont{\fontseries\mddefault\upshape}%
5728   \thm@headpunct{.}% add period after heading
5729   \thm@headsep 5\p@ plus\p@ minus\p@\relax
5730   \thm@space@setup
5731   #1% style overrides
5732   \@topsep \thm@preskip           % used by thm head
5733   \@topsepadd \thm@postskip      % used by \@endparenv
5734   \def\dth@counter{#2}%
5735   \ifx\@empty\dth@counter
5736     \def\@tempa{%
5737       \@oparg{\@begintheorem{#3}{}}[]%
5738     }%
5739   \else
5740     \H@refstepcounter{#2}%
5741     \hyper@makecurrent{#2}%
5742     \def\@tempa{%
5743       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5744     }%
5745   \fi
5746   \@tempa
5747 }%
5748 \dth@everypar={%
5749   \@minipagefalse
5750   \global\@newlistfalse
5751   \@noparitemfalse
5752   \if@inlabel
5753     \global\@inlabelfalse
5754     \begingroup
5755     \setbox\z@\lastbox
5756     \ifvoid\z@
5757       \kern-\itemindent
5758     \fi
5759   \endgroup
5760   \ifx\@empty\dth@counter
5761   \else
5762     \Hy@raisedlink{%
5763       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5764     }%
5765   \fi
5766   \unhbox\@labels
5767 \fi
5768 \if@nobreak
5769   \@nobreakfalse \clubpenalty\@M
5770 \else
5771   \clubpenalty\@clubpenalty \everypar{}%
5772 \fi
5773 }%
5774 }{}

```

## 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.

```
5775 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5776 \ifHy@hyperfootnotes
5777   \newcounter{Hfootnote}%
5778   \let\H@@footnotetext\@footnotetext
5779   \let\H@@footnotemark\@footnotemark
5780   \def\xfootnotenext[#1]{%
5781     \begingroup
5782       \csname c@\@mpfn\endcsname #1\relax
5783       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5784     \endgroup
5785     \ifx\@footnotetext\@mpfootnotetext
5786       \expandafter\H@@mpfootnotetext
5787     \else
5788       \expandafter\H@@footnotetext
5789     \fi
5790   }%
5791   \def\xfootnotemark[#1]{%
5792     \begingroup
5793       \c@footnote #1\relax
5794       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5795     \endgroup
5796     \H@@footnotemark
5797   }%
5798   \let\H@@mpfootnotetext\@mpfootnotetext
5799   \long\def\@mpfootnotetext#1{%
5800     \H@@mpfootnotetext{%
5801       \ifHy@nesting
5802         \expandafter\hyper@@anchor\expandafter{%
5803           \Hy@footnote@currentHref
5804         }{#1}%
5805       \else
5806         \Hy@raisedlink{%
5807           \expandafter\hyper@@anchor\expandafter{%
5808             \Hy@footnote@currentHref
5809           }{\relax}%
5810         }#1%
5811       \fi
5812     }%
5813   }%
5814   \long\def\@footnotetext#1{%
5815     \H@@footnotetext{%
5816       \ifHy@nesting
5817         \expandafter\hyper@@anchor\expandafter{%
5818           \Hy@footnote@currentHref
5819         }{#1}%
5820       \else
5821         \Hy@raisedlink{%
5822           \expandafter\hyper@@anchor\expandafter{%
5823             \Hy@footnote@currentHref
5824           }{\relax}%

```

```

5825     }%
5826     \let\@currentHlabel\Hy@footnote@currentHlabel
5827     \let\@currentHref\Hy@footnote@currentHref
5828     \let\@currentlabelname\@empty
5829     #1%
5830     \fi
5831     }%
5832 }%

```

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.

```

5833 \def\@footnotemark{%
5834   \leavevmode
5835   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5836   \stepcounter{Hfootnote}%
5837   \global\let\Hy@saved@currentHlabel\@currentHlabel
5838   \global\let\Hy@saved@currentHref\@currentHref
5839   \hyper@makecurrent{Hfootnote}%
5840   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5841   \global\let\Hy@footnote@currentHref\@currentHref
5842   \global\let\@currentHlabel\Hy@saved@currentHlabel
5843   \global\let\@currentHref\Hy@saved@currentHref
5844   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5845   \@makefnmark
5846   \hyper@linkend
5847   \ifhmode\spacefactor\x@sf\fi
5848   \relax
5849 }%

```

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

```

5850 \ifpackageloaded{longtable}{%
5851   \CheckCommand*\LT@p@ftntext[1]{%
5852     \edef\@tempa{%
5853       \the\LT@p@ftn
5854       \noexpand\footnotetext[\the\c@footnote]%
5855     }%
5856     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5857   }%
5858   \long\def\LT@p@ftntext#1{%
5859     \edef\@tempa{%
5860       \the\LT@p@ftn
5861       \begingroup
5862       \noexpand\c@footnote=\the\c@footnote\relax
5863       \noexpand\protected@xdef
5864       \noexpand\@thefnmark{\noexpand\thempfn}%
5865       \noexpand\protected@xdef\noexpand\@thefnmark{%
5866         \noexpand\thempfn
5867       }%
5868       \expandafter\expandafter\expandafter\noexpand
5869       \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5870       \expandafter\expandafter\expandafter{%
5871         \expandafter\Hy@footnote@currentHref\expandafter
5872         \expandafter{\Hy@footnote@currentHlabel}%

```

```

5873 }%
5874 \global\LT@p@ftn\expandafter{%
5875   \@tempa{#1}%
5876   \endgroup
5877 }%
5878 }%
5879 \long\def\Hy@LT@footnotetext#1#2#3{%
5880   \H@@@footnotetext{%
5881     \ifHy@nesting
5882       \hyper@@anchor{#1}{#3}%
5883     \else
5884       \Hy@raisedlink{%
5885         \hyper@@anchor{#1}{\relax}%
5886       }%
5887       \def\@currentHlabel{#2}%
5888       \def\@currentHref{#1}%
5889       \let\@currentlabelname\@empty
5890       #3%
5891     \fi
5892   }%
5893 }%
5894 }{}%

```

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

```

5895 \@ifpackageloaded{fancyvrb}{%
5896   \def\V@@@footnotetext{%
5897     \insert\footins\bgroup
5898     \csname reset@font\endcsname
5899     \footnotesize
5900     \interlinepenalty\interfootnotelinepenalty
5901     \splittopskip\footnotesep
5902     \splitmaxdepth\dp\strutbox
5903     \floatingpenalty \@MM
5904     \hsize\columnwidth
5905     \@parboxrestore
5906     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5907     \@makefnintext{}%
5908     \rule{\z@}{\footnotesep}%
5909     \bgroup
5910     \aftergroup\V@@@footnotetext
5911     \Hy@raisedlink{%
5912       \expandafter\hyper@@anchor\expandafter{%
5913         \Hy@footnote@currentHref
5914       }\relax}%
5915   }%
5916   \let\@currentHlabel\Hy@footnote@currentHlabel
5917   \let\@currentHref\Hy@footnote@currentHref
5918   \let\@currentlabelname\@empty
5919   \ignorespaces
5920 }%
5921 }{}%

```

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.

```

5922 \let\HyOrg@maketitle\maketitle
5923 \def\maketitle{%
5924   \let\Hy@saved@footnotemark\@footnotemark
5925   \let\Hy@saved@footnotetext\@footnotetext

```

```

5926 \let\@footnotemark\H@@footnotemark
5927 \let\@footnotetext\H@@footnotetext
5928 \@ifnextchar[\Hy@maketitle@optarg{% ]
5929 \HyOrg@maketitle
5930 \Hy@maketitle@end
5931 }%
5932 }%
5933 \def\Hy@maketitle@optarg[#1]{%
5934 \HyOrg@maketitle[{#1}]%
5935 \Hy@maketitle@end
5936 }%
5937 \def\Hy@maketitle@end{%
5938 \ifx\@footnotemark\H@@footnotemark
5939 \let\@footnotemark\Hy@saved@footnotemark
5940 \fi
5941 \ifx\@footnotetext\H@@footnotetext
5942 \let\@footnotetext\Hy@saved@footnotetext
5943 \fi
5944 }%

```

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

```

5945 \def\realfootnote{%
5946 \@ifnextchar[\@xfootnote{%
5947 \stepcounter{\@mpfn}%
5948 \protected@xdef\@thefnmark{\thempfn}%
5949 \H@@@footnotemark\H@@@footnotetext
5950 }%
5951 }%

5952 \fi
5953 \Hy@DisableOption{hyperfootnotes}

5954 \</package>
5955 \< *check>
5956 \checklatex
5957 \checkcommand\def\@xfootnotenext[#1]{%
5958 \begingroup
5959 \csname c@\@mpfn\endcsname #1\relax
5960 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5961 \endgroup
5962 \@footnotetext
5963 }
5964 \checkcommand\def\@xfootnotemark[#1]{%
5965 \begingroup
5966 \c@footnote #1\relax
5967 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5968 \endgroup
5969 \@footnotemark
5970 }
5971 \checkcommand\def\@footnotemark{%
5972 \leavevmode
5973 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5974 \@makefnmark
5975 \ifhmode\spacefactor\@x@sf\fi
5976 \relax
5977 }
5978 \</check>
5979 \< *package>

```

## 36 Float captions

Make the float caption the hypertext anchor; curiously enough, we can't just copy the definition of `\@caption`. Its all to do with expansion. It screws up. Sigh.

```

5980 \def\caption{%
5981   \ifx\@capttype\@undefined
5982     \@latex@error{\noexpand\caption outside float}\@ehd
5983     \expandafter\@gobble
5984   \else
5985     \H@refstepcounter\@capttype
5986     \let\Hy@tempa\@caption
5987     \ifundefined{float@caption}{%
5988       }{%
5989         \expandafter\ifx\csname @float@c@\@capttype\endcsname
5990           \float@caption
5991           \let\Hy@tempa\Hy@float@caption
5992         \fi
5993       }%
5994     \expandafter\@firstofone
5995   \fi
5996   {\@dblarg{\Hy@tempa\@capttype}}%
5997 }
5998 \long\def\@caption#1[#2]#3{%
5999   \expandafter\ifx\csname if@capstart\expandafter\endcsname
6000     \csname iftrue\endcsname
6001     \global\let\@currentHref\hc@currentHref
6002   \else
6003     \hyper@makecurrent{\@capttype}%
6004   \fi
6005   \@ifundefined{NR@gettitle}{%
6006     \def\@currentlabelname{#2}%
6007   }{%
6008     \NR@gettitle{#2}%
6009   }%
6010   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6011     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6012   }%
6013   \begingroup
6014     \@parboxrestore
6015     \if@minipage
6016       \setminipage
6017     \fi
6018     \normalsize
6019     \expandafter\ifx\csname if@capstart\expandafter\endcsname
6020       \csname iftrue\endcsname
6021       \global\@capstartfalse
6022       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6023     \else
6024       \@makecaption{\csname fnum@#1\endcsname}{%
6025         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6026     \ifHy@nesting
6027       \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6028     \else
6029       \Hy@raisedlink{%
6030         \expandafter\hyper@@anchor\expandafter{%
6031           \@currentHref

```

```

6032         }\relax}%
6033     }%
6034     #3%
6035     \fi
6036 }%
6037 \fi
6038 \par
6039 \endgroup
6040 }

```

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.

```

6041 \let\Hy@float@caption\@caption
6042 \ifpackageloaded{float}{%
6043   \def\Hy@float@caption{%
6044     \ifx\Hy@float@currentHref\@undefined
6045       \hyper@makecurrent{\@capttype}%
6046       \global\let\Hy@float@currentHref\@currentHref
6047     \else
6048       \let\@currentHref\Hy@float@currentHref
6049     \fi
6050     \float@caption
6051   }%
6052   \let\HyOrg@float@makebox\float@makebox
6053   \renewcommand{\float@makebox}[1]{%
6054     \HyOrg@float@makebox{%
6055       #1\relax
6056       \ifx\Hy@float@currentHref\@undefined
6057         \else
6058           \expandafter\hyper@@anchor\expandafter{%
6059             \Hy@float@currentHref
6060           }\relax}%
6061       \global\let\Hy@float@currentHref\@undefined
6062     \fi
6063   }%
6064 }%
6065 }{}

6066 \</package>
6067 \<*check>
6068 \checklatex[1999/06/01 - 2000/06/01]
6069 \checkcommand\def\caption{%
6070   \ifx\@capttype\@undefined
6071     \@latex@error{\noexpand\caption outside float}\@ehd
6072     \expandafter\@gobble
6073   \else
6074     \refstepcounter\@capttype
6075     \expandafter\@firstofone
6076     \fi
6077   {\@dblarg{\@caption\@capttype}}}%
6078 }

6079 \checkcommand\long\def\@caption#1[#2]#3{%
6080   \par
6081   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6082     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6083   }%
6084   \begingroup
6085     \@parboxrestore

```



```

6086 \if@minipage
6087 \setminipage
6088 \fi
6089 \normalsize
6090 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6091 \endgroup
6092 }
6093 </check>
6094 <*package>

```

## 37 Bibliographic references

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

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

```

6095 \def\hyper@natlinkstart#1{%
6096 \Hy@backout{#1}%
6097 \hyper@linkstart{cite}{cite.#1}%
6098 \def\hyper@nat@current{#1}%
6099 }
6100 \def\hyper@natlinkend{%
6101 \hyper@linkend
6102 }
6103 \def\hyper@natlinkbreak#1#2{%
6104 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6105 }
6106 \def\hyper@natanchorstart#1{%
6107 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6108 }
6109 \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.

```

6110 \ifundefined{NAT@parse}{%
6111 \providecommand*\@extra@binfo{}%
6112 \providecommand*\@extra@b@citeb{}%
6113 \def\bibcite#1#2{%
6114 \@newl@bel{b}{#1\@extra@binfo}{%
6115 \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6116 }%
6117 }%
6118 \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.”.

```

6119 \let\Hy@bibcite\bibcite
6120 \begingroup
6121 \ifundefined{bbl@cite@choice}{-}{%
6122 \g@addto@macro\bbl@cite@choice{%

```

```

6123     \let\bibcite\Hy@bibcite
6124   }%
6125 }%
6126 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
6127 \providecommand*{\@BIBLABEL}{\@biblabel}%
6128 \def\@lbibitem[#1]#2{%
6129   \@skiphyperreftrue
6130   \H@item{%
6131     \ifx\Hy@raisedlink\@empty
6132       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6133       \@BIBLABEL{#1}%
6134       \hyper@anchorend
6135     \else
6136       \Hy@raisedlink{%
6137         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6138       }%
6139       \@BIBLABEL{#1}%
6140     \fi
6141     \hfill
6142   }%
6143   \@skiphyperreffalse
6144   \if@filesw
6145     \begingroup
6146     \let\protect\noexpand
6147     \immediate\write\@auxout{%
6148       \string\bibcite{#2}{#1}%
6149     }%
6150   \endgroup
6151   \fi
6152   \ignorespaces
6153 }%

```

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

```

6154 \def\@bibitem#1{%
6155   \@skiphyperreftrue\H@item\@skiphyperreffalse
6156   \Hy@raisedlink{%
6157     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6158   }%
6159   \if@filesw
6160     \begingroup
6161     \let\protect\noexpand
6162     \immediate\write\@auxout{%
6163       \string\bibcite{#1}{\the\value{\@listctr}}%
6164     }%
6165   \endgroup
6166   \fi
6167   \ignorespaces
6168 }%
6169 }{}

6170 </package>
6171 <*check>
6172 \checklatex
6173 \checkcommand\def\@lbibitem[#1]#2{%
6174   \item[\@biblabel{#1}\hfill]%
6175   \if@filesw

```

```

6176 {%
6177   \let\protect\noexpand
6178   \immediate\write\@auxout{%
6179     \string\bibcite{#2}{#1}%
6180   }%
6181 }%
6182 \fi
6183 \ignorespaces
6184 }
6185 \checkcommand\def\@bibitem#1{%
6186   \item
6187   \if@filesw
6188     \immediate\write\@auxout{%
6189       \string\bibcite{#1}{\the\value{\@listctr}}%
6190     }%
6191   \fi
6192   \ignorespaces
6193 }
6194 \</check>
6195 \<*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.

```

6196 \@ifclassloaded{revtex}{%
6197   \Hy@Info{*** compatibility with revtex **** }%
6198   \def\revtex@checking#1#2{%
6199     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6200     \expandafter\def\csname b@#1\endcsname{#2}%
6201     \@SetMaxRnhefLabel{#1}%
6202     \expandafter\let\csname b@#1\endcsname\T@temp
6203   }%

```

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

```

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

```

```

6227      {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6228      }%
6229      }%
6230      }{#1}%
6231      }$%
6232      }%

```

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

```

6233 \def\@citex[#1]#2{%
6234   \let\@citea\@empty
6235   \@cite{%
6236     \@for\@citeb:=#2\do{%
6237       \@citea
6238       \def\@citea{,\penalty\@m\ }%
6239       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6240       \if@filesw
6241         \immediate\write\@auxout{\string\citation{\@citeb}}%
6242       \fi
6243       \ifundefined{b@\@citeb\@extra@b@citeb}{%
6244         \mbox{\reset@font\bfseries ?}%
6245         \G@refundefinedtrue
6246         \@latex@warning{%
6247           Citation '\@citeb' on page \thepage \space undefined%
6248         }%
6249       }{%
6250         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6251       }%
6252     }%
6253   }{#1}%
6254 }%
6255 }{}

```

## 37.1 Package harvard

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

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

```

6256 \ifpackageloaded{harvard}{%
6257   \AtBeginDocument{%
6258     \Hy@Info{*** compatibility with harvard **** }%
6259     \Hy@raiselinksfalse
6260     \def\harvardcite#1#2#3#4{%
6261       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6262       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6263       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6264       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6265     }%
6266     \def\HAR@citetoaux#1{%
6267       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6268       \ifHy@backref
6269         \ifx\@empty\@currentlabel
6270           \else
6271             \@bspack

```

```

6272     \if@filesw
6273     \protected@write\@auxout{}\{
6274     \string\@writefile{brf}\{
6275     \string\backcite{#1}\{
6276     {\thepage}\{\@currentlabel}\{\@currentHref}%
6277     }%
6278     }%
6279     }%
6280     \fi
6281     \@esphack
6282     \fi
6283     \fi
6284     }%
6285     \def\harvarditem{%
6286     \ifnextchar[\{\@harvarditem}\{\@harvarditem[\null]}\}%
6287     }%
6288     \def\@harvarditem[#1]#2#3#4#5\par{%
6289     \item[]%
6290     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6291     \if@filesw
6292     \begin{group}
6293     \def\protect##1{\string ##1\space}%
6294     \ifthenelse{\equal{#1}\{\null}}%
6295     {\def\next{{#4}{#2}{#2}{#3}}}%
6296     {\def\next{{#4}{#2}{#1}{#3}}}%
6297     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6298     \end{group}
6299     \fi
6300     \protect\hspace*{-\labelwidth}%
6301     \protect\hspace*{-\labelsep}%
6302     \ignorespaces
6303     #5%
6304     \ifHy@backref
6305     \newblock
6306     \backref{\csname br@#4\endcsname}%
6307     \fi
6308     \par
6309     }%

```

\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:

```

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

```

```

6325 \fi
6326 }%
6327 }%

6328 }{}

```

## 37.2 Package chicago

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

```

6329 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6330 \def\citeN{%
6331 \def\@citesep{-1000}%
6332 \def\@cite##1##2{##1}%
6333 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6334 \@citedata@opt
6335 }%

```

`\shortciteN`

```

6336 \def\shortciteN{%
6337 \def\@citesep{-1000}%
6338 \def\@cite##1##2{##1}%
6339 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6340 \@citedata@opt
6341 }%

```

`\@citedata@opt`

```

6342 \def\@citedata@opt{%
6343 \let\@cite@opt\@empty
6344 \@ifnextchar [{%
6345 \@tempwattrue
6346 \@citedatax@opt
6347 }{%
6348 \@tempwafalse
6349 \@citedatax[]%
6350 }%
6351 }%

```

`\@citedatax@opt`

```

6352 \def\@citedatax@opt[#1]{%
6353 \def\@cite@opt{, #1}%
6354 \@citedatax[{#1}]%
6355 }%

6356 }{}

```

## 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.

```

6357 \def\Hy@EveryPageAnchor{%
6358   \Hy@DistillerDestFix
6359   \ifHy@pageanchor
6360     \ifHy@hypertextnames
6361       \ifHy@plainpages
6362         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}}%
6363       \else
6364         \begingroup
6365         \let\@number\@firstofone
6366         \Hy@unicodefalse
6367         \pdfstringdef\@the@H@page{\thepage}%
6368       \endgroup
6369       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}}%
6370     \fi
6371   \else
6372     \Hy@GlobalStepCount\Hy@pagecounter
6373     \def\Hy@TempPageAnchor{%
6374       \hyper@@anchor{page.\the\Hy@pagecounter}%
6375     }%
6376   \fi
6377   \vbox to 0pt{%
6378     \kern\voffset
6379     \kern\topmargin
6380     \kern-1bp\relax
6381     \hbox to 0pt{%
6382       \kern\hoffset
6383       \kern\ifodd\value{page}%
6384         \oddsidemargin
6385       \else
6386         \evensidemargin
6387       \fi
6388       \kern-1bp\relax
6389       \Hy@TempPageAnchor
6390     \hss
6391   }%
6392   \vss
6393 }%
6394 \fi
6395 }
6396 \g@addto@macro\Hy@EveryPageBoxHook{%
6397   \Hy@EveryPageAnchor
6398 }

```

## 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.

```

6399 \def\addcontentsline#1#2#3{% toc extension, type, tag
6400   \begingroup
6401   \let\label\@gobble
6402   \ifx\@currentHref\@empty
6403     \Hy@Warning{%
6404       No destination for bookmark of \string\addcontentsline,%
6405       \MessageBreak destination is added%

```

```

6406 }%
6407 \phantomsection
6408 \fi
6409 \expandafter\ifx\csname toplevel@#2\endcsname\relax
6410 \begingroup
6411 \def\Hy@tempa{#1}%
6412 \ifx\Hy@tempa\Hy@bookmarkstype
6413 \Hy@WarningNoLine{%
6414 bookmark level for unknown #2 defaults to 0%
6415 }%
6416 \else
6417 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6418 \fi
6419 \endgroup
6420 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6421 \fi
6422 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6423 \Hy@writebookmark{\csname the#2\endcsname}%
6424 {#3}%
6425 {\@currentHref}%
6426 {\Hy@toclevel}%
6427 {#1}%
6428 \ifHy@verbose
6429 \def\Hy@tempa{#3}%
6430 \@onelevel@sanitize\Hy@tempa
6431 \typeout{pdfTeX: bookmark at \the\inputlineno: %
6432 {\csname the#2\endcsname}%
6433 {\Hy@tempa}%
6434 {\@currentHref}%
6435 {\Hy@toclevel}%
6436 {#1}%
6437 }%
6438 \fi
6439 \addtocontents{#1}{%
6440 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6441 }%
6442 \endgroup
6443 }
6444 \def\contentsline#1#2#3#4{%
6445 \ifx\#4\%
6446 \csname l@#1\endcsname{#2}{#3}%
6447 \else
6448 \ifcase\Hy@linktoc % none
6449 \csname l@#1\endcsname{#2}{#3}%
6450 \or % section
6451 \csname l@#1\endcsname{%
6452 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6453 }{#3}%
6454 \or % page
6455 \csname l@#1\endcsname{#2}{#3}%
6456 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6457 }%
6458 \else % all
6459 \csname l@#1\endcsname{%
6460 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6461 }{#3}%
6462 \hyper@linkstart{link}{#4}{#3}\hyper@linkend

```



```

6463     }%
6464     \fi
6465     \fi
6466 }

6467 </package>
6468 <*check>
6469 \checklatex
6470 \checkcommand\def\addcontentsline#1#2#3{%
6471   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6472 }
6473 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6474 </check>
6475 <*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.

```

6476 \let\H@definecounter\@definecounter
6477 \def\@definecounter#1{%
6478   \H@definecounter{#1}%
6479   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6480 }

```

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.

```

6481 \let\H@newctr\@newctr
6482 \def\@newctr#1[#2]{%
6483   \H@newctr#1[{#2}]%
6484   \expandafter\def\csname theH#1\endcsname{%
6485     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6486   }%
6487 }

```

## 41 AMS $\text{\LaTeX}$ 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.

```

6488 \ifpackageloaded{amsmath}{%
6489   \def\Hy@make@anchor{%
6490     \Hy@GlobalStepCount\Hy@linkcounter
6491     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6492     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6493   }%
6494   \def\Hy@make@df@tag@@#1{%
6495     \gdef\df@tag{%
6496       \maketag@@@{\Hy@make@anchor#1}%
6497       \def\@currentlabel{#1}%
6498     }%
6499   }%

```

```

6500 \def\Hy@make@df@tag@@@#1{%
6501   \gdef\df@tag{%
6502     \tagform@{\Hy@make@anchor#1}%
6503     \toks@{\exp{\p@equation{#1}}}%
6504     \edef\@currentlabel{\the\toks@}%
6505   }%
6506 }%
6507 \let\HyOrg@make@df@tag@@\make@df@tag@@
6508 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6509 \let\make@df@tag@@\Hy@make@df@tag@@
6510 \let\make@df@tag@@@\Hy@make@df@tag@@@
6511 }{}

```

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

```

6512 \@ifpackagewith{hyperref}{pdfTeX}{%
6513   \let\H@seteqlabel\@seteqlabel
6514   \def\@seteqlabel#1{%
6515     \H@seteqlabel{#1}%
6516     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6517     \Hy@raisedlink{%
6518       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6519     }%
6520   }%
6521 }{}

```

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.

```

6522 \let\HyOrg@addtoreset\@addtoreset
6523 \def\@addtoreset#1#2{%
6524   \HyOrg@addtoreset{#1}{#2}%
6525   \expandafter\xdef\csname theH#1\endcsname{%
6526     \expandafter\noexpand
6527     \csname the\@ifundefined{theH#2}{H#2\endcsname
6528     .\noexpand\the\noexpand\value{#1}}%
6529   }%
6530 }

```

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

```

6531 </package>
6532 <*check>
6533 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6534 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6535   \@ifundefined{c@#2}{\@nocounterr{#2}}{%

```

```

6536 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6537 \addtoreset{#2}{#3}%
6538 \exp\xdef\csname the#2\endcsname{%
6539 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6540 }%
6541 }%
6542 }%
6543 }%
6544 \check)
6545 \*package)
6546 \ifpackageloaded{amsmath}{%
6547 \ifpackagelater{amsmath}{1999/12/14}{%
6548 \renewcommand*{\numberwithin}{3}[\arabic]{%
6549 \ifundefined{c@#2}{\@nocounterr{#2}}{%
6550 \ifundefined{c@#3}{\@nocnterr{#3}}{%
6551 \HyOrg@addtoreset{#2}{#3}%
6552 \exp\xdef\csname the#2\endcsname{%
6553 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6554 }%
6555 \exp\xdef\csname theH#2\endcsname{%
6556 \exp\@nx
6557 \csname the\ifundefined{theH#3}{H#3\endcsname
6558 .\@nx#1{#2}%
6559 }%
6560 }%
6561 }%
6562 }%
6563 }{%
6564 \Hy@WarningNoLine{%
6565 \string\numberwithin\space of package 'amsmath' %
6566 only fixed\MessageBreak
6567 for version 2000/06/06 v2.12 or newer%
6568 }%
6569 }%
6570 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6571 \ifHy@figures
6572 \let\Hy@Gin@setfile\Gin@setfile
6573 \def\Gin@setfile#1#2#3{%
6574 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6575 }%
6576 \fi
6577 \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.

```

6578 \ifHy@hyperindex
6579 \def\HyInd@ParenLeft{()}%
6580 \def\HyInd@ParenRight{)}%
6581 \def\hyperindexformat#1#2{%
6582 \let\HyOrg@hyperpage\hyperpage
6583 \let\hyperpage\@firstofone
6584 #1{\HyOrg@hyperpage{#2}}%
6585 \let\hyperpage\HyOrg@hyperpage
6586 }%
6587 \Hy@nextfalse
6588 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6589 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6590 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6591 \begingroup
6592 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6593 \lccode'\|/'=\|\\relax
6594 \lowercase{\endgroup
6595 \ifHy@next
6596 \let\HyInd@org@wrindex\@wrindex
6597 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
6598 \def\HyInd@@wrindex#1#2|#3|#4\\{%
6599 \ifx\\#3\\%
6600 \HyInd@org@wrindex{#1}{#2|hyperpage}%
6601 \else
6602 \HyInd@@@wrindex{#1}{#2}#3\\%
6603 \fi
6604 }%
6605 \def\HyInd@@@wrindex#1#2#3#4\\{%
6606 \def\Hy@temp@A{#3}%
6607 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6608 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6609 \relax
6610 \HyInd@org@wrindex{#1}{%
6611 #2|hyperindexformat{/#3#4}%
6612 }%
6613 \else
6614 \ifx\\#4\\%
6615 \ifx\Hy@temp@A\HyInd@ParenRight
6616 \HyInd@org@wrindex{#1}{#2|#3}%
6617 \else
6618 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6619 \fi
6620 \else
6621 \HyInd@org@wrindex{#1}{%
6622 #2|#3hyperindexformat{/#4}%
6623 }%
6624 \fi
6625 \fi
6626 }%
6627 \else
6628 \def\@wrindex#1{\@@wrindex#1||\\}%
6629 \def\@@wrindex#1|#2|#3\\{%
6630 \if@filesw

```

```

6631 \ifx\|#2\|%
6632 \protected@write\@indexfile{}\{%
6633 \string\indexentry{#1|hyperpage}\thepage}%
6634 }%
6635 \else
6636 \HyInd@@@wrindex{#1}#2\|%
6637 \fi
6638 \fi
6639 \endgroup
6640 \@esphack
6641 }%
6642 \def\HyInd@@@wrindex#1#2#3\{%
6643 \def\Hy@temp@A{#2}%
6644 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6645 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6646 \relax
6647 \protected@write\@indexfile{}\{%
6648 \string\indexentry{%
6649 #1|hyperindexformat{/#2#3}%
6650 }\thepage}%
6651 }%
6652 \else
6653 \ifx\|#3\|%
6654 \ifx\Hy@temp@A\HyInd@ParenRight
6655 \protected@write\@indexfile{}\{%
6656 \string\indexentry{#1|#2}\thepage}%
6657 }%
6658 \else
6659 \protected@write\@indexfile{}\{%
6660 \string\indexentry{#1|#2hyperpage}\thepage}%
6661 }%
6662 \fi
6663 \else
6664 \protected@write\@indexfile{}\{%
6665 \string\indexentry{%
6666 #1|#2hyperindexformat{/#3}%
6667 }\thepage}%
6668 }%
6669 \fi
6670 \fi
6671 }%
6672 \fi
6673 }%
6674 \fi
6675 \Hy@DisableOption{hyperindex}
6676 \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.

```
6677 \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.

```

6678 \def\hyperpage#1{%
6679 \HyInd@hyperpage#1\nohyperpage{}\@nil
6680 }
6681 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%

```

```

6682 \HyInd@@hyperpage{#1}%
6683 #2%
6684 \def\Hy@temp{#3}%
6685 \ifx\Hy@temp\@empty
6686 \else
6687 \Hy@ReturnAfterFi{%
6688 \HyInd@hyperpage#3\@nil
6689 }%
6690 \fi
6691 }
6692 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6693 \def\@hyperpage#1--#2--#3\{\}%
6694 \ifx\#2\%
6695 \@commahyperpage{#1}%
6696 \else
6697 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6698 \fi
6699 }
6700 \def\@commahyperpage#1{\@commahyperpage#1, \}
6701 \def\@commahyperpage#1, #2,#3\{\}%
6702 \ifx\#2\%
6703 \HyInd@pagelink{#1}%
6704 \else
6705 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6706 \fi
6707 }

```

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

```

6708 \def\HyInd@pagelink#1{%
6709 \begingroup
6710 \toks@={}%
6711 \HyInd@removespaces#1 \@nil
6712 \endgroup
6713 }
6714 \def\HyInd@removespaces#1 #2\@nil{%
6715 \toks@=\expandafter{\the\toks@#1}%
6716 \ifx\#2\%
6717 \edef\x{\the\toks@}%
6718 \ifx\x\@empty
6719 \else
6720 \hyperlink{page.\the\toks@}{\the\toks@}%
6721 \fi
6722 \else
6723 \Hy@ReturnAfterFi{%
6724 \HyInd@removespaces#2\@nil
6725 }%
6726 \fi
6727 }

```

## 44 Compatibility with foiltex

```

6728 \@ifclassloaded{foils}{%
6729 \providecommand*\ext@table{lot}%
6730 \providecommand*\ext@figure{lof}%
6731 }{}

```

## 45 Compatibility with seminar slide package

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

```

6732 \ifclassloaded{seminar}{%
6733   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
6734 }{%
6735   \Hy@seminarslidesfalse
6736 }
6737 \ifpackageloaded{slidesec}{%
6738   \newcommand\theHslidesection {\arabic{slidesection}}%
6739   \newcommand\theHslidesubsection{%
6740     \theHslidesection.\arabic{slidesubsection}}%
6741   }%
6742   \def\slide@heading[#1]#2{%
6743     \H@refstepcounter{slidesection}%
6744     \@addtoreset{slidesubsection}{slidesection}%
6745     \addtocontents{los}{%
6746       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6747       {\@SCTR}{slideheading.\theslidesection}}%
6748   }%
6749   \def\Hy@tempa{#2}%
6750   \ifx\Hy@tempa\@empty
6751   \else
6752     {%
6753       \edef\@currentlabel{%
6754         \csname p@slidesection\endcsname\theslidesection
6755       }%
6756       \makeslideheading{#2}%
6757     }%
6758   \fi
6759   \gdef\theslideheading{#1}%
6760   \gdef\theslidesubheading{}%
6761   \ifHy@bookmarksnumbered
6762     \def\Hy@slidetitle{\theslidesection\space #1}%
6763   \else
6764     \def\Hy@slidetitle{#1}%
6765   \fi
6766   \ifHy@hypertextnames
6767     \ifHy@naturalnames
6768       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6769       \Hy@writebookmark
6770         {\theslidesection}%
6771         {\Hy@slidetitle}%
6772         {slideheading.\theslidesection}%
6773         {1}%
6774         {toc}%
6775     \else
6776       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6777       \Hy@writebookmark
6778         {\theslidesection}%
6779         {\Hy@slidetitle}%
6780         {slideheading.\theHslidesection}%
6781         {1}%
6782         {toc}%
6783     \fi
6784   \else

```

```

6785 \Hy@GlobalStepCount\Hy@linkcounter
6786 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6787 \Hy@writebookmark
6788 {\theslidesubsection}%
6789 {\Hy@slidetitle}%
6790 {slideheading.\the\Hy@linkcounter}%
6791 {1}%
6792 {toc}%
6793 \fi
6794 }%
6795 \def\slide@subheading[#1]#2{%
6796 \H@refstepcounter{slidesubsection}%
6797 \addtocontents{los}{%
6798 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6799 {\@SCTR}{slideheading.\theslidesubsection}%
6800 }%
6801 \def\Hy@tempa{#2}%
6802 \ifx\Hy@tempa\@empty
6803 \else
6804 {%
6805 \edef\@currentlabel{%
6806 \csname p@slidesubsection\endcsname\theslidesubsection
6807 }%
6808 \makeslidesubheading{#2}%
6809 }%
6810 \fi
6811 \gdef\theslidesubheading{#1}%
6812 \ifHy@bookmarksnumbered
6813 \def\Hy@slidetitle{\theslidesubsection\space #1}%
6814 \else
6815 \def\Hy@slidetitle{#1}%
6816 \fi
6817 \ifHy@hypertexnames
6818 \ifHy@naturalnames
6819 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6820 \Hy@writebookmark
6821 {\theslidesubsection}%
6822 {\Hy@slidetitle}%
6823 {slideheading.\theslidesubsection}%
6824 {2}%
6825 {toc}%
6826 \else
6827 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6828 \Hy@writebookmark
6829 {\theslidesubsection}%
6830 {\Hy@slidetitle}%
6831 {slideheading.\theHslidesubsection}%
6832 {2}%
6833 {toc}%
6834 \fi
6835 \else
6836 \Hy@GlobalStepCount\Hy@linkcounter
6837 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6838 \Hy@writebookmark
6839 {\theslidesubsection}%
6840 {\Hy@slidetitle}%
6841 {slideheading.\the\Hy@linkcounter}%

```



```

6842 {1}%
6843 {toc}%
6844 \fi
6845 }%
6846 \providecommand*{\listslidenam}{List of Slides}%
6847 \def\listofslides{%
6848 \section*{%
6849 \listslidenam
6850 \@mkboth{%
6851 \expandafter\MakeUppercase\listslidenam
6852 }{%
6853 \expandafter\MakeUppercase\listslidenam
6854 }%
6855 }%
6856 \def\l@slide##1##2##3##4{%
6857 \slide@undottedcline{%
6858 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6859 }{}%
6860 }%
6861 \let\l@subslide\l@slide
6862 \@startlos
6863 }%
6864 \def\slide@contents{%
6865 \def\l@slide##1##2##3##4{%
6866 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6867 }%
6868 \let\l@subslide\@gobblefour
6869 \@startlos
6870 }%
6871 \def\Slide@contents{%
6872 \def\l@slide##1##2##3##4{%
6873 \ifcase\lslide@flag
6874 \message{##1 ** \the\c@slidesection}%
6875 \ifnum##1>\c@slidesection
6876 \def\lslide@flag{1}%
6877 {%
6878 \large
6879 \slide@ccline{%
6880 \slidenumberline{$\rightarrow\bullet$}%
6881 {\hyperlink{##4}{##2}}}%
6882 }{##3}%
6883 }%
6884 \else
6885 {%
6886 \large
6887 \slide@ccline{%
6888 \slidenumberline{$\surd\;\bullet$}%
6889 {\hyperlink{##4}{##2}}}%
6890 }{##3}%
6891 }%
6892 \fi
6893 \or
6894 \def\lslide@flag{2}%
6895 {%
6896 \large
6897 \slide@ccline{%
6898 \slidenumberline{$\bullet$}%

```

```

6899         {\hyperlink{##4}{##2}}%
6900     }{##3}%
6901 }%
6902 \or
6903 {%
6904     \large
6905     \slide@cline{%
6906         \slidenumberline{$\bullet$}%
6907         {\hyperlink{##4}{##2}}%
6908     }{##3}%
6909 }%
6910 \fi
6911 }%
6912 \def\l@subslide##1##2##3##4{%
6913     \ifnum\lslide@flag=1 %
6914         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6915     \fi
6916 }%
6917 \def\lslide@flag{0}%
6918 \@startlos
6919 }%
6920 }{}

```

This breaks TeX4ht, so leave it to last. Emend \@setref to put out a hypertext link as well as its normal text (which is used as an anchor). (\endinput have to be on the same line like \fi, or you have to use \expandafter before.)

```

6921 \ifHy@texht
6922   \expandafter\endinput
6923 \fi
6924 \let\real@setref\@setref
6925 \def\@setref#1#2#3{% csname, extract group, refname
6926   \ifx#1\relax
6927     \protect\G@refundefinedtrue
6928     \nfss@text{\reset@font\bfseries ??}%
6929     \@latex@warning{%
6930       Reference '#3' on page \thepage \space undefined%
6931     }%
6932   \else
6933     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6934   \fi
6935 }

```

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

```

6936 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6937   \begingroup
6938     \toks0={\hyper@@link{#5}{#4}}%
6939     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6940     \edef\x{\endgroup
6941       \the\toks0 {\the\toks1 }%
6942     }%
6943   \x
6944 }
6945 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6946   \ifx#1\relax
6947     \protect\G@refundefinedtrue
6948     \nfss@text{\reset@font\bfseries ??}%
6949     \@latex@warning{%

```

```

6950   Reference '#3' on page \thepage \space undefined%
6951   }%
6952 \else
6953   \protect\hyper@link
6954   {\expandafter\@fifthoffive#1}%
6955   {page.\expandafter\@secondoffive#1}%
6956   {\expandafter\@secondoffive#1}%
6957 \fi
6958 }

6959 </package>
6960 <*check>
6961 \checklatex
6962 \checkcommand\def\@setref#1#2#3{%
6963   \ifx#1\relax
6964     \protect\G@refundefinedtrue
6965     \nfss@text{\reset@font\bfseries ??}%
6966     \@latex@warning{%
6967       Reference '#3' on page \thepage\space undefined%
6968     }%
6969   \else
6970     \expandafter#2#1\null
6971   \fi
6972 }
6973 </check>
6974 <*package>

```

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

```

6975 \def\HyRef@StarSetRef#1{%
6976   \begingroup
6977   \Hy@safe@activetrue
6978   \edef\x{#1}%
6979   \@onelevel@sanitize\x
6980   \edef\x{\endgroup
6981     \noexpand\HyRef@@StarSetRef
6982     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6983   }%
6984   \x
6985 }
6986 \def\HyRef@@StarSetRef#1#2#3{%
6987   \ifx#1\@undefined
6988     \let#1\relax
6989   \fi
6990   \real@setref#1#3{#2}%
6991 }
6992 \def\@refstar#1{%
6993   \HyRef@StarSetRef{#1}\@firstoffive
6994 }
6995 \def\@pagerefstar#1{%
6996   \HyRef@StarSetRef{#1}\@secondoffive
6997 }
6998 \AtBeginDocument{%
6999   \ifpackageloaded{varioref}{%
7000     \def\@Refstar#1{%
7001       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7002     }%
7003     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```

```

7004 \MakeUppercase#1%
7005 }%
7006 \DeclareRobustCommand*{\Ref}{%
7007 \ifstar\@Refstar\HyRef@Ref
7008 }%
7009 \def\HyRef@Ref#1{%
7010 \hyperref[#1]{\Ref*{#1}}%
7011 }%
7012 \def\Vr@f#1{%
7013 \leavevmode\unskip\vref@space
7014 \hyperref[#1]{%
7015 \Ref*{#1}%
7016 \let\vref@space\nobreakspace
7017 \@vpageref\unskip}{#1}%
7018 }%
7019 }%
7020 \def\vr@f#1{%
7021 \leavevmode\unskip\vref@space
7022 \begingroup
7023 \let\T@pageref\@pagerefstar
7024 \hyperref[#1]{%
7025 \ref*{#1}%
7026 \vpageref\unskip}{#1}%
7027 }%
7028 \endgroup
7029 }%
7030 }{}%
7031 }
7032 \DeclareRobustCommand*{\autopageref}{%
7033 \ifstar{%
7034 \HyRef@autopagerefname\pageref*%
7035 }\HyRef@autopageref
7036 }
7037 \def\HyRef@autopageref#1{%
7038 \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
7039 }
7040 \def\HyRef@autopagerefname{%
7041 \@ifundefined{pageautorefname}{%
7042 \@ifundefined{pagename}{%
7043 \Hy@Warning{No autoref name for 'page'}%
7044 }{%
7045 \pagename\nobreakspace
7046 }%
7047 }{%
7048 \pageautorefname\nobreakspace
7049 }%
7050 }
7051 \DeclareRobustCommand*{\autoref}{%
7052 \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
7053 }
7054 \def\HyRef@autoref#1#2{%
7055 \begingroup
7056 \Hy@safe@activetrue
7057 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7058 \endgroup
7059 }
7060 \def\HyRef@autosetref#1#2#3{% link command, csname, refname

```

```

7061 \HyRef@ShowKeysRef{#2}%
7062 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7063 \edef\HyRef@thisref{%
7064   \expandafter\@fourthoffive#1\@empty\@empty\@empty
7065 }%
7066 \expandafter\HyRef@testreftype\HyRef@thisref.\%
7067 \Hy@safe@activesfalse
7068 #3{%
7069   \expandafter\@fifthoffive#1\@empty\@empty\@empty
7070 }{%
7071   \expandafter\@fourthoffive#1\@empty\@empty\@empty
7072 }{%
7073   \HyRef@currentHtag
7074   \expandafter\@firstoffive#1\@empty\@empty\@empty
7075   \null
7076 }%
7077 \else
7078   \protect\G@refundefinedtrue
7079   \nfss@text{\reset@font\bfseries ??}%
7080   \@latex@warning{%
7081     Reference ‘#2’ on page \thepage\space undefined%
7082   }%
7083   \fi
7084 }
7085 \def\HyRef@testreftype#1.#2\{\%
7086   \@ifundefined{#1autorefname}{%
7087     \@ifundefined{#1name}{%
7088       \HyRef@StripStar#1\*\@nil{#1}%
7089       \@ifundefined{\HyRef@name autorefname}{%
7090         \@ifundefined{\HyRef@name name}{%
7091           \def\HyRef@currentHtag{%
7092             \Hy@Warning{No autoref name for ‘#1’}%
7093           }{%
7094             \edef\HyRef@currentHtag{%
7095               \expandafter\noexpand\csname\HyRef@name name\endcsname
7096               \noexpand~%
7097             }%
7098             }%
7099           }{%
7100             \edef\HyRef@currentHtag{%
7101               \expandafter\noexpand
7102               \csname\HyRef@name autorefname\endcsname
7103               \noexpand~%
7104             }%
7105             }%
7106           }{%
7107             \edef\HyRef@currentHtag{%
7108               \expandafter\noexpand\csname#1name\endcsname
7109               \noexpand~%
7110             }%
7111             }%
7112           }{%
7113             \edef\HyRef@currentHtag{%
7114               \expandafter\noexpand\csname#1autorefname\endcsname
7115               \noexpand~%
7116             }%
7117             }%

```

```

7118 }
7119 \def\HyRef@StripStar#1*\#2\@nil#3{%
7120   \def\HyRef@name{#2}%
7121   \ifx\HyRef@name\HyRef@CaseStar
7122     \def\HyRef@name{#1}%
7123   \else
7124     \def\HyRef@name{#3}%
7125   \fi
7126 }
7127 \def\HyRef@CaseStar{*\\}
7128 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7129 \let\HyRef@ShowKeysRef\@gobble
7130 \def\HyRef@ShowKeysInit{%
7131   \begingroup\expandafter\expandafter\expandafter\endgroup
7132   \expandafter\ifx\csname SK@@label\endcsname\relax
7133   \else
7134     \ifx\SK@ref\@empty
7135     \else
7136       \def\HyRef@ShowKeysRef{%
7137         \SK@\SK@@ref
7138       }%
7139     \fi
7140   \fi
7141 }
7142 \ifpackageloaded{showkeys}{%
7143   \HyRef@ShowKeysInit
7144 }{%
7145   \AtBeginDocument{%
7146     \ifpackageloaded{showkeys}{%
7147       \HyRef@ShowKeysInit
7148     }{%
7149     }%
7150 }

```

Defaults for the names that \autoref uses.

```

7151 \providecommand*\AMSautorefname{\equationautorefname}
7152 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7153 \providecommand*\Itemautorefname{\itemautorefname}
7154 \providecommand*\itemautorefname{item}
7155 \providecommand*\equationautorefname{Equation}
7156 \providecommand*\footnoteautorefname{footnote}
7157 \providecommand*\itemautorefname{item}
7158 \providecommand*\figureautorefname{Figure}
7159 \providecommand*\tableautorefname{Table}
7160 \providecommand*\partautorefname{Part}
7161 \providecommand*\appendixautorefname{Appendix}
7162 \providecommand*\chapterautorefname{chapter}
7163 \providecommand*\sectionautorefname{section}
7164 \providecommand*\subsectionautorefname{subsection}
7165 \providecommand*\subsubsectionautorefname{subsubsection}
7166 \providecommand*\paragraphautorefname{paragraph}
7167 \providecommand*\subparagraphautorefname{subparagraph}
7168 \providecommand*\FancyVerbLineautorefname{line}
7169 \providecommand*\theoremautorefname{Theorem}

```

```

7170 \providecommand*\pageautorefname{page}
7171 </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`.

```

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

```

```

7214 \ifx\#2\%
7215 \else
7216 \@backslashchar)%
7217 \Hy@ReturnAfterFi{%
7218 \Hy@ExchangeRightParenthesis#2\@nil
7219 }%
7220 \fi
7221 }%
7222 \else
7223 \def\Hy@pstringdef#1#2{%
7224 \begingroup
7225 \edef~{\string~}%
7226 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7227 \endgroup
7228 \let#1\Hy@gtemp
7229 }%
7230 \fi
7231 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7232 < *pdfTeX>
7233 \providecommand*{\XR@ext}{pdf}
7234 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T<sub>E</sub>X 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<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-081: `\pdfminorversion`

```

7235 \let\Hy@pdfminorversion\relax
7236 \begingroup\expandafter\expandafter\expandafter\endgroup
7237 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7238 \begingroup\expandafter\expandafter\expandafter\endgroup
7239 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7240 \else
7241 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7242 \fi
7243 \else
7244 \def\Hy@pdfminorversion{\pdfminorversion}%
7245 \fi
7246 \@ifundefined{Hy@pdfminorversion}{%
7247 \PackageInfo{hyperref}{%
7248 PDF version is not set, because pdfTeX is too old (<1.10a)%
7249 }%
7250 }{%
7251 \ifHy@ocgcolorlinks
7252 \ifnum\Hy@pdfminorversion<5 %
7253 \setkeys{Hyp}{pdfversion=1.5}%
7254 \fi
7255 \fi
7256 \ifHy@setpdfversion
7257 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7258 \else
7259 \Hy@pdfminorversion=\Hy@pdfversion\relax

```



```

7260 \fi
7261 \PackageInfo{hyperref}{%
7262 \expandafter\string\Hy@pdfminorversion
7263 :=\number\Hy@pdfversion\space
7264 }%
7265 \fi
7266 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7267 }
7268 \Hy@DisableOption{pdfversion}%

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

```

```

7317     <<%
7318         /Event/Print%
7319         /OCGs \OBJ@OCGs
7320         /Category[/Print]%
7321     >>%
7322     <<%
7323         /Event/Export%
7324         /OCGs \OBJ@OCGs
7325         /Category[/Print]%
7326     >>%
7327     ]%
7328     >>%
7329     >>%
7330 }%
7331 \begingroup
7332 \edef\x{\endgroup
7333     \pdfpageresources{%
7334         /Properties<<%
7335         /OCView \OBJ@OCG@view
7336         /OCPrint \OBJ@OCG@print
7337     >>%
7338     }%
7339 }%
7340 \x
7341 \AtBeginDocument{%
7342     \def\Hy@colorlink#1{%
7343         \begingroup
7344         \ifHy@ocgcolorlinks
7345             \def\Hy@ocgcolor{#1}%
7346             \setbox0=\color@hbox
7347         \else
7348             \HyColor@UseColor#1%
7349         \fi
7350     }%
7351     \def\Hy@endcolorlink{%
7352         \ifHy@ocgcolorlinks
7353             \color@endbox
7354         \mbox{%
7355             \pdfliteral page{/OC/OCPrint BDC}%
7356             \rlap{\copy0}%
7357             \pdfliteral page{EMC/OC/OCView BDC}%
7358         \begingroup
7359             \expandafter\HyColor@UseColor\Hy@ocgcolor
7360         \box0 %
7361         \endgroup
7362         \pdfliteral page{EMC}%
7363     }%
7364     \fi
7365 \endgroup
7366 }%
7367 }%
7368 \else
7369     \Hy@DisableOption{ocgcolorlinks}%
7370 \fi

```

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

```

7371 \def\setpdfinkmargin#1{\pdfinkmargin#1}
7372 \ifx\pdfstartlink\@undefined% less than version 14

```

```

7373 \let\pdfstartlink\pdfannotlink
7374 \let\pdfinkmargin\@tempdima
7375 \let\pdfxform\pdfform
7376 \let\pdflastxform\pdfastform
7377 \let\pdfrefxform\pdfrefform
7378 \else
7379 \pdfinkmargin1pt %
7380 \fi

```

First set up the default linking

```
7381 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7382 \def\new@pdfink#1{%
7383   \ifHy@verbose
7384     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7385   \fi
7386   \Hy@SaveLastskip
7387   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7388   \Hy@DestName\Hy@pstringDest\@pdfview
7389   \Hy@RestoreLastskip
7390 }
7391 \let\pdf@endanchor\@empty

```

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

```

7392 \def\Hy@DestName#1#2{%
7393   \pdfdest name{#1}#2\relax
7394 }

```

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.

```

7395 \providecommand*\@pdfborder{0 0 1}
7396 \providecommand*\@pdfborderstyle{}
7397 \def\Hy@undefinedname{UNDEFINED}
7398 \def\find@pdfink#1#2{%
7399   \leavevmode
7400   \protected@edef\Hy@testname{#2}%
7401   \ifx\Hy@testname\@empty
7402     \Hy@Warning{%
7403       Empty destination name,\MessageBreak
7404       using '\Hy@undefinedname'%
7405     }%
7406     \let\Hy@testname\Hy@undefinedname
7407   \else
7408     \Hy@pstringdef\Hy@testname{%
7409       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7410     }%
7411   \fi
7412   \Hy@StartlinkName{%
7413     \ifHy@pdfa /F 4\fi
7414     \Hy@setpdfborder
7415     \ifx\@pdfhighlight\@empty
7416       \else
7417         /H\@pdfhighlight
7418       \fi

```

```

7419 \ifx\CurrentBorderColor\relax
7420 \else
7421 /C[\CurrentBorderColor]%
7422 \fi
7423 }\Hy@testname
7424 \expandafter\Hy@colorlink\csname @#1color\endcsname
7425 }
7426 \def\Hy@StartlinkName#1#2{%
7427 \pdfstartlink attr{#1}goto name{#2}\relax
7428 }
7429 \def\close@pdfink{\Hy@endcolorlink\pdfendlink}
7430 \def\hyper@anchor#1{\new@pdfink{#1}\anchor@spot\pdf@endanchor}
7431 \def\hyper@anchorstart#1{\new@pdfink{#1}\Hy@activeanchortrue}
7432 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7433 \def\hyper@linkstart#1#2{%
7434 \@ifundefined{@#1bordercolor}{%
7435 \let\CurrentBorderColor\relax
7436 }{%
7437 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7438 }%
7439 \find@pdfink{#1}{#2}%
7440 }
7441 \def\hyper@linkend{\close@pdfink}
7442 \def\hyper@link#1#2#3{%
7443 \@ifundefined{@#1bordercolor}{%
7444 \let\CurrentBorderColor\relax
7445 }{%
7446 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7447 }%
7448 \find@pdfink{#1}{#2}#3%
7449 \close@pdfink
7450 }
7451 \let\CurrentBorderColor\@linkbordercolor
7452 \def\hyper@linkurl#1#2{%
7453 \begingroup
7454 \Hy@pstringdef\Hy@pstringURI{#2}%
7455 \hyper@chars
7456 \leavevmode
7457 \pdfstartlink
7458 attr{%
7459 \Hy@setpdfborder
7460 \ifx\@pdfhighlight\@empty
7461 \else
7462 /H\@pdfhighlight
7463 \fi
7464 \ifx\@urlbordercolor\relax
7465 \else
7466 /C[\@urlbordercolor]%
7467 \fi
7468 }%
7469 user{%
7470 /Subtype/Link%
7471 \ifHy@pdfa /F 4\fi
7472 /A<<%
7473 /Type/Action%
7474 /S/URI%
7475 /URI(\Hy@pstringURI)%

```

```

7476     >>%
7477     }%
7478     \relax
7479     \Hy@colorlink\@urlcolor#1%
7480     \close@pdfink
7481 \endgroup
7482 }
7483 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7484 \begingroup
7485   \Hy@pstringdef\Hy@pstringF{#2}%
7486   \Hy@pstringdef\Hy@pstringD{#3}%
7487   \leavevmode
7488   \pdfstartlink
7489   attr{%
7490     \Hy@setpdfborder
7491     \ifx\@pdfhighlight\@empty
7492     \else
7493       /H\@pdfhighlight
7494     \fi
7495     \ifx\@filebordercolor\relax
7496     \else
7497       /C[\@filebordercolor]%
7498     \fi
7499   }%
7500   user {%
7501     /Subtype/Link%
7502     \ifHy@pdfa /F 4\fi
7503     /A<<%
7504     /F(\Hy@pstringF)%
7505     /S/GoToR%
7506     \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}

```

```

7507     \ifx\#3\%
7508     /D[0 \@pdfstartview]%
7509     \else
7510     /D(\Hy@pstringD)%
7511     \fi
7512     >>%
7513     }%
7514     \relax
7515     \Hy@colorlink\@filecolor#1%
7516     \close@pdfink
7517 \endgroup
7518 }
7519 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7520 \begingroup
7521   \Hy@pstringdef\Hy@pstringF{#1}%

```

```

7522 \Hy@pstringdef\Hy@pstringP{#3}%
7523 \leavevmode
7524 \pdfstartlink
7525   attr{%
7526     \Hy@setpdfborder
7527     \ifx\@pdfhighlight\@empty
7528     \else
7529       /H\@pdfhighlight
7530     \fi
7531     \ifx\@runbordercolor\relax
7532     \else
7533       /C[\@runbordercolor]%
7534     \fi
7535   }%
7536   user {%
7537     /Subtype/Link%
7538     \ifHy@pdfa /F 4\fi
7539     /A<<%
7540       /F(\Hy@pstringF)%
7541       /S/Launch%
7542       \Hy@SetNewWindow
7543       \ifx\#3\%
7544       \else
7545         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7546       \fi
7547     >>%
7548   }%
7549   \relax
7550 \Hy@colorlink\@runcolor#2%
7551 \close@pdflink
7552 \endgroup
7553 }

```

\@pdfproducer

```

7554 \ifx\@pdfproducer\relax
7555 \begingroup\expandafter\expandafter\expandafter\endgroup
7556 \expandafter\ifx\csname luatexversion\endcsname\relax
7557 \def\@pdfproducer{pdfTeX}%
7558 \ifx\eTeXversion\@undefined
7559 \else
7560 \ifx\eTeXversion\relax
7561 \else
7562 \ifnum\eTeXversion>0 %
7563 \def\@pdfproducer{pdfTeX}%
7564 \fi
7565 \fi
7566 \fi
7567 \ifx\pdfTeXversion\@undefined
7568 \else
7569 \ifnum\pdfTeXversion<100 %
7570 \edef\@pdfproducer{%
7571   \@pdfproducer
7572   \the\pdfTeXversion.\pdfTeXrevision
7573 }%
7574 \else
7575 \ifnum\pdfTeXversion<130 %
7576 \edef\@pdfproducer{%

```

```

7577     \@pdfproducer-%
7578     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7579     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7580     \pdfTeXrevision
7581   }%
7582 \else
7583   \ifnum\pdfTeXversion<140 %
7584   \else
7585     \def\@pdfproducer{pdfTeX}%
7586   \fi
7587 \edef\@pdfproducer{%
7588   \@pdfproducer-%
7589   \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7590   \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7591   \pdfTeXrevision
7592 }%
7593 \fi
7594 \fi
7595 \fi
7596 \else
7597 \begingroup
7598   \count@=\luatexversion
7599   \divide\count@ by 100 %
7600   \edef\x{\the\count@}%
7601   \count@=-\x\relax
7602   \multiply\count@ by 100 %
7603   \advance\count@ by \luatexversion
7604   \edef\x{\endgroup
7605     \def\noexpand\@pdfproducer{%
7606       LuaTeX-\x.\the\count@.\luatexrevision
7607     }%
7608   }%
7609 \x
7610 \fi
7611 \fi

```

\PDF@SetupDox

```

7612 \def\PDF@SetupDoc{%
7613   \ifx\@pdfpagescrop\@empty
7614   \else
7615     \edef\process@me{%
7616       \pdfpagesattr={%
7617         /CropBox[\@pdfpagescrop]%
7618         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7619         \else
7620           ^^J\the\pdfpagesattr
7621         \fi
7622       }%
7623     }%
7624     \process@me
7625   \fi
7626   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7627   \pdfcatalog{%
7628     /PageMode/\@pdfpagemode
7629     \ifx\@baseurl\@empty
7630     \else
7631       /URI<</Base(\Hy@pstringB)>>%

```

```

7632 \fi
7633 }%
7634 \ifx\@pdfstartpage\@empty
7635 \else
7636 \ifx\@pdfstartview\@empty
7637 \else
7638 openaction goto page\@pdfstartpage{\@pdfstartview}%
7639 \fi
7640 \fi
7641 \edef\Hy@temp{%
7642 \ifHy@toolbar\else /HideToolbar true\fi
7643 \ifHy@menubar\else /HideMenubar true\fi
7644 \ifHy>windowui\else /HideWindowUI true\fi
7645 \ifHy@fitwindow /FitWindow true\fi
7646 \ifHy@centerwindow /CenterWindow true\fi
7647 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7648 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7649 \Hy@UseNameKey{Direction}\@pdfdirection
7650 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7651 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7652 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7653 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7654 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7655 \Hy@UseNameKey{Duplex}\@pdfduplex
7656 \ifx\@pdfpicktraybypdfsize\@empty
7657 \else
7658 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7659 \fi
7660 \ifx\@pdfprintpagerange\@empty
7661 \else
7662 /PrintPageRange\@pdfprintpagerange}%
7663 \fi
7664 \ifx\@pdfnumcopies\@empty
7665 \else
7666 /NumCopies \@pdfnumcopies
7667 \fi
7668 }%
7669 \pdfcatalog{%
7670 \ifx\Hy@temp\@empty
7671 \else
7672 /ViewerPreferences<<\Hy@temp>>%
7673 \fi
7674 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7675 \ifx\@pdflang\@empty
7676 \else
7677 /Lang(\@pdflang)%
7678 \fi
7679 }%
7680 }

```

\PDF@FinishDoc

```

7681 \def\PDF@FinishDoc{%
7682 \Hy@UseMaketitleInfos
7683 \pdfinfo{%
7684 /Author(\@pdfauthor)%
7685 /Title(\@pdftitle)%
7686 /Subject(\@pdfsubject)%

```



```

7687 /Creator(\@pdfcreator)%
7688 \ifx\@pdfcreationdate\@empty
7689 \else
7690 /CreationDate(\@pdfcreationdate)%
7691 \fi
7692 \ifx\@pdfmoddate\@empty
7693 \else
7694 /ModDate(\@pdfmoddate)%
7695 \fi
7696 \ifx\@pdfproducer\relax
7697 \else
7698 /Producer(\@pdfproducer)%
7699 \fi
7700 /Keywords(\@pdfkeywords)%
7701 }%
7702 \Hy@DisableOption{pdfauthor}%
7703 \Hy@DisableOption{pdftitle}%
7704 \Hy@DisableOption{pdfsubject}%
7705 \Hy@DisableOption{pdfcreator}%
7706 \Hy@DisableOption{pdfcreationdate}%
7707 \Hy@DisableOption{pdfmoddate}%
7708 \Hy@DisableOption{pdfproducer}%
7709 \Hy@DisableOption{pdfkeywords}%
7710 }

```

`\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`.

```

7711 \def\hyper@pagetransition{%
7712 \ifx\@pdfpagetransition\relax
7713 \else
7714 \expandafter\Hy@RemoveTransPageAttr
7715 \the\pdfpageattr^^J/Trans{}>>\END
7716 \ifx\@pdfpagetransition\@empty
7717 \else
7718 \edef\@processme{%
7719 \global\pdfpageattr{%
7720 \the\pdfpageattr
7721 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7722 }%
7723 }%
7724 \@processme
7725 \fi
7726 \fi
7727 }

```

`\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.

```

7728 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7729 \ifx\#2\%
7730 \global\pdfpageattr{#1}%
7731 \else
7732 \Hy@RemoveTransPageAttr#1#4\END
7733 \fi
7734 }

```

`\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`.

```

7735 \def\hyper@pageduration{%
7736   \ifx\@pdfpageduration\relax
7737   \else
7738     \expandafter
7739     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7740     \ifx\@pdfpageduration\@empty
7741     \else
7742       \edef\@processme{%
7743         \global\pdfpageattr{%
7744           \the\pdfpageattr
7745             ^^J/Dur \@pdfpageduration\space
7746         }%
7747       }%
7748       \@processme
7749     \fi
7750   \fi
7751 }
```

`\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.

```

7752 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7753   \ifx\#2\%
7754     \global\pdfpageattr{#1}%
7755   \else
7756     \Hy@RemoveDurPageAttr#1#4\END
7757   \fi
7758 }
```

`\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).

```

7759 \def\hyper@pagehidden{%
7760   \ifHy@useHidKey
7761     \expandafter
7762     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7763     \ifHy@pdfpagehidden
7764       \edef\@processme{%
7765         \global\pdfpageattr{%
7766           \the\pdfpageattr
7767             ^^J/Hid true % SPACE
7768         }%
7769       }%
7770       \@processme
7771     \fi
7772   \fi
7773 }
```

`\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.

```

7774 \gdef\Hy@RemoveHidPageAttr#1^~J/Hid#2#3 #4\END{%
7775   \ifx\#2\%
7776     \global\pdfpageattr{#1}%
7777   \else
7778     \Hy@RemoveHidPageAttr#1#4\END
7779   \fi
7780 }

7781 \g@addto@macro\Hy@EveryPageHook{%
7782   \hyper@pagetransition
7783   \hyper@pageduration
7784   \hyper@pagehidden
7785 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

7786 </pdfTeX>
7787 <*pdfTeX | xetex>
7788 \AtBeginDocument{%
7789   \ifHy@setpagesize
7790     \expandafter\@firstofone
7791   \else
7792     \expandafter\@gobble
7793   \fi
7794   {%
7795     \@ifclassloaded{seminar}{%
7796 <*pdfTeX>
7797     \setlength{\pdfhorigin}{1truein}%
7798     \setlength{\pdfvorigin}{1truein}%
7799 </pdfTeX>
7800     \ifportrait
7801       \ifdim\paperwidth=\z@
7802       \else
7803         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7804       \fi
7805       \ifdim\paperheight=\z@
7806       \else
7807         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7808       \fi
7809     \else
7810       \ifdim\paperheight=\z@
7811       \else
7812         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7813       \fi
7814       \ifdim\paperwidth=\z@
7815       \else
7816         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7817       \fi
7818     \fi
7819   }{%
7820     \@ifundefined{stockwidth}{%
7821       \ifdim\paperwidth>\z@
7822         \setlength{\pdfpagewidth}{\paperwidth}%
7823       \fi
7824       \ifdim\paperheight>\z@
7825         \setlength{\pdfpageheight}{\paperheight}%
7826       \fi
7827     }{%

```

```

7828     \ifdim\stockwidth>\z@
7829     \setlength{\pdfpagewidth}{\stockwidth}%
7830     \fi
7831     \ifdim\stockheight>\z@
7832     \setlength{\pdfpageheight}{\stockheight}%
7833     \fi
7834   }%
7835 }%
7836 }%
7837 \Hy@DisableOption{setpagesize}%
7838 }
7839 </pdfTeX | xetex>
7840 <*pdfTeX>
7841 \def\Acrobatmenu#1#2{%
7842   \Hy@Acrobatmenu{#1}{#2}{%
7843     \pdfstartlink
7844     attr{%
7845       \Hy@setpdfborder
7846       \ifx\@pdfhighlight\@empty
7847       \else
7848         /H\@pdfhighlight
7849       \fi
7850       \ifx\@menubordercolor\relax
7851       \else
7852         /C[\@menubordercolor]%
7853       \fi
7854     }%
7855     user{%
7856       /Subtype/Link%
7857       \ifHy@pdfa /F 4\fi
7858       /A<<%
7859       /S/Named/N/#1%
7860       >>%
7861     }%
7862     \relax
7863     \Hy@colorlink\@menucolor#2%
7864     \close@pdflink
7865   }%
7866 }

```

#### 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.

```

7867 \def\Hy@FixNotFirstPage{%
7868   \gdef\Hy@FixNotFirstPage{%
7869     \setbox\AtBeginShipoutBox=\hbox{%
7870       \copy\AtBeginShipoutBox
7871     }%
7872   }%
7873 }
7874 \AtBeginShipout{\Hy@FixNotFirstPage}

```

### 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  $\backslash$ special commands:

**href:** html:<a href = "href\_string">

**name:** html:<a name = "name\_string">

**end:** html:</a>

**image:** html:<img src = "href\_string">

**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<sub>E</sub>X file — the T<sub>E</sub>X 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.

```

7876  $\langle$ *hypertex $\rangle$ 
7877 \providecommand*{\XR@ext}{dvi}
7878 \def\PDF@FinishDoc{}
7879 \def\PDF@SetupDoc{%
7880   \ifx\@baseurl\@empty
7881     \else
7882       \special{html:<base href="\@baseurl">}%
7883     \fi
7884 }
7885 \def\hyper@anchor#1{%
7886   \Hy@SaveLastskip
7887   \begingroup
7888     \let\protect=\string
7889     \hyper@chars
7890     \special{html:<a name=%
7891       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7892   \endgroup
7893   \Hy@activeanchortrue
7894   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7895   \special{html:</a>}%
7896   \Hy@activeanchorfals
7897   \Hy@RestoreLastskip
7898 }
```

```

7899 \def\hyper@anchorstart#1{%
7900   \Hy@SaveLastskip
7901   \begingroup
7902   \hyper@chars
7903   \special{html:<a name=%
7904     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7905   \endgroup
7906   \Hy@activeanchortrue
7907 }
7908 \def\hyper@anchorend{%
7909   \special{html:</a>}%
7910   \Hy@activeanchorfalse
7911   \Hy@RestoreLastskip
7912 }
7913 \def\@urltype{url}
7914 \def\hyper@linkstart#1#2{%
7915   \expandafter\Hy@colorlink\csname @#1color\endcsname
7916   \def\Hy@tempa{#1}%
7917   \ifx\Hy@tempa\@urltype
7918     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7919   \else
7920     \begingroup
7921     \hyper@chars
7922     \special{html:<a href=%
7923       \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>}%
7924     \endgroup
7925   \fi
7926 }
7927 \def\hyper@linkend{%
7928   \special{html:</a>}%
7929   \Hy@endcolorlink
7930 }
7931 \def\hyper@linkfile#1#2#3{%
7932   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7933 }
7934 \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.

```

7935 \leavevmode
7936 \ifHy@raiselinks
7937   \setbox\@tempboxa=\color@hbox #1\color@endbox
7938   \@linkdim\dp\@tempboxa
7939   \lower\@linkdim\hbox{%
7940     \hyper@chars
7941     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7942   }%
7943   \Hy@colorlink\@urlcolor#1%
7944   \@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).

```

7945   \advance\@linkdim by -6.5\p@
7946   \raise\@linkdim\hbox{\special{html:</a>}}%
7947   \Hy@endcolorlink
7948 \else
7949   \begingroup

```

```

7950 \hyper@chars
7951 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7952 \Hy@colorlink\@urlcolor#1%
7953 \special{html:</a>}%
7954 \Hy@endcolorlink
7955 \endgroup
7956 \fi
7957 }

```

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

```

7958 \def\hyper@link#1#2#3{%
7959 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}}%
7960 }

7961 \def\hyper@image#1#2{%
7962 \begingroup
7963 \hyper@chars
7964 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7965 \endgroup
7966 }
7967 </hypertex>
7968 <*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<sup>A</sup>T<sub>E</sub>X 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.

```

7969 \providecommand*{\XR@ext}{dvi}
7970 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
7971 \def\hyper@anchor#1{%
7972 \Hy@SaveLastskip
7973 \begingroup
7974 \let\protect=\string
7975 \special{mark: #1}%
7976 \endgroup
7977 \Hy@activeanchortrue
7978 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7979 \Hy@activeanchorfalse
7980 \Hy@RestoreLastskip
7981 }
7982 \def\hyper@anchorstart#1{%
7983 \Hy@SaveLastskip
7984 \special{mark: #1}%
7985 \Hy@activeanchortrue
7986 }
7987 \def\hyper@anchorend{%
7988 \Hy@activeanchorfalse
7989 \Hy@RestoreLastskip
7990 }

```

```

7991 \def\hyper@linkstart#1#2{%
7992   \expandafter\Hy@colorlink\csname @#1color\endcsname
7993   \special{button: %
7994     10000000 %
7995     \number\baselineskip\space
7996     #2%
7997   }%
7998 }
7999 \def\hyper@linkend{%
8000   \Hy@endcolorlink
8001 }
8002 \def\hyper@link#1#2#3{%
8003   \setbox\@tempboxa=\color@hbox #3\color@endbox
8004   \leavevmode
8005   \ifHy@raiselinks
8006     \@linkdim\dp\@tempboxa
8007     \lower\@linkdim\hbox{%
8008       \special{button: %
8009         \number\wd\@tempboxa\space
8010         \number\ht\@tempboxa\space
8011         #2%
8012       }%
8013       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8014       \Hy@endcolorlink
8015     }%
8016     \@linkdim\ht\@tempboxa
8017     \advance\@linkdim by -6.5\p@
8018     \raise\@linkdim\hbox{}%
8019   \else
8020     \special{button: %
8021       \number\wd\@tempboxa\space
8022       \number\ht\@tempboxa\space
8023       #2%
8024     }%
8025     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8026     \Hy@endcolorlink
8027   \fi
8028 }
8029 \def\hyper@linkurl#1#2{%
8030   \begingroup
8031   \hyper@chars
8032   \leavevmode
8033   \setbox\@tempboxa=\color@hbox #1\color@endbox
8034   \ifHy@raiselinks
8035     \@linkdim\dp\@tempboxa
8036     \lower\@linkdim\hbox{%
8037       \special{button: %
8038         \number\wd\@tempboxa\space
8039         \number\ht\@tempboxa\space
8040         launch: \wwwbrowser\space
8041         #2%
8042       }%
8043       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8044     }%
8045     \@linkdim\ht\@tempboxa
8046     \advance\@linkdim by -6.5\p@
8047     \raise\@linkdim\hbox{}%

```



```

8048 \else
8049 \special{button: %
8050 \number\wd\@tempboxa\space
8051 \number\ht\@tempboxa\space
8052 launch: \wwwbrowser\space
8053 #2%
8054 }%
8055 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8056 \fi
8057 \endgroup
8058 }
8059 \def\hyper@linkfile#1#2#3{%
8060 \begingroup
8061 \hyper@chars
8062 \leavevmode
8063 \setbox\@tempboxa=\color@hbox #1\color@endbox
8064 \ifHy@raiselinks
8065 \@linkdim\dp\@tempboxa
8066 \lower\@linkdim\hbox{%
8067 \special{button: %
8068 \number\wd\@tempboxa\space
8069 \number\ht\@tempboxa\space
8070 #3,%
8071 file: #2%
8072 }%
8073 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8074 }%
8075 \@linkdim\ht\@tempboxa
8076 \advance\@linkdim by -6.5\p@
8077 \raise\@linkdim\hbox{}}%
8078 \else
8079 \special{button: %
8080 \number\wd\@tempboxa\space
8081 \number\ht\@tempboxa\space
8082 #3,%
8083 file: #2%
8084 }%
8085 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8086 \fi
8087 \endgroup
8088 }
8089 \ifx\@pdfproducer\relax
8090 \def\@pdfproducer{dviwindo + Distiller}%
8091 \fi
8092 \def\PDF@FinishDoc{%
8093 \Hy@UseMaketitleInfos
8094 \special{PDF: Keywords \@pdfkeywords}%
8095 \special{PDF: Title \@pdftitle}%
8096 \special{PDF: Creator \@pdfcreator}%
8097 \ifx\@pdfcreationdate\@empty
8098 \else
8099 \special{PDF: CreationDate \@pdfcreationdate}%
8100 \fi
8101 \ifx\@pdfmoddate\@empty
8102 \else
8103 \special{PDF: ModDate \@pdfmoddate}%
8104 \fi

```

```

8105 \special{PDF: Author \@pdfauthor}%
8106 \ifx\@pdfproducer\relax
8107 \else
8108 \special{PDF: Producer \@pdfproducer}%
8109 \fi
8110 \special{PDF: Subject \@pdfsubject}%
8111 \Hy@DisableOption{pdfauthor}%
8112 \Hy@DisableOption{pdftitle}%
8113 \Hy@DisableOption{pdfsubject}%
8114 \Hy@DisableOption{pdfcreator}%
8115 \Hy@DisableOption{pdfcreationdate}%
8116 \Hy@DisableOption{pdfmoddate}%
8117 \Hy@DisableOption{pdfproducer}%
8118 \Hy@DisableOption{pdfkeywords}%
8119 }
8120 \def\PDF@SetupDoc{%
8121 \ifx\@baseurl\@empty
8122 \else
8123 \special{PDF: Base \@baseurl}%
8124 \fi
8125 \ifx\@pdfpagescrop\@empty\else
8126 \special{PDF: BBox \@pdfpagescrop}%
8127 \fi
8128 \def\Hy@temp{%
8129 \ifx\@pdfstartpage\@empty
8130 \else
8131 \ifx\@pdfstartview\@empty
8132 \else
8133 \edef\Hy@temp{%
8134 ,Page=\@pdfstartpage
8135 ,View=\@pdfstartview
8136 }%
8137 \fi
8138 \fi
8139 \edef\Hy@temp{%
8140 \noexpand\pdfmark{%
8141 pdfmark=/DOCVIEW,%
8142 PageMode=/\@pdfpagemode
8143 \Hy@temp
8144 }%
8145 }%
8146 \Hy@temp
8147 \ifx\@pdfpagescrop\@empty
8148 \else
8149 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8150 \fi
8151 \edef\Hy@temp{%
8152 \ifHy@toolbar\else /HideToolbar true\fi
8153 \ifHy@menubar\else /HideMenubar true\fi
8154 \ifHy>windowui\else /HideWindowUI true\fi
8155 \ifHy@fitwindow /FitWindow true\fi
8156 \ifHy@centerwindow /CenterWindow true\fi
8157 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8158 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8159 \Hy@UseNameKey{Direction}\@pdfdirection
8160 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8161 \Hy@UseNameKey{ViewClip}\@pdfviewclip

```

```

8162 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8163 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8164 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8165 \Hy@UseNameKey{Duplex}\@pdfduplex
8166 \ifx\@pdfpicktraybypdfsize\@empty
8167 \else
8168 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8169 \fi
8170 \ifx\@pdfprintpagerange\@empty
8171 \else
8172 /PrintPageRange[\@pdfprintpagerange]%
8173 \fi
8174 \ifx\@pdfnumcopies\@empty
8175 \else
8176 /NumCopies \@pdfnumcopies
8177 \fi
8178 }%
8179 \pdfmark{pdfmark=/PUT,%
8180 Raw={%
8181 \string{Catalog\string}<<%
8182 \ifx\Hy@temp\@empty
8183 \else
8184 /ViewerPreferences<<\Hy@temp>>%
8185 \fi
8186 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8187 \ifx\@pdflang\@empty
8188 \else
8189 /Lang(\@pdflang)%
8190 \fi
8191 >>%
8192 }%
8193 }%
8194 }
8195 </dviwindo>
8196 <*dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8197 \providecommand*{\XR@ext}{pdf}
8198 \Hy@setbreaklinks{true}
8199 \newsavebox{\pdfm@box}
8200 \def\@pdfm@mark#1{\special{pdf:#1}}
8201 \def\@pdfm@dest#1{%
8202 \Hy@SaveLastskip
8203 \begingroup
8204 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8205 \def\x{XYZ}%
8206 \ifx\x\@pdfview
8207 \def\x{XYZ @xpos @ypos null}%
8208 \else
8209 \def\x{FitH}%
8210 \ifx\x\@pdfview
8211 \def\x{FitH @ypos}%
8212 \else
8213 \def\x{FitBH}%
8214 \ifx\x\@pdfview

```

```

8215     \def\x{FitBH @ypos}%
8216     \else
8217     \def\x{FitV}%
8218     \ifx\x\@pdfview
8219     \def\x{FitV @xpos}%
8220     \else
8221     \def\x{FitBV}%
8222     \ifx\x\@pdfview
8223     \def\x{FitBV @xpos}%
8224     \else
8225     \def\x{Fit}%
8226     \ifx\x\@pdfview
8227     \let\x\@pdfview
8228     \else
8229     \def\x{FitB}%
8230     \ifx\x\@pdfview
8231     \let\x\@pdfview
8232     \else
8233     \def\x{FitR}%
8234     \ifx\x\@pdfview
8235     \Hy@Warning{'pdfview=FitR' is not supported}%
8236     \def\x{XYZ @xpos @ypos null}%
8237     \else
8238     \@onelevel@sanitize\@pdfview
8239     \Hy@Warning{%
8240       Unknown value '\@pdfview' for pdfview%
8241     }%
8242     \def\x{XYZ @xpos @ypos null}%
8243     \fi
8244     \fi
8245     \fi
8246     \fi
8247     \fi
8248     \fi
8249     \fi
8250     \fi
8251     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8252 \endgroup
8253 \Hy@RestoreLastskip
8254 }
8255 \providecommand*\@pdfview{XYZ}
8256 \providecommand*\@pdfborder{0 0 1}
8257 \providecommand*\@pdfborderstyle{}
8258 \def\hyper@anchor#1{%
8259   \@pdfm@dest{#1}%
8260 }
8261 \def\hyper@anchorstart#1{%
8262   \Hy@activeanchortrue
8263   \@pdfm@dest{#1}%
8264 }
8265 \def\hyper@anchorend{%
8266   \Hy@activeanchorfalse
8267 }
8268 \newcounter{Hy@AnnotLevel}
8269 \ifHy@ocgcolorlinks
8270   \def\OBJ@OCG@view{@OCG@view}%
8271   \@pdfm@mark{%

```

```

8272 obj \OBJ@OCG@view <<%
8273   /Type/OCG%
8274   /Name(View)%
8275   /Usage<<%
8276   /Print<<%
8277   /PrintState/OFF%
8278   >>%
8279   /View<<%
8280   /ViewState/ON%
8281   >>%
8282   >>%
8283   >>%
8284 }%
8285 \@pdfm@mark{close \OBJ@OCG@view}%
8286 \def\OBJ@OCG@print{@OCG@print}%
8287 \@pdfm@mark{%
8288   obj \OBJ@OCG@print <<%
8289   /Type/OCG%
8290   /Name(Print)%
8291   /Usage<<%
8292   /Print<<%
8293   /PrintState/ON%
8294   >>%
8295   /View<<%
8296   /ViewState/OFF%
8297   >>%
8298   >>%
8299   >>%
8300 }%
8301 \@pdfm@mark{close \OBJ@OCG@print}%
8302 \def\OBJ@OCGs{@OCGs}%
8303 \@pdfm@mark{%
8304   obj \OBJ@OCGs [%
8305     \OBJ@OCG@view\space\OBJ@OCG@print
8306   ]%
8307 }%
8308 \@pdfm@mark{close \OBJ@OCGs}%
8309 \@pdfm@mark{%
8310   put @catalog <<%
8311     /OCProperties<<%
8312     /OCGs \OBJ@OCGs
8313     /D<<%
8314     /OFF[\OBJ@OCG@print]%
8315     /AS[%
8316       <<%
8317         /Event/View%
8318         /OCGs \OBJ@OCGs
8319         /Category[/View]%
8320       >>%
8321       <<%
8322         /Event/Print%
8323         /OCGs \OBJ@OCGs
8324         /Category[/Print]%
8325       >>%
8326       <<%
8327         /Event/Export%
8328         /OCGs \OBJ@OCGs

```

```

8329         /Category[/Print]%
8330     >>%
8331     l%
8332     >>%
8333     >>%
8334     >>%
8335 }%
8336 \AtBeginShipout{%
8337     \setbox\AtBeginShipoutBox=\hbox{%
8338         \copy\AtBeginShipoutBox
8339         \@pdfm@mark{%
8340             put @resources <<%
8341                 /Properties<<%
8342                 /OCView \OBJ@OCG@view
8343                 /OCPrint \OBJ@OCG@print
8344             >>%
8345             >>%
8346         }%
8347     }%
8348 }%
8349 \AtBeginDocument{%
8350     \def\Hy@colorlink#1{%
8351         \begingroup
8352         \ifHy@ocgcolorlinks
8353             \def\Hy@ocgcolor{#1}%
8354             \setbox0=\color@hbox
8355         \else
8356             \HyColor@UseColor#1%
8357         \fi
8358     }%
8359     \def\Hy@endcolorlink{%
8360         \ifHy@ocgcolorlinks
8361             \color@endbox
8362             \mbox{%
8363                 \@pdfm@mark{content /OC/OCPrint BDC}%
8364                 \rlap{\copy0}%
8365                 \@pdfm@mark{content EMC/OC/OCView BDC}%
8366             \begingroup
8367                 \expandafter\HyColor@UseColor\Hy@ocgcolor
8368                 \box0 %
8369             \endgroup
8370             \@pdfm@mark{content EMC}%
8371         }%
8372         \fi
8373     \endgroup
8374 }%
8375 }%
8376 \else
8377     \Hy@DisableOption{ocgcolorlinks}%
8378 \fi
8379 \def\Hy@BeginAnnot#1{%
8380     \stepcounter{Hy@AnnotLevel}%
8381     \ifnum\value{Hy@AnnotLevel}=\@ne
8382         #1%
8383     \fi
8384 }
8385 \def\Hy@endAnnot{%

```

```

8386 \ifnum\value{Hy@AnnotLevel}=\@ne
8387 \Hy@endcolorlink
8388 \@pdfm@mark{eann}%
8389 \fi
8390 \addtocounter{Hy@AnnotLevel}\m@ne
8391 }

8392 \def\Hy@undefinedname{UNDEFINED}
8393 \def\hyper@linkstart#1#2{%
8394 \Hy@BeginAnnot{%
8395 \protected@edef\Hy@testname{#2}%
8396 \ifx\Hy@testname\@empty
8397 \Hy@Warning{%
8398 Empty destination name,\MessageBreak
8399 using '\Hy@undefinedname'%
8400 }%
8401 \let\Hy@testname\Hy@undefinedname
8402 \else
8403 \Hy@pstringdef\Hy@testname{%
8404 \expandafter\HyperDestNameFilter\expandafter{%
8405 \Hy@testname
8406 }%
8407 }%
8408 \fi
8409 \@pdfm@mark{%
8410 bann<<%
8411 /Type/Annot%
8412 /Subtype/Link%
8413 \ifHy@pdfa /F 4\fi
8414 \Hy@setpdfborder
8415 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8416 \else
8417 /C[\csname @#1bordercolor\endcsname]%
8418 \fi
8419 /A<<%
8420 /S/GoTo%
8421 /D(\Hy@testname)%
8422 >>%
8423 >>%
8424 }%
8425 \expandafter\Hy@colorlink\csname @#1color\endcsname
8426 }%
8427 }

8428 \def\hyper@linkend{\Hy@EndAnnot}%
8429 \def\hyper@link#1#2#3{%
8430 \hyper@linkstart{#1}{#2}#3\hyper@linkend
8431 }

8432 \def\hyper@linkfile#1#2#3{%
8433 \leavevmode
8434 \Hy@BeginAnnot{%
8435 \Hy@pstringdef\Hy@pstringF{#2}%
8436 \Hy@pstringdef\Hy@pstringD{#3}%
8437 \@pdfm@mark{%
8438 bann<<%
8439 /Type/Annot%
8440 /Subtype/Link%
8441 \ifHy@pdfa /F 4\fi
8442 \Hy@setpdfborder

```

```

8443 \ifx\@filebordercolor\relax
8444 \else
8445 /C[\@filebordercolor]%
8446 \fi
8447 /A<<%
8448 /S/GoToR%
8449 /F(\Hy@pstringF)%
8450 /D\ifx\#3\[\0 \@pdfstartview]\else(\Hy@pstringD)\fi
8451 \Hy@SetNewWindow
8452 >>%
8453 >>%
8454 }%
8455 \Hy@colorlink\@filecolor
8456 }%
8457 #1%
8458 \Hy@endAnnot
8459 }
8460 \def\hyper@linkurl#1#2{%
8461 \leavevmode
8462 \Hy@BeginAnnot{%
8463 \Hy@pstringdef\Hy@pstringURI{#2}%
8464 \@pdfm@mark{%
8465 bann<<%
8466 /Type/Annot%
8467 /Subtype/Link%
8468 \ifHy@pdfa /F 4\fi
8469 \Hy@setpdfborder
8470 \ifx\@urlbordercolor\relax
8471 \else
8472 /C[\@urlbordercolor]%
8473 \fi
8474 /A<<%
8475 /S/URI%
8476 /URI(\Hy@pstringURI)%
8477 >>%
8478 >>%
8479 }%
8480 \Hy@colorlink\@urlcolor
8481 }%
8482 #1%
8483 \Hy@endAnnot
8484 }
8485 \def\Acrobatmenu#1#2{%
8486 \Hy@Acrobatmenu{#1}{#2}{%
8487 \Hy@BeginAnnot{%
8488 \@pdfm@mark{%
8489 bann<<%
8490 /Type/Annot%
8491 /Subtype/Link%
8492 \ifHy@pdfa /F 4\fi
8493 /A<<%
8494 /S/Named%
8495 /N/#1%
8496 >>%
8497 \Hy@setpdfborder
8498 \ifx\@menubordercolor\relax
8499 \relax

```



```

8500         /C[\@menubordercolor]%
8501         \fi
8502     >>%
8503 }%
8504     \Hy@colorlink\@menucolor
8505 }%
8506 #2%
8507     \Hy@EndAnnot
8508 }%
8509 }
8510 \ifx\@pdfproducer\relax
8511     \def\@pdfproducer{dvipdfm}%

```

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

```

8512 \begingroup\expandafter\expandafter\expandafter\endgroup
8513 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8514 \else
8515     \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8516 \fi
8517 \fi
8518 \def\PDF@FinishDoc{%
8519     \Hy@UseMaketitleInfos
8520     \@pdfm@mark{%
8521         docinfo<<%
8522         /Title(\@pdftitle)%
8523         /Subject(\@pdfsubject)%
8524         /Creator(\@pdfcreator)%
8525         \ifx\@pdfcreationdate\@empty
8526         \else
8527             /CreationDate(\@pdfcreationdate)%
8528         \fi
8529         \ifx\@pdfmoddate\@empty
8530         \else
8531             /ModDate(\@pdfmoddate)%
8532         \fi
8533         /Author(\@pdfauthor)%
8534         \ifx\@pdfproducer\relax
8535         \else
8536             /Producer(\@pdfproducer)%
8537         \fi
8538         /Keywords(\@pdfkeywords)%
8539         >>%
8540     }%
8541     \Hy@DisableOption{pdfauthor}%
8542     \Hy@DisableOption{pdftitle}%
8543     \Hy@DisableOption{pdfsubject}%
8544     \Hy@DisableOption{pdfcreator}%
8545     \Hy@DisableOption{pdfcreationdate}%
8546     \Hy@DisableOption{pdfmoddate}%
8547     \Hy@DisableOption{pdfproducer}%
8548     \Hy@DisableOption{pdfkeywords}%
8549 }
8550 \def\PDF@SetupDoc{%
8551     \edef\Hy@temp{%
8552         \ifHy@toolbar\else /HideToolbar true\fi
8553         \ifHy@menubar\else /HideMenubar true\fi
8554         \ifHy>windowui\else /HideWindowUI true\fi

```

```

8555 \ifHy@fitwindow /FitWindow true\fi
8556 \ifHy@centerwindow /CenterWindow true\fi
8557 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8558 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8559 \Hy@UseNameKey{Direction}\@pdfdirection
8560 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8561 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8562 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8563 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8564 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8565 \Hy@UseNameKey{Duplex}\@pdfduplex
8566 \ifx\@pdfpicktraybypdfsize\@empty
8567 \else
8568 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8569 \fi
8570 \ifx\@pdfprintpagerange\@empty
8571 \else
8572 /PrintPageRange\@pdfprintpagerange]%
8573 \fi
8574 \ifx\@pdfnumcopies\@empty
8575 \else
8576 /NumCopies \@pdfnumcopies
8577 \fi
8578 }%
8579 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8580 \@pdfm@mark{%
8581 docview<<%
8582 \ifx\@pdfstartpage\@empty
8583 \else
8584 \ifx\@pdfstartview\@empty
8585 \else
8586 /OpenAction[ @page\@pdfstartpage\@pdfstartview]%
8587 \fi
8588 \fi
8589 \ifx\@baseurl\@empty
8590 \else
8591 /URI<</Base(\Hy@pstringB)>>%
8592 \fi
8593 /PageMode/\@pdfpagemode
8594 \ifx\Hy@temp\@empty
8595 \else
8596 /ViewerPreferences<<\Hy@temp>>%
8597 \fi
8598 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8599 \ifx\@pdflang\@empty
8600 \else
8601 /Lang(\@pdflang)%
8602 \fi
8603 >>%
8604 }%
8605 \ifx\@pdfpagescrop\@empty
8606 \else
8607 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8608 \fi
8609 }
8610 </dvi pdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

8611 <*dvipdfm>
8612 \AtBeginShipoutFirst{%
8613   \ifHy@setpagesize
8614     \begingroup
8615       \ifundefined{stockwidth}{%
8616         \ifdim\paperwidth>\z@
8617           \ifdim\paperheight>\z@
8618             \special{papersize=\the\paperwidth,\the\paperheight}%
8619           \fi
8620         \fi
8621       }{%
8622         \ifdim\stockwidth>\z@
8623           \ifdim\stockheight>\z@
8624             \special{papersize=\the\stockwidth,\the\stockheight}%
8625           \fi
8626         \fi
8627       }%
8628     \endgroup
8629   \fi
8630   \Hy@DisableOption{setpagesize}%
8631 }
8632 </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.

```

8633 <*vtexhtml>
8634 \providecommand*{\XR@ext}{.htm}
8635 \RequirePackage{vtexhtml}
8636 \newif\if@Localurl
8637 \def\PDF@FinishDoc{}
8638 \def\PDF@SetupDoc{%
8639   \ifx\@baseurl\@empty
8640     \else
8641       \special{!direct <base href="\@baseurl">}%
8642     \fi
8643 }
8644 \def\@urltype{url}
8645 \def\hyper@link#1#2#3{%
8646   \leavevmode
8647   \special{!direct <a href=%
8648     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8649   #3%
8650   \special{!direct </a>}%
8651 }
8652 \def\hyper@linkurl#1#2{%
8653   \begingroup
8654     \hyper@chars
8655     \leavevmode
8656     \MathBSuppress=1\relax
8657     \special{!direct <a href=%
8658       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8659     #1%

```

```

8660 \MathBSuppress=0\relax
8661 \special{!direct </a>}%
8662 \endgroup
8663 }
8664 \def\hyper@linkfile#1#2#3{%
8665 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
8666 }
8667 \def\hyper@linkstart#1#2{%
8668 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8669 \@Localurltrue
8670 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8671 \else
8672 \@Localurlfalse
8673 \begingroup
8674 \hyper@chars
8675 \special{!aref \HyperDestNameFilter{#2}}%
8676 \endgroup
8677 \fi
8678 }
8679 \def\hyper@linkend{%
8680 \if@Localurl
8681 \special{!endaref}%
8682 \else
8683 \special{!direct </a>}%
8684 \fi
8685 }
8686 \def\hyper@anchorstart#1{%
8687 \Hy@SaveLastskip
8688 \begingroup
8689 \hyper@chars
8690 \special{!aname #1}%
8691 \special{!direct <a name=%
8692 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8693 \endgroup
8694 \Hy@activeanchortrue
8695 }
8696 \def\hyper@anchorend{%
8697 \special{!direct </a>}%
8698 \Hy@activeanchorfalse
8699 \Hy@RestoreLastskip
8700 }
8701 \def\hyper@anchor#1{%
8702 \Hy@SaveLastskip
8703 \begingroup
8704 \let\protect=\string
8705 \hyper@chars
8706 \leavevmode
8707 \special{!aname #1}%
8708 \special{!direct <a name=%
8709 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8710 \endgroup
8711 \Hy@activeanchortrue
8712 \bgroup\anchor@spot\egroup
8713 \special{!direct </a>}%
8714 \Hy@activeanchorfalse
8715 \Hy@RestoreLastskip
8716 }

```

```

8717 \def\@Form[#1]{%
8718   \typeout{Sorry, TeXpider does not yet support FORMs}%
8719 }
8720 \def\@endForm{}
8721 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8722   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8723 }
8724 \def\@TextField[#1]#2{% parameters, label
8725   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8726 }
8727 \def\@CheckBox[#1]#2{% parameters, label
8728   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8729 }
8730 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8731   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8732 }
8733 \def\@PushButton[#1]#2{% parameters, label
8734   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8735 }
8736 \def\@Reset[#1]#2{%
8737   \typeout{Sorry, TeXpider does not yet support FORMs}%
8738 }
8739 \def\@Submit[#1]#2{%
8740   \typeout{Sorry, TeXpider does not yet support FORMs}%
8741 }
8742 \</vtexhtml>
8743 \<vtx>

```

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.

```

8744 \ifx\mediaheight\@undefined
8745 \else
8746   \ifx\mediaheight\relax
8747   \else
8748     \ifHy@setpagesize
8749       \providecommand*\VTeXInitMediaSize{%
8750         \@ifundefined{stockwidth}{%
8751           \ifdim\paperheight>0pt %
8752             \setlength\mediaheight\paperheight
8753           \fi
8754           \ifdim\paperheight>0pt %
8755             \setlength\mediawidth\paperwidth
8756           \fi
8757         }{%
8758           \ifdim\stockheight>0pt %
8759             \setlength\mediaheight\stockheight
8760           \fi
8761           \ifdim\stockwidth>0pt %
8762             \setlength\mediawidth\stockwidth
8763           \fi
8764         }%
8765       }%
8766     \AtBeginDocument{\VTeXInitMediaSize}%
8767   \fi
8768   \Hy@DisableOption{setpagesize}%
8769 \fi

```

8770 \fi

Older versions of VTeX require xyz in lower case.

```
8771 \providecommand*\@pdfview{xyz}
8772 \providecommand*\@pdfborder{0 0 1}
8773 \providecommand*\@pdfborderstyle{}
8774 \let\CurrentBorderColor\@linkbordercolor
8775 \def\hyper@anchor#1{%
8776   \Hy@SaveLastskip
8777   \begingroup
8778     \let\protect=\string
8779     \hyper@chars
8780     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8781   \endgroup
8782   \Hy@activeanchortrue
8783   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8784   \Hy@activeanchorfalse
8785   \Hy@RestoreLastskip
8786 }
8787 \def\hyper@anchorstart#1{%
8788   \Hy@SaveLastskip
8789   \begingroup
8790     \hyper@chars
8791     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8792   \endgroup
8793   \Hy@activeanchortrue
8794 }
8795 \def\hyper@anchorend{%
8796   \Hy@activeanchorfalse
8797   \Hy@RestoreLastskip
8798 }
8799 \def\@urltype{url}
8800 \def\Hy@undefinedname{UNDEFINED}
8801 \def\hyper@linkstart#1#2{%
8802   \Hy@pstringdef\Hy@pstringURI{#2}%
8803   \expandafter\Hy@colorlink\csname @#1color\endcsname
8804   \@ifundefined{@#1bordercolor}{%
8805     \let\CurrentBorderColor\relax
8806   }{%
8807     \edef\CurrentBorderColor{%
8808       \csname @#1bordercolor\endcsname
8809     }%
8810   }%
8811   \def\Hy@tempa{#1}%
8812   \ifx\Hy@tempa\@urltype
8813     \special{!%
8814       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8815       a=<%
8816         \ifHy@pdfa /F 4\fi
8817         \Hy@setpdfborder
8818         \ifx\CurrentBorderColor\relax
8819           \else
8820             /C [\CurrentBorderColor]%
8821           \fi
8822         >%
8823       }%
8824   \else
8825     \protected@edef\Hy@testname{#2}%
```

```

8826 \ifx\Hy@testname\@empty
8827 \Hy@Warning{%
8828   Empty destination name,\MessageBreak
8829   using '\Hy@undefinedname'%
8830 }%
8831 \let\Hy@testname\Hy@undefinedname
8832 \fi
8833 \special{!%
8834   aref \expandafter\HyperDestNameFilter
8835   \expandafter{\Hy@testname};%
8836   a=<%
8837   \ifHy@pdfa /F 4\fi
8838   \Hy@setpdfborder
8839   \ifx\CurrentBorderColor\relax
8840   \else
8841     /C [\CurrentBorderColor]%
8842   \fi
8843   >%
8844   }%
8845 \fi
8846 }
8847 \def\hyper@linkend{%
8848   \special{!endaref}%
8849   \Hy@endcolorlink
8850 }
8851 \def\hyper@linkfile#1#2#3{%
8852   \leavevmode
8853   \special{!%
8854     aref <%
8855     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8856     f=#2>#3;%
8857     a=<%
8858     \ifHy@pdfa /F 4\fi
8859     \Hy@setpdfborder
8860     \ifx\@filebordercolor\relax
8861     \else
8862       /C [\@filebordercolor]%
8863     \fi
8864     >%
8865     }%
8866     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8867     \special{!endaref}%
8868   }
8869 \def\hyper@linkurl#1#2{%
8870   \begingroup
8871   \Hy@pstringdef\Hy@pstringURI{#2}%
8872   \hyper@chars
8873   \leavevmode
8874   \special{!%
8875     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8876     a=<%
8877     \ifHy@pdfa /F 4\fi
8878     \Hy@setpdfborder
8879     \ifx\@urlbordercolor\relax
8880     \else
8881       /C [\@urlbordercolor]%
8882     \fi

```

```

8883     >%
8884   }%
8885   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8886   \special{!endaref}%
8887 \endgroup
8888 }
8889 \def\hyper@link#1#2#3{%
8890   \ifundefined{#@#1bordercolor}{%
8891     \let\CurrentBorderColor\relax
8892   }{%
8893     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8894   }%
8895   \leavevmode
8896   \protected@edef\Hy@testname{#2}%
8897   \ifx\Hy@testname\@empty
8898     \Hy@Warning{%
8899       Empty destination name,\MessageBreak
8900       using '\Hy@undefinedname'%
8901     }%
8902     \let\Hy@testname\Hy@undefinedname
8903   \fi
8904   \special{!%
8905     aref \expandafter\HyperDestNameFilter
8906       \expandafter{\Hy@testname};%
8907     a=<%
8908       \ifHy@pdfa /F 4\fi
8909       \Hy@setpdfborder
8910       \ifx\CurrentBorderColor\relax
8911         \else
8912           /C [\CurrentBorderColor]%
8913         \fi
8914       >%
8915     }%
8916   \expandafter
8917   \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8918   \special{!endaref}%
8919 }
8920 \def\hyper@image#1#2{%
8921   \hyper@linkurl{#2}{#1}%
8922 }
8923 \def\@hyper@launch run:#1\#2#3{%
8924   \Hy@pstringdef\Hy@pstringF{#1}%
8925   \Hy@pstringdef\Hy@pstringP{#3}%
8926   \leavevmode
8927   \special{!aref %
8928     <u=%
8929       /Type/Action%
8930       /S/Launch%
8931       /F(\Hy@pstringF)%
8932       \Hy@SetNewWindow
8933       \ifx\#3\%
8934         \else
8935           /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
8936         \fi%
8937       >;%
8938     a=<%
8939       \ifHy@pdfa /F 4\fi

```



```

8940 \Hy@setpdfborder
8941 \ifx\@runbordercolor\relax
8942 \else
8943 /C[\@runbordercolor]%
8944 \fi
8945 >%
8946 }%
8947 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8948 \special{!endaref}%
8949 }
8950 \def\Acrobatmenu#1#2{%
8951 \Hy@Acrobatmenu{#1}{#2}{%
8952 \special{!%
8953 aref <u=/S /Named /N /#1>;%
8954 a=<%
8955 \ifHy@pdfa /F 4\fi
8956 \Hy@setpdfborder
8957 \ifx\@menubordercolor\relax
8958 \else
8959 /C[\@menubordercolor]%
8960 \fi
8961 >%
8962 }%
8963 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8964 \special{!endaref}%
8965 }%
8966 }

```

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

The code below makes sense for  $\text{\TeX}$  7.02 or later.

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

```

8967 \ifnum\Hy@VTeXversion<702 %
8968 \else
8969 \def\hyper@pagetransition{%
8970 \ifx\@pdfpagetransition\relax
8971 \else
8972 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8973 \else
8974 \hvtex@parse@trans\@pdfpagetransition
8975 \fi
8976 \fi
8977 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\TeX}$   $\text{\special}$ .  
(AVK)

Syntax of  $\text{\TeX}$   $\text{\special{!trans <transition\_effect>}}$ :

```

<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:

```

8978 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8979 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8980 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8981 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8982 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8983 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8984 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8985 \def\hvtex@par@dimension{/Dm}%
8986 \def\hvtex@par@direction{/Di}%
8987 \def\hvtex@par@duration{/D}%
8988 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8989 \def\hvtex@gettoken{%
8990 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
8991 }%

```

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

```

8992 \def\hvtex@gettoken@#1 #2\@nil{%
8993 \edef\hvtex@token{#1}%
8994 \edef\hvtex@buffer{#2}%
8995 }%
8996 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8997 \let\hvtex@trans@code\@empty
8998 \let\hvtex@param@dimension\@empty
8999 \let\hvtex@param@direction\@empty
9000 \let\hvtex@param@duration\@empty
9001 \let\hvtex@param@motion\@empty
9002 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9003 \hvtex@gettoken
9004 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9005 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9006 \else
9007 \hvtex@gettoken
9008 \fi
9009 \fi
9010 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9011 \hvtex@trans@params
9012 }%

```

Reentrant macro to parse optional parameters.

```

9013 \def\hvtex@trans@params{%
9014   \ifx\hvtex@buffer\@empty
9015   \else
9016     \hvtex@gettoken
9017     \let\hvtex@trans@par\hvtex@token
9018     \ifx\hvtex@buffer\@empty
9019     \else
9020       \hvtex@gettoken
9021       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```

9022       \let\hvtex@param@duration\hvtex@token
9023     \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

9024       \expandafter\edef\expandafter\hvtex@param@motion
9025       \expandafter{\expandafter\@gobble\hvtex@token}%
9026     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

9027       \expandafter\edef\expandafter\hvtex@param@dimension
9028       \expandafter{\expandafter\@gobble\hvtex@token}%
9029     \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).

```

9030       \let\hvtex@param@direction\hvtex@token
9031       \fi\fi\fi
9032     \fi
9033   \fi
9034   \ifx\hvtex@buffer\@empty
9035     \let\next\hvtex@produce@trans
9036   \else
9037     \let\next\hvtex@trans@params
9038   \fi
9039   \next
9040 }%

```

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

```

9041 \def\hvtex@produce@trans{%
9042   \let\vtex@trans@special\@empty
9043   \if S\hvtex@trans@code
9044     \edef\vtex@trans@special{\hvtex@trans@code
9045       \hvtex@param@dimension\hvtex@param@motion}%
9046   \else\if B\hvtex@trans@code
9047     \edef\vtex@trans@special{%
9048       \hvtex@trans@code\hvtex@param@dimension
9049     }%
9050   \else\if X\hvtex@trans@code
9051     \edef\vtex@trans@special{%
9052       \hvtex@trans@code\hvtex@param@motion
9053     }%
9054   \else\if W\hvtex@trans@code
9055     \edef\vtex@trans@special{%
9056       \hvtex@trans@code\hvtex@param@direction
9057     }%
9058   \else\if D\hvtex@trans@code

```

```

9059 \let\vtex@trans@special\hvtex@trans@code
9060 \else\if R\hvtex@trans@code
9061 \let\vtex@trans@special\hvtex@trans@code
9062 \else\if G\hvtex@trans@code
9063 \edef\vtex@trans@special{%
9064 \hvtex@trans@code\hvtex@param@direction
9065 }%
9066 \fi\fi\fi\fi\fi\fi
9067 \ifx\vtex@trans@special\@empty
9068 \else
9069 \ifx\hvtex@param@duration\@empty
9070 \else
9071 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9072 \multiply\dimen@\@m
9073 \edef\vtex@trans@special{%
9074 \vtex@trans@special,\strip@pt\dimen@
9075 }%
9076 \fi

```

And all the mess is just for this.

```

9077 \special{!trans \vtex@trans@special}%
9078 \fi
9079 }%
9080 \def\hyper@pageduration{%
9081 \ifx\@pdfpageduration\relax
9082 \else
9083 \ifx\@pdfpageduration\@empty
9084 \special{!duration-}%
9085 \else
9086 \special{!duration \@pdfpageduration}%
9087 \fi
9088 \fi
9089 }%
9090 \def\hyper@pagehidden{%
9091 \ifHy@useHidKey
9092 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9093 \fi
9094 }%
9095 \g@addto@macro\Hy@EveryPageBoxHook{%
9096 \hyper@pagetransition
9097 \hyper@pageduration
9098 \hyper@pagehidden
9099 }%
9100 \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

```

9101 \ifx\@pdfproducer\relax

```

```

9102 \def\@pdfproducer{VTeX}%
9103 \ifnum\Hy@VTeXversion>\z@
9104   \count@\VTeXversion
9105   \divide\count@ 100 %
9106   \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9107   \multiply\count@ -100 %
9108   \advance\count@\VTeXversion
9109   \edef\@pdfproducer{%
9110     \@pdfproducer
9111     .\ifnum\count@<10 0\fi\the\count@
9112     \ifx\VTeXOS\@undefined\else
9113       \ifnum\VTeXOS>0 %
9114         \ifnum\VTeXOS<6 %
9115           \space(%
9116           \ifcase\VTeXOS
9117             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9118           \fi
9119           )%
9120         \fi
9121       \fi
9122     \fi
9123     ,\space
9124     \ifnum\OpMode=\@ne PDF\else PS\fi
9125     \space backend%
9126     \ifx\gexmode\@undefined\else
9127       \ifnum\gexmode>\z@\space with GeX\fi
9128     \fi
9129   }%
9130 \fi
9131 \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).

```

9132 \def\PDF@SetupDoc{%
9133   \ifx\@pdfpagescrop\@empty
9134   \else
9135     \special{!pdfinfo b=<\@pdfpagescrop>}%
9136   \fi
9137   \ifx\@pdfstartpage\@empty
9138   \else
9139     \ifx\@pdfstartview\@empty
9140     \else
9141       \special{!onopen Page\@pdfstartpage}%
9142     \fi
9143   \fi

```

```

9144 \special{!pdffinfo p=</\@pdfpagemode>}%
9145 \ifx\@baseurl\@empty
9146 \else
9147 \special{!pdffinfo u=<<</Base (\@baseurl)>>>}%
9148 \fi
9149 \special{!pdffinfo v=<<<%
9150 \ifHy@toolbar\else /HideToolbar true\fi
9151 \ifHy@menubar\else /HideMenubar true\fi
9152 \ifHy>windowui\else /HideWindowUI true\fi
9153 \ifHy@fitwindow /FitWindow true\fi
9154 \ifHy@centerwindow /CenterWindow true\fi
9155 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9156 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9157 \Hy@UseNameKey{Direction}\@pdfdirection
9158 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9159 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9160 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9161 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9162 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9163 \Hy@UseNameKey{Duplex}\@pdfduplex
9164 \ifx\@pdfpicktraybypdfsize\@empty
9165 \else
9166 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9167 \fi
9168 \ifx\@pdfprintpagerange\@empty
9169 \else
9170 /PrintPageRange[\@pdfprintpagerange]%
9171 \fi
9172 \ifx\@pdfnumcopies\@empty
9173 \else
9174 /NumCopies \@pdfnumcopies
9175 \fi
9176 >>>}%
9177 \ifx\@pdfpagelayout\@empty
9178 \else
9179 \special{!pdffinfo l=</\@pdfpagelayout\space>}%
9180 \fi
9181 }%
9182 \def\PDF@FinishDoc{%
9183 \Hy@UseMaketitleInfos
9184 \special{!pdffinfo a=<\@pdfauthor>}%
9185 \special{!pdffinfo t=<\@pdftitle>}%
9186 \special{!pdffinfo s=<\@pdfsubject>}%
9187 \special{!pdffinfo c=<\@pdfcreator>}%
9188 \ifx\@pdfproducer\relax
9189 \else
9190 \special{!pdffinfo r=<\@pdfproducer>}%
9191 \fi
9192 \special{!pdffinfo k=<\@pdfkeywords>}%
9193 \Hy@DisableOption{pdfauthor}%
9194 \Hy@DisableOption{pdftitle}%
9195 \Hy@DisableOption{pdfsubject}%
9196 \Hy@DisableOption{pdfcreator}%
9197 \Hy@DisableOption{pdfcreationdate}%
9198 \Hy@DisableOption{pdfmoddate}%
9199 \Hy@DisableOption{pdfproducer}%
9200 \Hy@DisableOption{pdfkeywords}%

```

```

9201 }
9202 </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.

```

9203 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9204 <package>\providecommand*{\Hy@DistillerDestFix}{%
9205 <*pdfmark | dviwindo>
9206 \def\Hy@DistillerDestFix{%
9207   \begingroup
9208     \let\x\literalps@out

```

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

```

9209   \ifnum \@ifundefined{OpMode}{0}{%
9210     \@ifundefined{gexmode}{0}{%
9211       \ifnum\gexmode>0 \OpMode\else 0\fi
9212     }>1 %
9213   \def\x##1{%
9214     \immediate\special{!=##1}%
9215   }%
9216   \fi
9217   \x{%
9218     /product where{%
9219       pop %
9220       product(Distiller)search{%
9221         pop pop pop %
9222         version(.)search{%
9223           exch pop exch pop%
9224           (3011)eq{%
9225             gsave %
9226             newpath 0 0 moveto closepath clip%
9227             /Courier findfont 10 scalefont setfont %
9228             72 72 moveto(.)show %
9229             grestore%
9230           }if%
9231         }{pop}ifelse%
9232       }{pop}ifelse%
9233     }if%
9234   }%
9235   \endgroup
9236 }
9237 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

<code>\@pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

<code>H.S</code>	start of anchor, link or rect
<code>#1 H.A</code>	end of anchor, argument=baselineskip in pt
<code>#1 H.L</code>	end of link, argument=baselineskip in pt
<code>H.R</code>	end of rect
<code>H.B</code>	raw rect code

```

9238 (*pdfmark)
9239 \Hy@breaklinks@unsupported
9240 \def\hyper@anchor#1{%
9241   \Hy@SaveLastskip
9242   \beginngroup
9243     \pdfmark[\anchor@spot]{%
9244       pdfmark=/DEST,%
9245       linktype=anchor,%
9246       View=/\@pdfview \@pdfviewparams,%
9247       DestAnchor={#1}%
9248     }%
9249   \endgroup
9250   \Hy@RestoreLastskip
9251 }
9252 \ifundefined{hyper@anchorstart}{\endinput}
9253 \def\hyper@anchorstart#1{%
9254   \Hy@SaveLastskip
9255   \literalps@out{H.S}%
9256   \xdef\hyper@currentanchor{#1}%
9257   \Hy@activeanchortrue
9258 }
9259 \def\hyper@anchorend{%
9260   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9261   \pdfmark{%
9262     pdfmark=/DEST,%
9263     linktype=anchor,%
9264     View=/\@pdfview \@pdfviewparams,%
9265     DestAnchor=\hyper@currentanchor,%
9266   }%
9267   \Hy@activeanchorfalse
9268   \Hy@RestoreLastskip
9269 }
9270 \def\hyper@linkstart#1#2{%
9271   \ifHy@breaklinks
9272     \else
9273     \leavevmode\hbox\bgroup
9274     \fi
9275     \expandafter\Hy@colorlink\csname @#1color\endcsname
9276     \literalps@out{H.S}%
9277     \xdef\hyper@currentanchor{#2}%
9278     \gdef\hyper@currentlinktype{#1}%
9279 }
9280 \def\hyper@linkend{%
9281   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
9282   \ifundefined{@\hyper@currentlinktype bordercolor}{%
9283     \let\Hy@tempcolor\relax

```



```

9284 }{%
9285   \edef\Hy@tempcolor{%
9286     \csname @\hyper@currentlinktype bordercolor\endcsname
9287   }%
9288 }%
9289 \pdfmark{%
9290   pdfmark=/ANN,%
9291   linktype=link,%
9292   Subtype=/Link,%
9293   PDFAFlags=4,%
9294   Dest=\hyper@currentanchor,%
9295   AcroHighlight=\@pdfhighlight,%
9296   Border=\@pdfborder,%
9297   BorderStyle=\@pdfborderstyle,%
9298   Color=\Hy@tempcolor,%
9299   Raw=H.B%
9300 }%
9301 \Hy@endcolorlink
9302 \ifHy@breaklinks
9303 \else
9304   \egroup
9305 \fi
9306 }

```

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.

```

9307 \begingroup
9308 \catcode'P=12 %
9309 \catcode'T=12 %
9310 \lowercase{\endgroup
9311 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9312 }
9313 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9314 \def\hyper@pagetransition{%
9315   \ifx\@pdfpagetransition\relax
9316   \else
9317     \ifx\@pdfpagetransition\@empty
9318       % 1. Does an old entry have to be deleted?
9319       % 2. If 1=yes, how to delete?
9320     \else
9321       \pdfmark{%
9322         pdfmark=/PUT,%
9323         Raw={%
9324           \string{ThisPage\string}%
9325           <</Trans << /S /\@pdfpagetransition\space >> >>%
9326         }%
9327       }%
9328     \fi
9329 \fi
9330 }

```

\hyper@pageduration

```

9331 \def\hyper@pageduration{%
9332   \ifx\@pdfpageduration\relax

```

```

9333 \else
9334 \ifx\@pdfpageduration\@empty
9335 % 1. Does an old entry have to be deleted?
9336 % 2. If 1=yes, how to delete?
9337 \else
9338 \pdfmark{%
9339 pdfmark=/PUT,%
9340 Raw={%
9341 \string{ThisPage\string}%
9342 <</Dur \@pdfpageduration>>%
9343 }%
9344 }%
9345 \fi
9346 \fi
9347 }

```

\hyper@pagehidden

```

9348 \def\hyper@pagehidden{%
9349 \ifHy@useHidKey
9350 \pdfmark{%
9351 pdfmark=/PUT,%
9352 Raw={%
9353 \string{ThisPage\string}%
9354 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9355 }%
9356 }%
9357 \fi
9358 }

9359 \g@addto@macro\Hy@EveryPageBoxHook{%
9360 \hyper@pagetransition
9361 \hyper@pageduration
9362 \hyper@pagehidden
9363 }

9364 \def\hyper@image#1#2{%
9365 \hyper@linkurl{#2}{#1}%
9366 }

9367 \def\Hy@undefinedname{UNDEFINED}
9368 \def\hyper@link#1#2#3{%
9369 \@ifundefined{@#1bordercolor}{%
9370 \let\Hy@tempcolor\relax
9371 }{%
9372 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9373 }%
9374 \begingroup
9375 \protected@edef\Hy@testname{#2}%
9376 \ifx\Hy@testname\@empty
9377 \Hy@Warning{%
9378 Empty destination name,\MessageBreak
9379 using '\Hy@undefinedname'%
9380 }%
9381 \let\Hy@testname\Hy@undefinedname
9382 \fi
9383 \pdfmark[{#3}]{%
9384 Color=\Hy@tempcolor,%
9385 linktype={#1},%
9386 AcroHighlight=\@pdfhighlight,%

```

```

9387     Border=\@pdfborder,%
9388     BorderStyle=\@pdfborderstyle,%
9389     pdfmark=/ANN,%
9390     Subtype=/Link,%
9391     PDFAFlags=4,%
9392     Dest=\Hy@testname
9393 }%
9394 \endgroup
9395 }
9396 \newtoks\pdf@docset
9397 \def\PDF@FinishDoc{%
9398   \Hy@UseMaketitleInfos
9399   \let\Hy@temp\@empty
9400   \ifx\@pdfcreationdate\@empty
9401   \else
9402     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9403   \fi
9404   \ifx\@pdfmoddate\@empty
9405   \else
9406     \expandafter\def\expandafter\Hy@temp\expandafter{%
9407       \Hy@temp
9408       ModDate=\@pdfmoddate,%
9409     }%
9410   \fi
9411   \ifx\@pdfproducer\relax
9412   \else
9413     \expandafter\def\expandafter\Hy@temp\expandafter{%
9414       \Hy@temp
9415       Producer=\@pdfproducer,%
9416     }%
9417   \fi
9418   \expandafter
9419   \pdfmark\expandafter{%
9420     \Hy@temp
9421     pdfmark=/DOCINFO,%
9422     Title=\@pdftitle,%
9423     Subject=\@pdfsubject,%
9424     Creator=\@pdfcreator,%
9425     Author=\@pdfauthor,%
9426     Keywords=\@pdfkeywords
9427   }%
9428   \Hy@DisableOption{pdfauthor}%
9429   \Hy@DisableOption{pdftitle}%
9430   \Hy@DisableOption{pdfsubject}%
9431   \Hy@DisableOption{pdfcreator}%
9432   \Hy@DisableOption{pdfcreationdate}%
9433   \Hy@DisableOption{pdfmoddate}%
9434   \Hy@DisableOption{pdfproducer}%
9435   \Hy@DisableOption{pdfkeywords}%
9436 }
9437 \def\PDF@SetupDoc{%
9438   \def\Hy@temp{}%
9439   \ifx\@pdfstartpage\@empty
9440   \else
9441     \ifx\@pdfstartview\@empty
9442     \else
9443       \edef\Hy@temp{%

```

```

9444     ,Page=\@pdfstartpage
9445     ,View=\@pdfstartview
9446   }%
9447 \fi
9448 \fi
9449 \edef\Hy@temp{%
9450   \noexpand\pdfmark{%
9451     pdfmark=/DOCVIEW,%
9452     PageMode=/\@pdfpagemode
9453   \Hy@temp
9454   }%
9455 }%
9456 \Hy@temp
9457 \ifx\@pdfpagescrop\@empty
9458 \else
9459   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9460 \fi
9461 \edef\Hy@temp{%
9462   \ifHy@toolbar\else /HideToolbar true\fi
9463   \ifHy@menubar\else /HideMenubar true\fi
9464   \ifHy>windowui\else /HideWindowUI true\fi
9465   \ifHy@fitwindow /FitWindow true\fi
9466   \ifHy@centerwindow /CenterWindow true\fi
9467   \ifHy@displaydoctitle /DisplayDocTitle true\fi
9468   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9469   \Hy@UseNameKey{Direction}\@pdfdirection
9470   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9471   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9472   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9473   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9474   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9475   \Hy@UseNameKey{Duplex}\@pdfduplex
9476   \ifx\@pdfpicktraybypdfsize\@empty
9477   \else
9478     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9479   \fi
9480   \ifx\@pdfprintpagerange\@empty
9481   \else
9482     /PrintPageRange[\@pdfprintpagerange]%
9483   \fi
9484   \ifx\@pdfnumcopies\@empty
9485   \else
9486     /NumCopies \@pdfnumcopies
9487   \fi
9488   }%
9489 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9490 \pdfmark{%
9491   pdfmark=/PUT,%
9492   Raw={%
9493     \string{Catalog\string}<<%
9494     \ifx\Hy@temp\@empty
9495     \else
9496       /ViewerPreferences<<\Hy@temp>>%
9497     \fi
9498     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9499     \ifx\@pdflang\@empty
9500     \else

```

```

9501      /Lang(\@pdflang)%
9502      \fi
9503      \ifx\@baseurl\@empty
9504      \else
9505      /URI<</Base(\Hy@pstringB)>>%
9506      \fi
9507      >>%
9508      }%
9509      }%
9510  }
9511  </pdfmark>
9512  <*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.

```

9513 \newif\ifHy@pdfmarkerror
9514 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9515 \def\pdfmark@[#1]#2{%
9516   \Hy@pdfmarkerrorfalse
9517   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9518   \@processme
9519   \let\pdf@type\relax
9520   \setkeys{PDF}{#2}%
9521   \ifHy@pdfmarkerror
9522   \else
9523     \ifx\pdf@type\relax
9524       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9525       \ifx\#1\%
9526       \else
9527         \pdf@rect{#1}%
9528         \fi
9529       \else
9530         \ifx\#1\%
9531         \literalps@out{%
9532           [\the\pdf@toks\space\pdf@type\space pdfmark%
9533           ]%
9534         \else
9535           \@ifundefined{@\pdf@linktype color}{%
9536             \Hy@colorlink\@linkcolor
9537           }{%
9538             \expandafter\Hy@colorlink
9539             \csname @\pdf@linktype color\endcsname
9540           }%
9541           \pdf@rect{#1}%
9542           \literalps@out{%
9543             [\the\pdf@toks\space\pdf@type\space pdfmark%
9544             ]%
9545             \Hy@endcolorlink
9546           \fi
9547         \fi
9548       \fi
9549     }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```
\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}
```

```
9550 \newsavebox{\pdf@box}
9551 \providecommand*{\Hy@setouterhbox}{\sbox}
9552 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9553 \def\Hy@DEST{/DEST}
9554 \def\pdf@rect#1{%
9555   \leavevmode
9556   \ifHy@breaklinks
9557     \Hy@setouterhbox\pdf@box{#1}%
9558   \else
9559     \sbox\pdf@box{#1}%
9560   \fi
9561   \dimen@ht\pdf@box
9562   \ifdim\dp\pdf@box=\z@
9563     \literalps@out{H.S}%
9564   \else
9565     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9566   \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...).

```
9567 \ifHy@breaklinks
9568   \expandafter\Hy@breaklinksunhbox
9569 \else
9570   \expandafter\box
9571 \fi
9572 \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
```

```
9573 \ifdim\dimen@=\z@
9574   \literalps@out{H.R}%
9575 \else
9576   \raise\dimen@\hbox{\literalps@out{H.R}}%
9577 \fi
9578 \ifx\pdf@type\Hy@DEST
9579 \else
9580   \pdf@addtoksx{H.B}%
9581 \fi
9582 }
```

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.

```
9583 \newtoks\pdf@toks
9584 \newtoks\pdf@defaulttoks
9585 \pdf@defaulttoks={}
9586 \def\pdf@addtoks#1#2{%
```

```

9587 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9588 \@processme
9589 }
9590 \def\pdf@addtoksx#1{%
9591 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9592 \@processme
9593 }
9594 \def\PDFdefaults#1{%
9595 \pdf@defaulttoks={#1}%
9596 }

```

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

```

9597 % what is the type of pdfmark?
9598 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9599 % what is the link type?
9600 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9601 \def\pdf@linktype{link}
9602 % parameter is a stream of PDF
9603 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9604 % parameter is a name
9605 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9606 % parameter is a array
9607 \define@key{PDF}{Border}{%
9608 \edef\Hy@temp{#1}%
9609 \ifx\Hy@temp\@empty
9610 \else
9611 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9612 \fi
9613 }
9614 \let\Hy@BorderArrayPatch\@empty
9615 % parameter is a dictionary
9616 \define@key{PDF}{BorderStyle}{%
9617 \edef\Hy@temp{#1}%
9618 \ifx\Hy@temp\@empty
9619 \else
9620 \pdf@addtoks{<<#1>>}{BS}%
9621 \fi
9622 }
9623 % parameter is a array
9624 \define@key{PDF}{Color}{%
9625 \ifx\relax#1\relax
9626 \else
9627 \pdf@addtoks{[#1]}{Color}% hash-ok
9628 \fi
9629 }
9630 % parameter is a string
9631 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9632 % parameter is a integer
9633 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9634 % parameter is a array
9635 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9636 % parameter is a string
9637 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9638 % parameter is a string or file
9639 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9640 % parameter is a destination
9641 \define@key{PDF}{Dest}{%
9642 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

9643 \ifx\Hy@pstringDest\@empty
9644 \Hy@pdfmarkerrortrue
9645 \Hy@Warning{Destination with empty name ignored}%
9646 \else
9647 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9648 \fi
9649 }
9650 \define@key{PDF}{DestAnchor}{%
9651 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9652 \ifx\Hy@pstringDest\@empty
9653 \Hy@pdfmarkerrortrue
9654 \Hy@Warning{Destination with empty name ignored}%
9655 \else
9656 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9657 \fi
9658 }
9659 % parameter is a string
9660 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9661 % parameter is a string
9662 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9663 % parameter is a int
9664 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9665 \define@key{PDF}{PDFAFlags}{%
9666 \ifHy@pdfa
9667 \pdf@addtoks{#1}{F}%
9668 \fi
9669 }
9670 % parameter is a name
9671 \define@key{PDF}{AcroHighlight}{%
9672 \begingroup
9673 \edef\x{#1}%
9674 \expandafter\endgroup\ifx\x\@empty
9675 \else
9676 \pdf@addtoks{#1}{H}%
9677 \fi
9678 }
9679 % parameter is a string
9680 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9681 % parameter is a string
9682 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9683 % parameter is a string
9684 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9685 % parameter is a string
9686 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9687 % parameter is a Boolean
9688 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9689 % parameter is a integer or name
9690 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9691 % parameter is a name
9692 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9693 % parameter is a string
9694 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9695 % parameter is a array
9696 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9697 % parameter is a integer
9698 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9699 % parameter is a name

```



```

9700 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9701 % parameter is a string
9702 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9703 % parameter is a string
9704 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9705 % parameter is a string
9706 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9707 % parameter is an array
9708 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9709 % parameter is a string
9710 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9711 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9712 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9713 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9714 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9715 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9716 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9717 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9718 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9719 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9720 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9721 </pdfmarkbase>
9722 <*pdfmark>
9723 \def\Acrobatmenu#1#2{%
9724   \Hy@Acrobatmenu{#1}{#2}{%
9725     \pdfmark[{#2}]{%
9726       linktype=menu,%
9727       pdfmark=/ANN,%
9728       AcroHighlight=\pdfhighlight,%
9729       Border=\pdfborder,%
9730       BorderStyle=\pdfborderstyle,%
9731       Action={<< /Subtype /Named /N /#1 >>},%
9732       Subtype=/Link,%
9733       PDFAFlags=4%
9734     }%
9735   }%
9736 }

```

And now for some useful examples:

```

9737 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9738 \def\PDFNextPage@[#1]#2{%
9739   \pdfmark[{#2}]{%
9740     #1,%
9741     Border=\pdfborder,%
9742     BorderStyle=\pdfborderstyle,%
9743     Color=.2 .1 .5,%
9744     pdfmark=/ANN,%
9745     Subtype=/Link,%
9746     PDFAFlags=4,%
9747     Page=/Next%
9748   }%
9749 }
9750 \def\PDFPreviousPage{%
9751   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9752 }
9753 \def\PDFPreviousPage@[#1]#2{%

```

```

9754 \pdfmark[{#2}]{%
9755   #1,%
9756   Border=\@pdfborder,%
9757   BorderStyle=\@pdfborderstyle,%
9758   Color=.4 .4 .1,%
9759   pdfmark=/ANN,%
9760   Subtype=/Link,%
9761   PDFAFlags=4,%
9762   Page=/Prev%
9763 }%
9764 }
9765 \def\PDFOpen#1{%
9766   \pdfmark{#1,pdfmark=/DOCVIEW}%
9767 }

```

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

```

9768 \def\hyper@linkurl#1#2{%
9769   \begingroup
9770   \Hy@pstringdef\Hy@pstringURI{#2}%
9771   \hyper@chars
9772   \leavevmode
9773   \pdfmark[{#1}]{%
9774     pdfmark=/ANN,%
9775     linktype=url,%
9776     AcroHighlight=\@pdfhighlight,%
9777     Border=\@pdfborder,%
9778     BorderStyle=\@pdfborderstyle,%
9779     Color=\@urlbordercolor,%
9780     Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9781     Subtype=/Link,%
9782     PDFAFlags=4%
9783   }%
9784   \endgroup
9785 }
9786 \def\hyper@linkfile#1#2#3{%
9787   \begingroup
9788   \Hy@pstringdef\Hy@pstringF{#2}%
9789   \Hy@pstringdef\Hy@pstringD{#3}%
9790   \leavevmode
9791   \pdfmark[{#1}]{%
9792     pdfmark=/ANN,%
9793     Subtype=/Link,%
9794     PDFAFlags=4,%
9795     AcroHighlight=\@pdfhighlight,%
9796     Border=\@pdfborder,%
9797     BorderStyle=\@pdfborderstyle,%
9798     linktype=file,%
9799     Color=\@filebordercolor,%
9800     Action={%
9801       <<%
9802         /S/GoToR%
9803         \Hy@SetNewWindow
9804         /F(\Hy@pstringF)%
9805         /D\ifx\#3\@0 \@pdfstartview\else(\Hy@pstringD)cvn\fi
9806       >>%
9807     }%
9808   }%
9809   \endgroup

```

```

9810 }
9811 \def\@hyper@launch run:#1\|#2#3{%
9812   \begingroup
9813     \Hy@pstringdef\Hy@pstringF{#1}%
9814     \Hy@pstringdef\Hy@pstringP{#3}%
9815     \leavevmode
9816     \pdfmark[{#2}]{%
9817       pdfmark=/ANN,%
9818       Subtype=/Link,%
9819       PDFAFlags=4,%
9820       AcroHighlight=\@pdfhighlight,%
9821       Border=\@pdfborder,%
9822       BorderStyle=\@pdfborderstyle,%
9823       linktype=run,%
9824       Color=\@runbordercolor,%
9825       Action={%
9826         <<%
9827           /S/Launch%
9828           \Hy@SetNewWindow
9829           /F(\Hy@pstringF)%
9830           \ifx\|#3\| %
9831             \else
9832               /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9833             \fi
9834           >>%
9835         }%
9836       }%
9837   \endgroup
9838 }
9839 \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.

```

9840 <*dvips>
9841 \providecommand*\XR@ext}{pdf}
9842 \def\Hy@raisedlink{}
9843 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9844 \def\headerps@out#1{\special{! #1}}%
9845 \input{pdfmark.def}%
9846 \ifx\@pdfproducer\relax
9847   \def\@pdfproducer{dvips + Distiller}%
9848 \fi
9849 \providecommand*\@pdfborder{0 0 1}
9850 \providecommand*\@pdfborderstyle{}
9851 \providecommand*\@pdfview{XYZ}
9852 \providecommand*\@pdfviewparams{ H.V}
9853 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9854 \g@addto@macro\Hy@FirstPageHook{%
9855   \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.

```
9856 /DvipsToPDF{72.27 mul Resolution div} def%
9857 /PDFToDvips{72.27 div Resolution mul} def%
9858 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border 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.

```
9859 /BorderArrayPatch{%
9860   [exch{%
9861     dup dup type/integertype eq exch type/realtype eq or%
9862     {BPToDvips}if%
9863   }forall]%
9864 }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.

```
9865 /HyperBorder {1 PDFToDvips} def%
9866 /H.V {pdf@hoff pdf@voff null} def%
9867 /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

```
9868 /H.S {%
9869   currentpoint %
9870   HyperBorder add /pdf@lly exch def %
9871   dup DvipsToPDF 72 add /pdf@hoff exch def %
9872   HyperBorder sub /pdf@llx exch def%
9873 } def%
```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current  $\backslash$ 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

```
9874 /H.L {%
9875   2 sub dup%
9876   /HyperBasePt exch def %
9877   PDFToDvips /HyperBaseDvips exch def %
9878   currentpoint %
9879   HyperBaseDvips sub /pdf@ury exch def%
9880   /pdf@urx exch def%
9881 } def%
9882 /H.A {%
```

```

9883   H.L %
9884 % | /pdf@voff| = the distance from the top of the page to a point
9885 % | \baselineskip| above the current point in PDF coordinates
9886   currentpoint exch pop %
9887   vsize 72 sub exch DvipsToPDF %
9888   HyperBasePt sub % baseline skip
9889   sub /pdf@voff exch def%
9890 } def%
9891 /H.R {%
9892   currentpoint %
9893   HyperBorder sub /pdf@ury exch def %
9894   HyperBorder add /pdf@urx exch def %
9895 % | /pdf@voff| = the distance from the top of the page to the current point, in
9896 % PDF coordinates
9897   currentpoint exch pop vsize 72 sub %
9898   exch DvipsToPDF sub /pdf@voff exch def%
9899 } def%
9900 }%
9901 }
9902 \AtBeginShipoutFirst{%
9903   \ifHy@setpagesize
9904     \begingroup
9905       \ifundefined{stockwidth}{%
9906         \ifdim\paperwidth>\z@
9907           \ifdim\paperheight>\z@
9908             \special{papersize=\the\paperwidth,\the\paperheight}%
9909           \fi
9910         \fi
9911       }{%
9912         \ifdim\stockwidth>\z@
9913           \ifdim\stockheight>\z@
9914             \special{papersize=\the\stockwidth,\the\stockheight}%
9915           \fi
9916         \fi
9917       }%
9918     \endgroup
9919   \fi
9920   \Hy@DisableOption{setpagesize}%
9921 }
9922 \</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.

```

9923 \<*vtexpdfmark>
9924 \providecommand*{\XR@ext}{pdf}
9925 \def\Hy@raisedlink{}
9926 \def\literalps@out#1{\special{pS:#1}}%
9927 \def\headerps@out#1{\immediate\special{pS:#1}}%
9928 \input{pdfmark.def}%
9929 \ifx\@pdfproducer\relax
9930   \ifnum\OpMode=\@ne
9931     \def\@pdfproducer{VTeX}%

```

```

9932 \else
9933 \def\@pdfproducer{VTeX + Distiller}%
9934 \fi
9935 \fi
9936 \providecommand*\@pdfborder{0 0 1}
9937 \providecommand*\@pdfborderstyle{}
9938 \providecommand*\@pdfview{XYZ}
9939 \providecommand*\@pdfviewparams{ H.V}

9940 \g@addto@macro\Hy@FirstPageHook{%
9941 \headerps@out{%
9942 /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.

```

9943 /HyperBorder {1} def%
9944 /H.V {pdf@hoff pdf@voff null} def%
9945 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9946 /H.S {%
9947 currentpoint %
9948 HyperBorder sub%
9949 /pdf@lly exch def %
9950 dup 72 add /pdf@hoff exch def %
9951 HyperBorder sub%
9952 /pdf@llx exch def%
9953 } def%

```

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

```

9954 /H.L {%
9955 2 sub%
9956 /HyperBasePt exch def %
9957 currentpoint %
9958 HyperBasePt add HyperBorder add%
9959 /pdf@ury exch def %
9960 HyperBorder add%
9961 /pdf@urx exch def%
9962 } def%
9963 /H.A {%
9964 H.L %
9965 currentpoint exch pop %
9966 vsize 72 sub exch %
9967 HyperBasePt add add%
9968 /pdf@voff exch def%
9969 } def%

```

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

```

9970 /H.R {%
9971 currentpoint %
9972 HyperBorder add%
9973 /pdf@ury exch def %
9974 HyperBorder add%
9975 /pdf@urx exch def %
9976 currentpoint exch pop vsize 72 sub add%
9977 /pdf@voff exch def%

```

```

9978   } def%
9979   }%
9980 }
9981 </vtxpdfmark>

```

## 46.11 Textures

```

9982 <*textures>
9983 \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.

```

9984 \begingroup
9985   \obeylines %
9986   \gdef\Hy@ps@CR{\noexpand
9987     }%
9988 \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.

```

9989 \def\literalps@out#1{%
9990   \special{postscript 0 0 transform}%
9991   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9992 }%
9993 %

```

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.

```

9994 \def\headerps@out#1{%
9995   \special{%
9996     prepostscript TeXdict begin\Hy@ps@CR
9997       #1\Hy@ps@CR
9998     end%
9999   }%
10000 }%
10001 %

```

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.

```

10002 \g@addto@macro\Hy@FirstPageHook{%
10003   \headerps@out{%
10004     /betterpdfmark {%

```

```

10005    systemdict begin %
10006      dup /BP eq%
10007      {cleartomark gsave nulldevice []}%
10008      {dup /EP eq%
10009        {cleartomark cleartomark grestore}%
10010        {cleartomark}%
10011        ifelse%
10012      }ifelse %
10013    end%
10014  }def\Hy@ps@CR
10015  ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
10016  }% end of \headerps@out
10017 }% end of \AtBeginShipoutFirst
10018 %
10019 \input{pdfmark.def}%
10020 %
10021 \ifx\@pdfproducer\relax
10022   \def\@pdfproducer{Textures + Distiller}%
10023 \fi
10024 \providecommand*\@pdfborder{0 0 1}
10025 \providecommand*\@pdfborderstyle{}
10026 \providecommand*\@pdfview{XYZ}
10027 \providecommand*\@pdfviewparams{ H.V}
10028 %

```

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  $\TeX$ .

```

10029 \AfterBeginDocument{%
10030   \headerps@out{%

```

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

```

10031   /vsize {\Hy@pageheight} def%
10032   /DvipsToPDF {} def%
10033   /PDFToDvips {} def%
10034   /BPTToDvips {} def%
10035   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10036   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10037   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10038   /H.S {%
10039     currentpoint %
10040     HyperBorder add /pdf@lly exch def %
10041     dup DvipsToPDF 72 add /pdf@hoff exch def %
10042     HyperBorder sub /pdf@llx exch def%
10043   } def\Hy@ps@CR
10044   /H.L {%
10045     2 sub %
10046     PDFToDvips /HyperBase exch def %
10047     currentpoint %
10048     HyperBase sub /pdf@ury exch def%
10049     /pdf@urx exch def%
10050   } def\Hy@ps@CR
10051   /H.A {%
10052     H.L %
10053     currentpoint exch pop %
10054     vsize 72 sub exch DvipsToPDF %

```



```

10055   HyperBase sub % baseline skip
10056   sub /pdf@voff exch def%
10057 } def\Hy@ps@CR
10058 /H.R {%
10059   currentpoint %
10060   HyperBorder sub /pdf@ury exch def %
10061   HyperBorder add /pdf@urx exch def %
10062   currentpoint exch pop vsize 72 sub %
10063   exch DvipsToPDF sub /pdf@voff exch def%
10064 } def\Hy@ps@CR
10065 }%
10066 }

10067 \AfterBeginDocument{%
10068   \ifHy@colorlinks
10069     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10070   \fi
10071 }

```

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.

```

10072 \expandafter\let\expandafter\keepPDF@SetupDoc
10073   \csname PDF@SetupDoc\endcsname
10074 \def\PDF@SetupDoc{%
10075   \ifx\@baseurl\@empty
10076   \else
10077     \special{html:<base href="\@baseurl">}%
10078   \fi
10079   \keepPDF@SetupDoc
10080 }

10081 \def\hyper@anchor#1{%
10082   \Hy@SaveLastskip
10083   \begingroup
10084     \let\protect=\string
10085     \special{html:<a name=%
10086       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10087   \endgroup
10088   \Hy@activeanchortrue
10089   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10090   \special{html:</a>}%
10091   \Hy@activeanchorfalse
10092   \Hy@RestoreLastskip
10093 }

10094 \def\hyper@anchorstart#1{%
10095   \Hy@SaveLastskip
10096   \begingroup
10097     \hyper@chars
10098     \special{html:<a name=%
10099       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10100   \endgroup
10101   \Hy@activeanchortrue
10102 }

10103 \def\hyper@anchorend{%
10104   \special{html:</a>}%
10105   \Hy@activeanchorfalse
10106   \Hy@RestoreLastskip
10107 }

10108 \def\@urltype{url}

```

```

10109 \def\hyper@linkstart#1#2{%
10110   \expandafter\Hy@colorlink\csname @#1color\endcsname
10111   \def\Hy@tempa{#1}%
10112   \ifx\Hy@tempa\@uratype
10113     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10114   \else
10115     \begingroup
10116       \hyper@chars
10117       \special{%
10118         html:<a href=%
10119         \hyper@quote#\HyperDestNameFilter{#2}\hyper@quote>%
10120       }%
10121     \endgroup
10122   \fi
10123 }
10124 \def\hyper@linkend{%
10125   \special{html:</a>}%
10126   \Hy@endcolorlink
10127 }
10128 \def\hyper@linkfile#1#2#3{%
10129   \hyper@linkurl{#1}{%
10130     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
10131   }%
10132 }
10133 \def\hyper@linkurl#1#2{%
10134   \leavevmode
10135   \ifHy@raiselinks
10136     \setbox\@tempboxa=\color@hbox #1\color@endbox
10137     \@linkdim\dp\@tempboxa
10138     \lower\@linkdim\hbox{%
10139       \hyper@chars
10140       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10141     }%
10142     \Hy@colorlink\@uratypecolor#1%
10143     \@linkdim\ht\@tempboxa
10144     \advance\@linkdim by -6.5p@
10145     \raise\@linkdim\hbox{\special{html:</a>}}%
10146     \Hy@endcolorlink
10147   \else
10148     \begingroup
10149       \hyper@chars
10150       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10151       \Hy@colorlink\@uratypecolor#1%
10152       \special{html:</a>}%
10153       \Hy@endcolorlink
10154     \endgroup
10155   \fi
10156 }

```

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

```

10157 \def\hyper@link#1#2#3{%
10158   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10159 }
10160 \def\hyper@image#1#2{%
10161   \begingroup
10162     \hyper@chars
10163     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10164   \endgroup

```

```

10165 }
10166 </textures>

```

## 46.12 dvipsone

```

10167 % \subsection{dvipsone driver}
10168 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10169 % |\special| commands.
10170 <*dvipsone>
10171 \providecommand*{\XR@ext}{pdf}
10172 \def\Hy@raisedlink{}
10173 \providecommand*\@pdfborder{0 0 1}
10174 \providecommand*\@pdfborderstyle{}
10175 \def\literalps@out#1{\special{ps:#1}}%
10176 \def\headerps@out#1{\special{headertext=#1}}%
10177 \input{pdfmark.def}%
10178 \ifx\@pdfproducer\relax
10179   \def\@pdfproducer{dvipsone + Distiller}%
10180 \fi
10181 \def\PDF@FinishDoc{%
10182   \Hy@UseMaketitleInfos
10183   \special{PDF: Keywords \@pdfkeywords}%
10184   \special{PDF: Title \@pdftitle}%
10185   \special{PDF: Creator \@pdfcreator}%
10186   \ifx\@pdfcreationdate\@empty
10187   \else
10188     \special{PDF: CreationDate \@pdfcreationdate}%
10189   \fi
10190   \ifx\@pdfmoddate\@empty
10191   \else
10192     \special{PDF: ModDate \@pdfmoddate}%
10193   \fi
10194   \special{PDF: Author \@pdfauthor}%
10195   \ifx\@pdfproducer\relax
10196   \else
10197     \special{PDF: Producer \@pdfproducer}%
10198   \fi
10199   \special{PDF: Subject \@pdfsubject}%
10200   \Hy@DisableOption{pdfauthor}%
10201   \Hy@DisableOption{pdftitle}%
10202   \Hy@DisableOption{pdfsubject}%
10203   \Hy@DisableOption{pdfcreator}%
10204   \Hy@DisableOption{pdfcreationdate}%
10205   \Hy@DisableOption{pdfmoddate}%
10206   \Hy@DisableOption{pdfproducer}%
10207   \Hy@DisableOption{pdfkeywords}%
10208 }
10209 \def\PDF@SetupDoc{%
10210   \def\Hy@temp{}%
10211   \ifx\@pdfstartpage\@empty
10212   \else
10213     \ifx\@pdfstartview\@empty
10214     \else
10215       \edef\Hy@temp{%
10216         ,Page=\@pdfstartpage
10217         ,View=\@pdfstartview
10218       }%

```

```

10219 \fi
10220 \fi
10221 \edef\Hy@temp{%
10222 \noexpand\pdfmark{%
10223 pdfmark=/DOCVIEW,%
10224 PageMode=/\@pdfpagemode
10225 \Hy@temp
10226 }%
10227 }%
10228 \Hy@temp
10229 \ifx\@pdfpagescrop\@empty
10230 \else
10231 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10232 \fi
10233 \edef\Hy@temp{%
10234 \ifHy@toolbar\else /HideToolbar true\fi
10235 \ifHy@menubar\else /HideMenubar true\fi
10236 \ifHy>windowui\else /HideWindowUI true\fi
10237 \ifHy@fitwindow /FitWindow true\fi
10238 \ifHy@centerwindow /CenterWindow true\fi
10239 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10240 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10241 \Hy@UseNameKey{Direction}\@pdfdirection
10242 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10243 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10244 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10245 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10246 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10247 \Hy@UseNameKey{Duplex}\@pdfduplex
10248 \ifx\@pdfpicktraybypdfsize\@empty
10249 \else
10250 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10251 \fi
10252 \ifx\@pdfprintpagerange\@empty
10253 \else
10254 /PrintPageRange[\@pdfprintpagerange]%
10255 \fi
10256 \ifx\@pdfnumcopies\@empty
10257 \else
10258 /NumCopies \@pdfnumcopies
10259 \fi
10260 }%
10261 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10262 \pdfmark{%
10263 pdfmark=/PUT,%
10264 Raw={%
10265 \string{Catalog\string}<<%
10266 \ifx\Hy@temp\@empty
10267 \else
10268 /ViewerPreferences<<\Hy@temp>>%
10269 \fi
10270 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10271 \ifx\@pdflang\@empty
10272 \else
10273 /Lang(\@pdflang)%
10274 \fi
10275 \ifx\@baseurl\@empty

```

```

10276      \else
10277      /URI<</Base(\Hy@pstringB)>>%
10278      \fi
10279      >>%
10280      }%
10281      }%
10282  }
10283  \providecommand*\@pdfview{XYZ}
10284  \providecommand*\@pdfviewparams{ %
10285    gsave revscl currentpoint grestore %
10286    72 add exch pop null exch null%
10287  }
10288  \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

10289  \g@addto@macro\Hy@FirstPageHook{%
10290    \headerps@out{%

```

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

```

10291    /DvipsToPDF { 65781 div } def%
10292    /PDFToDvips { 65781 mul } def%
10293    /BPToDvips{65781 mul}def%
10294    /HyperBorder { 1 PDFToDvips } def%
10295    /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.

```

10296    /BorderArrayPatch{%
10297      [exch{%
10298        dup dup type/integertype eq exch type/realtype eq or%
10299        {BPToDvips}if%
10300      }forall]%
10301    }def%
10302    /H.S {%
10303      currentpoint %
10304      HyperBorder add /pdf@lly exch def %
10305      dup DvipsToPDF 72 add /pdf@hoff exch def %
10306      HyperBorder sub /pdf@llx exch def%
10307    } def%
10308    /H.L {%
10309      2 sub %
10310      PDFToDvips /HyperBase exch def %
10311      currentpoint %
10312      HyperBase sub /pdf@ury exch def%
10313      /pdf@urx exch def%
10314    } def%
10315    /H.A {%
10316      H.L %
10317      currentpoint exch pop %
10318      HyperBase sub % baseline skip
10319      DvipsToPDF /pdf@voff exch def%
10320    } def%
10321    /H.R {%
10322      currentpoint %

```

```

10323   HyperBorder sub /pdf@ury exch def %
10324   HyperBorder add /pdf@urx exch def %
10325   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10326   } def%
10327 }%
10328 }
10329 </dvipsone>

```

## 46.13 TeX4ht

```

10330 <*tex4ht>
10331 \providecommand*{\XR@ext}{html}
10332 \def\Hy@raisedlink{}
10333 \ifpackageloaded{tex4ht}{%
10334   \typeout{hyperref tex4ht: tex4ht already loaded}%
10335 }{%
10336   \RequirePackage[hTeX4ht]{tex4ht}%
10337 }
10338 \hyperlinkfileprefix{}
10339 \def\PDF@FinishDoc{}
10340 \def\PDF@SetupDoc{%
10341   \ifx\@baseurl\@empty
10342   \else
10343     \special{t4ht=<base href="\@baseurl">}%
10344   \fi
10345 }
10346 \def\hyper@anchor#1{%
10347   \Hy@SaveLastskip
10348   \begingroup
10349     \let\protect=\string
10350     \special{t4ht=<a name=%
10351       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10352   \endgroup
10353   \Hy@activeanchortrue
10354   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10355   \special{t4ht=</a>}%
10356   \Hy@activeanchorfalse
10357   \Hy@RestoreLastskip
10358 }
10359 \def\hyper@anchorstart#1{%
10360   \Hy@SaveLastskip
10361   \begingroup
10362     \hyper@chars\special{t4ht=<a name=%
10363       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10364   \endgroup
10365   \Hy@activeanchortrue
10366 }
10367 \def\hyper@anchorend{%
10368   \special{t4ht=</a>}%
10369   \Hy@activeanchorfalse
10370   \Hy@RestoreLastskip
10371 }
10372 \def\@urltype{url}
10373 \def\hyper@linkstart#1#2{%
10374   \expandafter\Hy@colorlink\csname @#1color\endcsname
10375   \def\Hy@tempa{#1}%
10376   \ifx\Hy@tempa\@urltype
10377     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%

```

```

10378 \else
10379 \begingroup
10380 \hyper@chars
10381 \special{t4ht=<a href=%
10382 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10383 \endgroup
10384 \fi
10385 }
10386 \def\hyper@linkend{%
10387 \special{t4ht=</a>}%
10388 \Hy@endcolorlink
10389 }
10390 \def\hyper@linkfile#1#2#3{%
10391 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
10392 }
10393 \def\hyper@linkurl#1#2{%
10394 \leavevmode
10395 \ifHy@raiselinks
10396 \setbox\@tempboxa=\color@hbox #1\color@endbox
10397 \@linkdim\dp\@tempboxa
10398 \lower\@linkdim\hbox{%
10399 \begingroup
10400 \hyper@chars
10401 \special{%
10402 t4ht=<a href=\hyper@quote#2\hyper@quote>%
10403 }%
10404 \endgroup
10405 }%
10406 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10407 \@linkdim\ht\@tempboxa
10408 \advance\@linkdim by -6.5\p@
10409 \raise\@linkdim\hbox{\special{t4ht=</a>}}}%
10410 \else
10411 \begingroup
10412 \hyper@chars
10413 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10414 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10415 \special{t4ht=</a>}%
10416 \endgroup
10417 \fi
10418 }

```

Poor implementation of \hyper@link without considering #1.

```

10419 \def\hyper@link#1#2#3{%
10420 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10421 }
10422 \def\hyper@image#1#2{%
10423 \begingroup
10424 \hyper@chars
10425 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10426 \endgroup
10427 }
10428 \let\autoref\ref
10429 \ifx \rEfLiNK \UnDef
10430 \def\rEfLiNK #1#2{#2}%
10431 \fi
10432 \def\backref#1{}
10433 </tex4ht>

```

```

10434 <*tex4htcfg>
10435 \IfFileExists{\jobname.cfg}{\endinput}{}
10436 \Preamble{html}
10437 \begin{document}%
10438 \EndPreamble
10439 \def\TeX{\TeX}
10440 \def\OMEGA{\Omega}
10441 \def\LaTeX{\LaTeX}
10442 \def\LaTeXe{\LaTeX2e}
10443 \def\TeX{e-TeX}
10444 \def\MF{Metafont}
10445 \def\MP{MetaPost}
10446 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10447 <*pdfmark>
10448 \long\def\@Form[#1]{%
10449 \g@addto@macro\Hy@FirstPageHook{%
10450 \headerps@out{%
10451 [%
10452 /_objdef{pdfDocEncoding}%
10453 /type/dict%
10454 /OBJ pdfmark%
10455 [%
10456 {pdfDocEncoding}%
10457 <<%
10458 /Type/Encoding%
10459 /Differences[%
10460 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10461 /tilde %
10462 39/quotesingle %
10463 96/grave %
10464 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10465 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10466 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10467 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10468 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10469 164/currency %
10470 166/brokenbar %
10471 168/dieresis/copyright/ordfeminine %
10472 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10473 /twosuperior/threesuperior/acute/mu %
10474 183/periodcentered/cedilla/onesuperior/ordmasculine %
10475 188/onequarter/onehalf/threequarters %
10476 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10477 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10478 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10479 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10480 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10481 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10482 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10483 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10484 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10485 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10486 ]%

```



```

10487 >>%
10488 /PUT pdfmark%
10489 [%
10490   /__objdef{ZaDb}%
10491   /type/dict%
10492 /OBJ pdfmark%
10493 [%
10494   {ZaDb}%
10495 <<%
10496   /Type/Font%
10497   /Subtype/Type1%
10498   /Name/ZaDb%
10499   /BaseFont/ZapfDingbats%
10500 >>%
10501 /PUT pdfmark%
10502 [%
10503   /__objdef{Helv}%
10504   /type/dict%
10505 /OBJ pdfmark%
10506 [%
10507   {Helv}%
10508 <<%
10509   /Type/Font%
10510   /Subtype/Type1%
10511   /Name/Helv%
10512   /BaseFont/Helvetica%
10513   /Encoding{pdfDocEncoding}%
10514 >>%
10515 /PUT pdfmark%
10516 [%
10517   /__objdef{aform}%
10518   /type/dict%
10519 /OBJ pdfmark%
10520 [%
10521   /__objdef{afields}%
10522   /type/array%
10523 /OBJ pdfmark%
10524 {%
10525   [%
10526     /BBox[0 0 100 100]%
10527     /__objdef{Check}%
10528 /BP pdfmark %
10529 1 0 0 setrgbcolor%
10530 /ZapfDingbats 80 selectfont %
10531 20 20 moveto%
10532 (4)show%
10533 [/EP pdfmark%
10534 [%
10535   /BBox[0 0 100 100]%
10536   /__objdef{Cross}%
10537 /BP pdfmark %
10538 1 0 0 setrgbcolor%
10539 /ZapfDingbats 80 selectfont %
10540 20 20 moveto%
10541 (8)show%
10542 [/EP pdfmark%
10543 [%

```

```

10544  /BBox[0 0 250 100]%
10545  /_objdef{Submit}%
10546  /BP pdfmark %
10547  0.6 setgray %
10548  0 0 250 100 rectfill %
10549  1 setgray %
10550  2 2 moveto %
10551  2 98 lineto %
10552  248 98 lineto %
10553  246 96 lineto %
10554  4 96 lineto %
10555  4 4 lineto %
10556  fill %
10557  0.34 setgray %
10558  248 98 moveto %
10559  248 2 lineto %
10560  2 2 lineto %
10561  4 4 lineto %
10562  246 4 lineto %
10563  246 96 lineto %
10564  fill%
10565  /Helvetica 76 selectfont %
10566  0 setgray %
10567  8 22.5 moveto%
10568  (Submit)show%
10569  [/EP pdfmark%
10570  [%
10571  /BBox[0 0 250 100]%
10572  /_objdef{SubmitP}%
10573  /BP pdfmark %
10574  0.6 setgray %
10575  0 0 250 100 rectfill %
10576  0.34 setgray %
10577  2 2 moveto %
10578  2 98 lineto %
10579  248 98 lineto %
10580  246 96 lineto %
10581  4 96 lineto %
10582  4 4 lineto %
10583  fill %
10584  1 setgray %
10585  248 98 moveto %
10586  248 2 lineto %
10587  2 2 lineto %
10588  4 4 lineto %
10589  246 4 lineto %
10590  246 96 lineto %
10591  fill%
10592  /Helvetica 76 selectfont %
10593  0 setgray %
10594  10 20.5 moveto%
10595  (Submit)show%
10596  [/EP pdfmark%
10597  }?pdfmark%
10598  [%
10599  {aform}%
10600  <<%

```

```

10601 /Fields{afields}%
10602 /DR<<%
10603 /Font<<%
10604 /ZaDb{ZaDb}%
10605 /Helv{Helv}%
10606 >>%
10607 >>%
10608 /DA(/Helv 10 Tf 0 g)%
10609 /CO{corder}%
10610 \ifHy@pdfa
10611 \else
10612 /NeedAppearances true%
10613 \fi
10614 >>%
10615 /PUT pdfmark%
10616 [%
10617 {Catalog}%
10618 <<%
10619 /AcroForm{aform}%
10620 >>%
10621 /PUT pdfmark%
10622 [%
10623 /__objdef{corder}%
10624 /type/array%
10625 /OBJ pdfmark% dps
10626 }]%
10627 \setkeys{Form}{#1}%
10628 }
10629 \def\@endForm{}
10630 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10631 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10632 }
10633 \def\@TextField[#1]#2{% parameters, label
10634 \def\Fld@name{#2}%
10635 \def\Fld@default{}%
10636 \let\Fld@value\@empty
10637 \def\Fld@width{\DefaultWidthofText}%
10638 \def\Fld@height{%
10639 \ifFld@multiline
10640 \DefaultHeightofTextMultiline
10641 \else
10642 \DefaultHeightofText
10643 \fi
10644 }%
10645 \begingroup
10646 \Field@toks={ }%
10647 \expandafter\HyField@SetKeys\expandafter{%
10648 \DefaultOptionsofText,#1%
10649 }%
10650 \HyField@FlagsText
10651 \ifFld@hidden\def\Fld@width{1sp}\fi
10652 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10653 \LayoutTextField{#2}{%
10654 \Hy@escapeform\PDFForm@Text
10655 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10656 pdfmark=/ANN,Raw={\PDFForm@Text}%
10657 }%

```

```

10658 }%
10659 \endgroup
10660 }
10661 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10662 \def\Fld@name{#2}%
10663 \let\Fld@default\relax
10664 \let\Fld@value\relax
10665 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10666 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10667 \begingroup
10668 \Fld@menulength=0 %
10669 \@tempdima\z@
10670 \@for\@curropt:=#3\do{%
10671 \expandafter\Fld@checkequals\@curropt==\%
10672 \Hy@StepCount\Fld@menulength
10673 \settowidth{\@tempdimb}{\@currDisplay}%
10674 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10675 }%
10676 \advance\@tempdima by 15\p@
10677 \Field@toks={ }%
10678 \begingroup
10679 \HyField@SetKeys{#1}%
10680 \edef\x{\endgroup
10681 \noexpand\expandafter
10682 \noexpand\HyField@SetKeys
10683 \noexpand\expandafter{%
10684 \expandafter\noexpand\csname DefaultOptionsof%
10685 \ifFld@radio
10686 Radio%
10687 \else
10688 \ifFld@combo
10689 \ifFld@popdown
10690 PopdownBox%
10691 \else
10692 ComboBox%
10693 \fi
10694 \else
10695 ListBox%
10696 \fi
10697 \fi
10698 \endcsname
10699 }%
10700 }\x
10701 \HyField@SetKeys{#1}%
10702 \ifFld@hidden\def\Fld@width{1sp}\fi
10703 \ifx\Fld@value\relax
10704 \let\Fld@value\Fld@default
10705 \fi
10706 \LayoutChoiceField{#2}{%
10707 \ifFld@radio
10708 \HyField@FlagsRadioButton
10709 \@@Radio{#3}%
10710 \else
10711 \begingroup
10712 \HyField@FlagsChoice
10713 \ifdim\Fld@width<\@tempdima
10714 \ifdim\@tempdima<1cm\@tempdima1cm\fi

```

```

10715         \edef\Fld@width{\the\@tempdima}%
10716     \fi
10717     \ifFld@combo
10718     \else
10719         \@tempdima=\the\Fld@menulength\Fld@charsize
10720         \advance\@tempdima by \Fld@borderwidth bp %
10721         \advance\@tempdima by \Fld@borderwidth bp %
10722         \edef\Fld@height{\the\@tempdima}%
10723     \fi
10724     \@@ListBox{#3}%
10725 \endgroup
10726 \fi
10727 }%
10728 \endgroup
10729 }
10730 \def\@@Radio#1{%
10731     \Fld@listcount=0 %
10732     \@for\@curropt:=#1\do{%
10733         \expandafter\Fld@checkequals\@curropt==\%
10734         \Hy@StepCount\Fld@listcount
10735         \@currDisplay\space
10736         \Hy@escapeform\PDFForm@Radio
10737         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10738             pdfmark=/ANN,%
10739             Raw={%
10740                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
10741             }%
10742         } % deliberate space between radio buttons
10743     }%
10744 }
10745 \newcount\Fld@listcount
10746 \def\@@ListBox#1{%
10747     \HyField@PDFChoices{#1}%
10748     \Hy@escapeform\PDFForm@List
10749     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10750         pdfmark=/ANN,Raw={\PDFForm@List}%
10751     }%
10752 }
10753 \def\@PushButton[#1]#2{% parameters, label
10754     \def\Fld@name{#2}%
10755     \begingroup
10756         \Field@toks={ }%
10757         \expandafter\HyField@SetKeys\expandafter{%
10758             \DefaultOptionsofPushButton,#1%
10759         }%
10760         \ifHy@pdfa
10761             \PackageError{hyperref}{%
10762                 PDF/A: Push button with JavaScript is prohibited%
10763             }\@ehc
10764             \LayoutPushButtonField{%
10765                 \leavevmode
10766                 \MakeButtonField{#2}%
10767             }%
10768         \else
10769             \HyField@FlagsPushButton
10770             \ifFld@hidden\def\Fld@width{1sp}\fi
10771             \LayoutPushButtonField{%

```

```

10772 \leavevmode
10773 \Hy@escapeform\PDFForm@Push
10774 \pdfmark[\MakeButtonField{#2}]{%
10775 pdfmark=/ANN,Raw={\PDFForm@Push}%
10776 }%
10777 }%
10778 \fi
10779 \endgroup
10780 }
10781 \def\@Submit[#1]#2{%
10782 \Field@toks={ }%
10783 \def\Fld@width{\DefaultWidthofSubmit}%
10784 \def\Fld@height{\DefaultHeightofSubmit}%
10785 \begingroup
10786 \expandafter\HyField@SetKeys\expandafter{%
10787 \DefaultOptionsofSubmit,#1%
10788 }%
10789 \HyField@FlagsPushButton
10790 \HyField@FlagsSubmit
10791 \ifFld@hidden\def\Fld@width{1sp}\fi
10792 \Hy@escapeform\PDFForm@Submit
10793 \pdfmark[\MakeButtonField{#2}]{%
10794 pdfmark=/ANN,%
10795 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10796 }%
10797 \endgroup
10798 }
10799 \def\@Reset[#1]#2{%
10800 \Field@toks={ }%
10801 \def\Fld@width{\DefaultWidthofReset}%
10802 \def\Fld@height{\DefaultHeightofReset}%
10803 \begingroup
10804 \expandafter\HyField@SetKeys\expandafter{%
10805 \DefaultOptionsofReset,#1%
10806 }%
10807 \leavevmode
10808 \ifHy@pdfa
10809 \PackageError{hyperref}{%
10810 PDF/A: Reset action is prohibited%
10811 }\@ehc
10812 \MakeButtonField{#2}%
10813 \else
10814 \HyField@FlagsPushButton
10815 \ifFld@hidden\def\Fld@width{1sp}\fi
10816 \Hy@escapeform\PDFForm@Reset
10817 \pdfmark[\MakeButtonField{#2}]{%
10818 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10819 }%
10820 \fi
10821 \endgroup
10822 }%
10823 \def\@CheckBox[#1]#2{% parameters, label
10824 \def\Fld@name{#2}%
10825 \def\Fld@default{0}%
10826 \begingroup
10827 \def\Fld@width{\DefaultWidthofCheckBox}%
10828 \def\Fld@height{\DefaultHeightofCheckBox}%

```

```

10829 \Field@toks={ }%
10830 \expandafter\HyField@SetKeys\expandafter{%
10831 \DefaultOptionsofCheckBox,#1%
10832 }%
10833 \HyField@FlagsCheckBox
10834 \ifFld@hidden\def\Fld@width{1sp}\fi
10835 \LayoutCheckField{#2}{%
10836 \Hy@escapeform\PDFForm@Check
10837 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10838 pdfmark=/ANN,Raw={\PDFForm@Check}%
10839 }%
10840 }%
10841 \endgroup
10842 }
10843 \pdfmark>

```

## 47.2 HyperTeX

```

10844 <*hypertex>
10845 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10846 \def\@endForm{}
10847 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10848 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10849 }
10850 \def\@TextField[#1]#2{% parameters, label
10851 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10852 }
10853 \def\@CheckBox[#1]#2{% parameters, label
10854 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10855 }
10856 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10857 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10858 }
10859 \def\@PushButton[#1]#2{% parameters, label
10860 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10861 }
10862 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10863 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10864 </hypertex>

```

## 47.3 TeX4ht

```

10865 <*tex4ht>
10866 \def\@Form[#1]{%
10867 \setkeys{Form}{#1}%
10868 \HCode{<form action="\Form@action" method="\Form@method">}%
10869 }
10870 \def\@endForm{\HCode{</form>}}
10871 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10872 \typeout{Sorry, TeX4ht does not support gauges}%
10873 }
10874 \def\@TextField[#1]#2{% parameters, label
10875 \let\Hy@reserved@a\@empty
10876 \def\Fld@name{#2}%
10877 \def\Fld@default{}%
10878 \bgroup
10879 \Field@toks={ }%
10880 \setkeys{Field}{#1}%
10881 \HCode{<label for="\Fld@name">#2</label>}%

```

```

10882 \ifFld@password
10883 \@@PasswordField
10884 \else
10885 \@@TextField
10886 \fi
10887 \egroup
10888 }
10889 \def\@@PasswordField{%
10890 \HCode{%
10891 <input type="password" %
10892 id="\Fld@name" %
10893 name="\Fld@name" %
10894 \ifFld@hidden type="hidden" \fi
10895 value="\Fld@default" %
10896 \the\Field@toks
10897 >%
10898 }%
10899 }
10900 \def\@@TextField{%
10901 \ifFld@multiline
10902 \HCode{<textarea %
10903 \ifFld@readonly readonly \fi
10904 id="\Fld@name" %
10905 name="\Fld@name" %
10906 \ifFld@hidden type="hidden" \fi
10907 \the\Field@toks>%
10908 }%
10909 \Fld@default
10910 \HCode{</textarea>}}%
10911 \else
10912 \HCode{<input type="text" %
10913 \ifFld@readonly readonly \fi
10914 id="\Fld@name" %
10915 name="\Fld@name" %
10916 \ifFld@hidden type="hidden" \fi
10917 value="\Fld@default" %
10918 \the\Field@toks>%
10919 }%
10920 \fi
10921 }
10922 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10923 \def\Fld@name{#2}%
10924 \def\Fld@default{}%
10925 \let\Hy@reserved@a\relax
10926 \begingroup
10927 \expandafter\Fld@findlength#3\\%
10928 \Field@toks={ }%
10929 \setkeys{Field}{#1}%
10930 #2%
10931 \ifFld@radio
10932 \expandafter\@@Radio#3\\%
10933 \else
10934 \expandafter\@@Menu#3\\%
10935 \fi
10936 \endgroup
10937 }
10938 \def\Fld@findlength#1\\{%

```



```

10939 \Fld@menulength=0 %
10940 \for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10941 }
10942 \def\@@Menu#1\{\%
10943 \HCode{<select size="\the\Fld@menulength" %
10944   name="\Fld@name" %
10945   \the\Field@toks>%
10946 }%
10947 \for\@curropt:=#1\do{%
10948   \expandafter\Fld@checkequals\@curropt==\%
10949   \HCode{<option %
10950     \ifx\@curropt\Fld@default selected \fi
10951     value="\@currValue">\@currDisplay</option>%
10952   }%
10953 }%
10954 \HCode{</select>}%
10955 }
10956 \def\@@Radio#1\{\%
10957 \for\@curropt:=#1\do{%
10958   \expandafter\Fld@checkequals\@curropt==\%
10959   \HCode{<input type="radio" %
10960     \ifx\@curropt\Fld@default checked \fi
10961     name="\Fld@name" %
10962     value="\@currValue" %
10963     \the\Field@toks>%
10964   }%
10965   \@currDisplay
10966 }%
10967 }
10968 \def\@PushButton[#1]#2{% parameters, label
10969 \def\Fld@name{#2}%
10970 \bgroup
10971 \Field@toks={ }%
10972 \setkeys{Field}{#1}%
10973 \HCode{<input type="button" %
10974   name="\Fld@name" %
10975   value="#2" %
10976   \the\Field@toks>%
10977 }%
10978 \HCode{</button>}%
10979 \egroup
10980 }
10981 \def\@Submit[#1]#2{%
10982 \HCode{<button type="submit">#2</button>}%
10983 }
10984 \def\@Reset[#1]#2{%
10985 \HCode{<button type="reset">#2</button>}%
10986 }
10987 \def\@CheckBox[#1]#2{% parameters, label
10988 \let\Hy@reserved@a\@empty
10989 \def\Fld@name{#2}%
10990 \def\Fld@default{0}%
10991 \bgroup
10992 \Field@toks={ }%
10993 \setkeys{Field}{#1}%
10994 \HCode{<input type="checkbox" %
10995   \ifFld@checked checked \fi

```

```

10996 \ifFld@disabled disabled \fi
10997 \ifFld@readonly readonly \fi
10998 name="\Fld@name" %
10999 \ifFld@hidden type="hidden" \fi
11000 value="\Fld@default" %
11001 \the\Field@toks>%
11002 #2%
11003 }%
11004 \egroup
11005 }
11006 </tex4ht>

```

## 47.4 pdfTeX

```

11007 <*pdfTeX>
11008 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11009 \typeout{Sorry, pdfTeX does not support FORM gauges}%
11010 }
11011 \def\MakeFieldObject#1#2{\sbox0{#1}%
11012 \immediate\pdfxform0 %
11013 \expandafter\edef\csname #2Object\endcsname{%
11014 \the\pdflastxform\space 0 R%
11015 }%
11016 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
11017 }%
11018 \def\HyField@afields{}
11019 \begingroup\expandafter\expandafter\expandafter\endgroup
11020 \expandafter\ifx\csname pdflastlink\endcsname\relax
11021 \let\HyField@AddToFields\relax
11022 \PackageInfo{hyperref}{%
11023 You need pdfTeX 1.40.0 for setting the /Fields entry.%
11024 \MessageBreak
11025 Adobe Reader/Acrobat accepts an empty /Field array,%
11026 \MessageBreak
11027 but other PDF viewers might complain%
11028 }%
11029 \else
11030 \def\HyField@AddToFields{%
11031 \xdef\HyField@afields{%
11032 \ifx\HyField@afields\@empty
11033 \else
11034 \HyField@afields
11035 \space
11036 \fi
11037 \the\pdflastlink\space 0 R%
11038 }%
11039 }%
11040 \fi
11041 \def\@Form[#1]{%
11042 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11043 \setkeys{Form}{#1}%
11044 \Hy@FormObjects
11045 \ifnum\pdfTeXversion>13 %
11046 \pdfrefobj\OBJ@pdfdocencoding
11047 \pdfrefobj\OBJ@ZaDb
11048 \pdfrefobj\OBJ@Helv
11049 \fi
11050 \AtEndDocument{%

```

```

11051 \immediate\pdfobj{%
11052   <<%
11053     /Fields[\HyField@afields]%
11054     /DR<<%
11055       /Font<<%
11056         /ZaDb \OBJ@ZaDb\space 0 R%
11057         /Helv \OBJ@Helv\space 0 R%
11058       >>%
11059     >>%
11060     /DA(/Helv 10 Tf 0 g)%
11061     \ifHy@pdfa
11062     \else
11063       /NeedAppearances true%
11064     \fi
11065   >>%
11066 }%
11067 \edef\OBJ@acroform{\the\pdfastobj}%
11068 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11069 }%
11070 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

11071 \begingroup
11072   \fontfamily{pzd}%
11073   \fontencoding{U}%
11074   \fontseries{m}%
11075   \fontshape{n}%
11076   \selectfont
11077   \char123 %
11078 \endgroup
11079 }{Ding}%
11080 \MakeFieldObject{%
11081   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11082 }{Submit}%
11083 \MakeFieldObject{%
11084   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11085 }{SubmitP}%
11086 }
11087 \def\@endForm{}
11088 \def\@TextField[#1]#2{% parameters, label
11089   \def\Fld@name{#2}%
11090   \def\Fld@default{}%
11091   \let\Fld@value\@empty
11092   \def\Fld@width{\DefaultWidthofText}%
11093   \def\Fld@height{%
11094     \ifFld@multiline
11095       \DefaultHeightofTextMultiline
11096     \else
11097       \DefaultHeightofText
11098     \fi
11099   }%
11100 \begingroup
11101   \Field@toks={ }%
11102   \expandafter\HyField@SetKeys\expandafter{%
11103     \DefaultOptionsofText,#1%
11104   }%
11105   \PDFForm@Name
11106   \HyField@FlagsText

```

```

11107 \ifFld@hidden\def\Fld@width{1sp}\fi
11108 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11109 \LayoutTextField{#2}{%
11110   \Hy@escapeform\PDFForm@Text
11111   \pdfstartlink user {\PDFForm@Text}\relax
11112   \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11113   \HyField@AddToFields
11114 }%
11115 \endgroup
11116 }
11117 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11118 \def\Fld@name{#2}%
11119 \let\Fld@default\relax
11120 \let\Fld@value\relax
11121 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11122 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11123 \begingroup
11124 \Fld@menulength=0 %
11125 \@tempdima\z@
11126 \@for\@curropt:=#3\do{%
11127   \expandafter\Fld@checkequals\@curropt==\%
11128   \Hy@StepCount\Fld@menulength
11129   \settowidth{\@tempdimb}{\@currDisplay}%
11130   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11131 }%
11132 \advance\@tempdima by 15\p@
11133 \Field@toks={ }%
11134 \begingroup
11135 \HyField@SetKeys{#1}%
11136 \edef\x{\endgroup
11137   \noexpand\expandafter
11138   \noexpand\HyField@SetKeys
11139   \noexpand\expandafter{%
11140     \expandafter\noexpand\csname DefaultOptionsof%
11141       \ifFld@radio
11142         Radio%
11143       \else
11144         \ifFld@combo
11145           \ifFld@popdown
11146             PopdownBox%
11147           \else
11148             ComboBox%
11149           \fi
11150         \else
11151           ListBox%
11152         \fi
11153       \fi
11154     \endcsname
11155   }%
11156 }\x
11157 \HyField@SetKeys{#1}%
11158 \PDFForm@Name
11159 \ifFld@hidden\def\Fld@width{1sp}\fi
11160 \ifx\Fld@value\relax
11161   \let\Fld@value\Fld@default
11162 \fi
11163 \LayoutChoiceField{#2}{%

```

```

11164 \ifFld@radio
11165 \HyField@FlagsRadioButton
11166 \@@Radio{#3}%
11167 \else
11168 \begingroup
11169 \HyField@FlagsChoice
11170 \ifdim\Fld@width<\@tempdima
11171 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11172 \edef\Fld@width{\the\@tempdima}%
11173 \fi
11174 \ifFld@combo
11175 \else
11176 \@tempdima=\the\Fld@menulength\Fld@charsize
11177 \advance\@tempdima by \Fld@borderwidth bp %
11178 \advance\@tempdima by \Fld@borderwidth bp %
11179 \edef\Fld@height{\the\@tempdima}%
11180 \fi
11181 \@@ListBox{#3}%
11182 \endgroup
11183 \fi
11184 }%
11185 \endgroup
11186 }
11187 \def\@@Radio#1{%
11188 \Fld@listcount=0 %
11189 \@for\@curropt:=#1\do{%
11190 \expandafter\Fld@checkequals\@curropt==\%
11191 \Hy@StepCount\Fld@listcount
11192 \@currDisplay\space
11193 \leavevmode
11194 \Hy@escapeform\PDFForm@Radio
11195 \pdfstartlink user {%
11196 \PDFForm@Radio
11197 /AP<<%
11198 /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.

```

11199 /\@currValue\space \DingObject
11200 >>%
11201 >>%
11202 }%
11203 \relax
11204 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
11205 \ifnum\Fld@listcount=1 %
11206 \HyField@AddToFields
11207 \fi
11208 \space % deliberate space between radio buttons
11209 }%
11210 }
11211 \newcount\Fld@listcount
11212 \def\@@ListBox#1{%
11213 \HyField@PDFChoices{#1}%
11214 \leavevmode
11215 \Hy@escapeform\PDFForm@List
11216 \pdfstartlink user {\PDFForm@List}\relax
11217 \MakeChoiceField{\Fld@width}{\Fld@height}%

```

```

11218 \pdfendlink
11219 \HyField@AddToFields
11220 }
11221 \def\@PushButton[#1]#2{% parameters, label
11222 \def\Fld@name{#2}%
11223 \begingroup
11224 \Field@toks={ }%
11225 \expandafter\HyField@SetKeys\expandafter{%
11226 \DefaultOptionsofPushButton,#1%
11227 }%
11228 \PDFForm@Name
11229 \ifHy@pdfa
11230 \PackageError{hyperref}{%
11231 PDF/A: Push button with JavaScript is prohibited%
11232 }\@ehc
11233 \LayoutPushButtonField{%
11234 \leavevmode
11235 \MakeButtonField{#2}%
11236 }%
11237 \else
11238 \HyField@FlagsPushButton
11239 \ifFld@hidden\def\Fld@width{1sp}\fi
11240 \LayoutPushButtonField{%
11241 \leavevmode
11242 \Hy@escapeform\PDFForm@Push
11243 \pdfstartlink user {\PDFForm@Push}\relax
11244 \MakeButtonField{#2}%
11245 \pdfendlink
11246 \HyField@AddToFields
11247 }%
11248 \fi
11249 \endgroup
11250 }
11251 \def\@Submit[#1]#2{%
11252 \Field@toks={ }%
11253 \def\Fld@width{\DefaultWidthofSubmit}%
11254 \def\Fld@height{\DefaultHeightofSubmit}%
11255 \begingroup
11256 \expandafter\HyField@SetKeys\expandafter{%
11257 \DefaultOptionsofSubmit,#1%
11258 }%
11259 \HyField@FlagsPushButton
11260 \HyField@FlagsSubmit
11261 \ifFld@hidden\def\Fld@width{1sp}\fi
11262 \leavevmode
11263 \Hy@escapeform\PDFForm@Submit
11264 \pdfstartlink user {%
11265 \PDFForm@Submit
11266 /AP<</N \SubmitObject/D \SubmitPObject>>%
11267 }%
11268 \relax
11269 \MakeButtonField{#2}%
11270 \pdfendlink
11271 \HyField@AddToFields
11272 \endgroup
11273 }
11274 \def\@Reset[#1]#2{%

```

```

11275 \Field@toks={ }%
11276 \def\Fld@width{\DefaultWidthofReset}%
11277 \def\Fld@height{\DefaultHeightofReset}%
11278 \begingroup
11279 \expandafter\HyField@SetKeys\expandafter{%
11280   \DefaultOptionsofReset,#1%
11281 }%
11282 \leavevmode
11283 \ifHy@pdfa
11284   \PackageError{hyperref}{%
11285     PDF/A: Reset action is prohibited%
11286   }\@ehc
11287   \MakeButtonField{#2}%
11288 \else
11289   \HyField@FlagsPushButton
11290   \ifFld@hidden\def\Fld@width{1sp}\fi
11291   \Hy@escapeform\PDFForm@Reset
11292   \pdfstartlink user {\PDFForm@Reset}\relax
11293   \MakeButtonField{#2}%
11294   \pdfendlink
11295   \HyField@AddToFields
11296 \fi
11297 \endgroup
11298 }
11299 \def\@CheckBox[#1]#2{% parameters, label
11300 \def\Fld@name{#2}%
11301 \def\Fld@default{0}%
11302 \begingroup
11303 \def\Fld@width{\DefaultWidthofCheckBox}%
11304 \def\Fld@height{\DefaultHeightofCheckBox}%
11305 \Field@toks={ }%
11306 \expandafter\HyField@SetKeys\expandafter{%
11307   \DefaultOptionsofCheckBox,#1%
11308 }%
11309 \PDFForm@Name
11310 \HyField@FlagsCheckBox
11311 \ifFld@hidden\def\Fld@width{1sp}\fi
11312 \LayoutCheckField{#2}{%
11313   \Hy@escapeform\PDFForm@Check
11314   \pdfstartlink user {\PDFForm@Check}\relax
11315   \MakeCheckField{\Fld@width}{\Fld@height}%
11316   \pdfendlink
11317   \HyField@AddToFields
11318 }%
11319 \endgroup
11320 }
11321 \def\Hy@FormObjects{%
11322 \pdfobj {%
11323   <<%
11324     /Type/Encoding%
11325     /Differences[%
11326       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11327       /ring/tilde %
11328       39/quotesingle %
11329       96/grave %
11330       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11331       /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

```

11332      /quotedblbase/quotedblleft/quotedblright/quoteleft%
11333      /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11334      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11335      164/currency %
11336      166/brokenbar %
11337      168/dieresis/copyright/ordfeminine %
11338      172/logicalnot/.notdef/registered/macron/degree/plusminus%
11339      /twosuperior/threesuperior/acute/mu %
11340      183/periodcentered/cedilla/onesuperior/ordmasculine %
11341      188/onequarter/onehalf/threequarters %
11342      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11343      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11344      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11345      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11346      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11347      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11348      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11349      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11350      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11351      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11352      ]%
11353      >>%
11354      }%
11355      \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11356      \pdfobj{%
11357      <<%
11358      /Type/Font%
11359      /Subtype/Type1%
11360      /Name/ZaDb%
11361      /BaseFont/ZapfDingbats%
11362      >>%
11363      }%
11364      \xdef\OBJ@ZaDb{\the\pdflastobj}%
11365      \pdfobj{%
11366      <<%
11367      /Type/Font%
11368      /Subtype/Type1%
11369      /Name/Helv%
11370      /BaseFont/Helvetica%
11371      /Encoding \OBJ@pdfdocencoding\space 0 R%
11372      >>%
11373      }%
11374      \xdef\OBJ@Helv{\the\pdflastobj}%
11375      \global\let\Hy@FormObjects\relax
11376      }
11377      </pdftex>

```

## 47.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub><sub>E</sub>X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
11378 <*dvipdfm | xetex>
```

\@Gauge

```

11379 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11380 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
11381 }

```



\@Form

```
11382 \def\@Form[#1]{%
11383   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11384   \setkeys{Form}{#1}%
11385   \Hy@FormObjects
11386   \@pdfm@mark{obj @afields []}%
11387   \@pdfm@mark{obj @corder []}%
11388   \@pdfm@mark{%
11389     obj @aform <<%
11390       /Fields @afields%
11391       /DR<<%
11392       /Font<<%
11393       /ZaDb @OBJZaDb%
11394       /Helv @OBJHelv%
11395       >>%
11396       >>%
11397       /DA(/Helv 10 Tf 0 g)%
11398       /CO @corder%
11399       \ifHy@pdfa
11400       \else
11401         /NeedAppearances true%
11402       \fi
11403     >>%
11404   }%
11405   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11406 }
```

\@endForm

```
11407 \def\@endForm{}
```

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

```
11408 \def\dvipdfm@setdim{%
11409   height \the\ht\pdfm@box\space
11410   width \the\wd\pdfm@box\space
11411   depth \the\dp\pdfm@box\space
11412 }
```

\HyField@AnnotCount

```
11413 \newcount\HyField@AnnotCount
11414 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
11415 \def\HyField@AdvanceAnnotCount{%
11416   \global\advance\HyField@AnnotCount\@ne
11417 }
```

\HyField@TheAnnotCount

```
11418 \def\HyField@TheAnnotCount{%
11419   \the\HyField@AnnotCount
11420 }
```

\@TextField

```
11421 \def\@TextField[#1]#2{% parameters, label
11422   \def\Fld@name{#2}%
11423   \def\Fld@default{}}%
```

```

11424 \let\Fld@value\@empty
11425 \def\Fld@width{\DefaultWidthofText}%
11426 \def\Fld@height{%
11427   \ifFld@multiline
11428     \DefaultHeightofTextMultiline
11429   \else
11430     \DefaultHeightofText
11431   \fi
11432 }%
11433 \begingroup
11434 \Field@toks={ }%
11435 \expandafter\HyField@SetKeys\expandafter{%
11436   \DefaultOptionsofText,#1%
11437 }%
11438 \PDFForm@Name
11439 \HyField@FlagsText
11440 \ifFld@hidden\def\Fld@width{1sp}\fi
11441 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11442 \setbox\pdfm@box=\hbox{%
11443   \MakeTextField{\Fld@width}{\Fld@height}%
11444 }%
11445 \HyField@AdvanceAnnotCount
11446 \LayoutTextField{#2}{%
11447   \Hy@escapeform\PDFForm@Text
11448   \@pdfm@mark{%
11449     ann @text\HyField@TheAnnotCount\space
11450     \dvipdfm@setdim << \PDFForm@Text >>%
11451   }%
11452 }%
11453 \unhbox\pdfm@box
11454 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11455 % record in @afields array
11456 \endgroup
11457 }

```

#### \@ChoiceMenu

```

11458 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11459   \def\Fld@name{#2}%
11460   \let\Fld@default\relax
11461   \let\Fld@value\relax
11462   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11463   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11464   \begingroup
11465     \Fld@menulength=0 %
11466     \@tempdima\z@
11467     \@for\@curropt:=#3\do{%
11468       \expandafter\Fld@checkequals\@curropt==\%
11469       \Hy@StepCount\Fld@menulength
11470       \settowidth{\@tempdimb}{\@currDisplay}%
11471       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11472     }%
11473     \advance\@tempdima by 15\p@
11474     \Field@toks={ }%
11475     \begingroup
11476       \HyField@SetKeys{#1}%
11477     \edef\x{\endgroup
11478       \noexpand\expandafter

```

```

11479 \noexpand\HyField@SetKeys
11480 \noexpand\expandafter{%
11481 \expandafter\noexpand\csname DefaultOptionsof%
11482 \ifFld@radio
11483 Radio%
11484 \else
11485 \ifFld@combo
11486 \ifFld@popdown
11487 PopdownBox%
11488 \else
11489 ComboBox%
11490 \fi
11491 \else
11492 ListBox%
11493 \fi
11494 \fi
11495 \endcsname
11496 }%
11497 }\x
11498 \HyField@SetKeys{#1}%
11499 \PDFForm@Name
11500 \ifFld@hidden\def\Fld@width{1sp}\fi
11501 \ifx\Fld@value\relax
11502 \let\Fld@value\Fld@default
11503 \fi
11504 \LayoutChoiceField{#2}{%
11505 \ifFld@radio
11506 \HyField@FlagsRadioButton
11507 \@@Radio{#3}%
11508 \else
11509 \beginngroup
11510 \HyField@FlagsChoice
11511 \ifdim\Fld@width<\@tempdima
11512 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11513 \edef\Fld@width{\the\@tempdima}%
11514 \fi
11515 \ifFld@combo
11516 \else
11517 \@tempdima=\the\Fld@menulength\Fld@charsize
11518 \advance\@tempdima by \Fld@borderwidth bp %
11519 \advance\@tempdima by \Fld@borderwidth bp %
11520 \edef\Fld@height{\the\@tempdima}%
11521 \fi
11522 \@@ListBox{#3}%
11523 \endgroup
11524 \fi
11525 }%
11526 \endgroup
11527 }

```

\@@Radio

```

11528 \def\@@Radio#1{%
11529 \Fld@listcount=0 %
11530 \setbox\pdfm@box=\hbox{%
11531 \MakeRadioField{\Fld@width}{\Fld@height}%
11532 }%
11533 \@for\@curropt:=#1\do{%

```

```

11534 \expandafter\Fld@checkequals\@curropt==\%
11535 \Hy@StepCount\Fld@listcount
11536 \@currDisplay\space
11537 \leavevmode
11538 \Hy@escapeform\PDFForm@Radio
11539 \ifnum\Fld@listcount=1 %
11540   \HyField@AdvanceAnnotCount
11541 \fi
11542 \@pdfm@mark{%
11543   ann %
11544   \ifnum\Fld@listcount=1 %
11545     @radio\HyField@TheAnnotCount%
11546   \space
11547 \fi
11548 \dvipdfm@setdim
11549 <<%
11550   \PDFForm@Radio
11551   /AP<</N<</\@currValue /null>>>>%
11552 >>%
11553 }%
11554 \unhcopy\pdfm@box\space% deliberate space between radio buttons
11555 \ifnum\Fld@listcount=1 %
11556   \@pdfm@mark{%
11557     put @afields @radio\HyField@TheAnnotCount
11558   }%
11559 \fi
11560 }%
11561 }

```

\Fld@listcount

```

11562 \newcount\Fld@listcount

```

\@@ListBox

```

11563 \def\@@ListBox#1{%
11564   \HyField@PDFChoices{#1}%
11565   \setbox\pdfm@box=\hbox{%
11566     \MakeChoiceField{\Fld@width}{\Fld@height}%
11567   }%
11568   \leavevmode
11569   \Hy@escapeform\PDFForm@List
11570   \HyField@AdvanceAnnotCount
11571   \@pdfm@mark{%
11572     ann @list\HyField@TheAnnotCount\space
11573     \dvipdfm@setdim
11574     <<\PDFForm@List>>%
11575   }%
11576   \unhbox\pdfm@box
11577   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11578 }

```

\@PushButton

```

11579 \def\@PushButton[#1]#2{% parameters, label
11580   \def\Fld@name{#2}%
11581   \begingroup
11582     \Field@toks={ }%
11583     \expandafter\HyField@SetKeys\expandafter{%
11584       \DefaultOptionsofPushButton,#1%

```

```

11585 }%
11586 \PDFForm@Name
11587 \ifHy@pdfa
11588   \PackageError{hyperref}{%
11589     PDF/A: Push button with JavaScript is prohibited%
11590   }\@ehc
11591   \LayoutPushButtonField{%
11592     \leavevmode
11593     \MakeButtonField{#2}%
11594   }%
11595 \else
11596   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11597   \HyField@FlagsPushButton
11598   \ifFld@hidden\def\Fld@width{1sp}\fi
11599   \HyField@AdvanceAnnotCount
11600   \LayoutPushButtonField{%
11601     \leavevmode
11602     \Hy@escapeform\PDFForm@Push
11603     \@pdfm@mark{%
11604       ann @push\HyField@TheAnnotCount\space
11605       \dvi pdfm@setdim
11606       <<\PDFForm@Push>>%
11607     }%
11608   }%
11609   \unhbox\pdfm@box
11610   \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11611 \fi
11612 \endgroup
11613 }

```

\@Submit

```

11614 \def\@Submit[#1]#2{%
11615   \Field@toks={ }%
11616   \def\Fld@width{\DefaultWidthofSubmit}%
11617   \def\Fld@height{\DefaultHeightofSubmit}%
11618   \begingroup
11619     \expandafter\HyField@SetKeys\expandafter{%
11620       \DefaultOptionsofSubmit,#1%
11621     }%
11622     \HyField@FlagsPushButton
11623     \HyField@FlagsSubmit
11624     \ifFld@hidden\def\Fld@width{1sp}\fi
11625     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11626     \leavevmode
11627     \Hy@escapeform\PDFForm@Submit
11628     \HyField@AdvanceAnnotCount
11629     \@pdfm@mark{%
11630       ann @submit\HyField@TheAnnotCount\space
11631       \dvi pdfm@setdim
11632       <<\PDFForm@Submit>>%
11633     }%
11634     \unhbox\pdfm@box%
11635     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11636   \endgroup
11637 }

```

\@Reset

```

11638 \def\@Reset[#1]#2{%
11639   \Field@toks={ }%
11640   \def\Fld@width{\DefaultWidthofReset}%
11641   \def\Fld@height{\DefaultHeightofReset}%
11642   \begingroup
11643     \expandafter\HyField@SetKeys\expandafter{%
11644       \DefaultOptionsofReset,#1%
11645     }%
11646     \leavevmode
11647     \ifHy@pdfa
11648       \PackageError{hyperref}{%
11649         PDF/A: Reset action is prohibited%
11650       }\@ehc
11651       \MakeButtonField{#2}%
11652     \else
11653       \HyField@FlagsPushButton
11654       \ifFld@hidden\def\Fld@width{1sp}\fi
11655       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11656       \Hy@escapeform\PDFForm@Reset
11657       \HyField@AdvanceAnnotCount
11658       \@pdfm@mark{%
11659         ann @reset\HyField@TheAnnotCount\space
11660         \dvipdfm@setdim
11661         <<\PDFForm@Reset>>%
11662       }%
11663       \unhbox\pdfm@box
11664       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11665     \fi
11666   \endgroup
11667 }

```

#### \@CheckBox

```

11668 \def\@CheckBox[#1]#2{% parameters, label
11669   \def\Fld@name{#2}%
11670   \def\Fld@default{0}%
11671   \begingroup
11672     \def\Fld@width{\DefaultWidthofCheckBox}%
11673     \def\Fld@height{\DefaultHeightofCheckBox}%
11674     \Field@toks={ }%
11675     \expandafter\HyField@SetKeys\expandafter{%
11676       \DefaultOptionsofCheckBox,#1%
11677     }%
11678     \PDFForm@Name
11679     \HyField@FlagsCheckBox
11680     \ifFld@hidden\def\Fld@width{1sp}\fi
11681     \setbox\pdfm@box=\hbox{%
11682       \MakeCheckField{\Fld@width}{\Fld@height}%
11683     }%
11684     \HyField@AdvanceAnnotCount
11685     \LayoutCheckField{#2}%
11686     \Hy@escapeform\PDFForm@Check
11687     \@pdfm@mark{%
11688       ann @check\HyField@TheAnnotCount\space
11689       \dvipdfm@setdim
11690       <<\PDFForm@Check>>%
11691     }%
11692     \unhbox\pdfm@box

```

```

11693 \pdfmark{put @afields @check\HyField@TheAnnotCount}%
11694 }%
11695 \endgroup
11696 }

11697 \def\Hy@FormObjects{%
11698 \pdfmark{obj @OBJpdfdocencoding%
11699 <<%
11700 /Type/Encoding%
11701 /Differences%
11702 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11703 39/quotesingle %
11704 96/grave %
11705 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11706 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11707 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11708 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11709 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11710 164/currency %
11711 166/brokenbar %
11712 168/dieresis/copyright/ordfeminine %
11713 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11714 /twosuperior/threesuperior/acute/mu %
11715 183/periodcentered/cedilla/onesuperior/ordmasculine %
11716 188/onequarter/onehalf/threequarters %
11717 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11718 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11719 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11720 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11721 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11722 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11723 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11724 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11725 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11726 /thorn/ydieresis%
11727 ]%
11728 >>%
11729 }%
11730 \pdfmark{obj @OBJZaDb%
11731 <<%
11732 /Type/Font%
11733 /Subtype/Type1%
11734 /Name/ZaDb%
11735 /BaseFont/ZapfDingbats%
11736 >>%
11737 }%
11738 \pdfmark{obj @OBJHelv%
11739 <<%
11740 /Type/Font%
11741 /Subtype/Type1%
11742 /Name/Helv%
11743 /BaseFont/Helvetica%
11744 /Encoding @OBJpdfdocencoding%
11745 >>%
11746 }%
11747 \global\let\Hy@FormObjects\relax
11748 }
11749 </dvipdfm | xetex>

```

## 47.6 Common forms part

11750  $\langle *pdfform \rangle$

$\backslash Hy@escapestring$

```

11751 \begingroup\expandafter\expandafter\expandafter\endgroup
11752 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11753   \let\Hy@escapestring\@firstofone
11754   \def\Hy@escapeform#1{%
11755     \ifHy@escapeform
11756       \def\Hy@escapestring##1{%
11757         \noexpand\Hy@escapestring{\noexpand##1}%
11758       }%
11759       \edef\Hy@temp{#1}%
11760       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11761       \def\Hy@escapestring##1{%
11762         \ifundefined{Hy@esc@\string##1}{%
11763           ##1%
11764           \ThisShouldNotHappen
11765         }{%
11766           \csname Hy@esc@\string##1\endcsname
11767         }%
11768       }%
11769     \else
11770       \let\Hy@escapestring\@firstofone
11771     \fi
11772   }%
11773   \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
11774     \ifx\#3\%
11775     \else
11776       \expandafter
11777       \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11778       \Hy@ReturnAfterFi{%
11779         \Hy@@@escapeform#3\@nil
11780       }%
11781     \fi
11782   }%
11783 \else
11784   \def\Hy@escapeform#1{%
11785     \ifHy@escapeform
11786       \let\Hy@escapestring\pdfescapestring
11787     \else
11788       \let\Hy@escapestring\@firstofone
11789     \fi
11790   }%
11791   \Hy@escapeform{}%
11792 \fi

```

$\backslash PDFForm@Name$

```

11793 \def\PDFForm@Name{%
11794   \begingroup
11795   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11796     \ifHy@unicode
11797       \Hy@unicodedefalse
11798     \fi
11799   \fi
11800   \HyPsd@XeTeXBigCharstrue
11801   \pdfstringdef\Hy@gtemp\Fld@name

```



```

11802 \endgroup
11803 \let\Fld@name\Hy@gtemp
11804 }

```

\PDFForm@Check

```

11805 \def\PDFForm@Check{%
11806 /Subtype/Widget%
11807 \Fld@annotflags
11808 /T(\Fld@name)%
11809 /FT/Btn%
11810 \Fld@flags
11811 /Q \Fld@align
11812 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11813 /MK<<%
11814 \ifnum\Fld@rotation=\z@
11815 \else
11816 /R \Fld@rotation
11817 \fi
11818 \ifx\Fld@bordercolor\relax
11819 \else
11820 /BC[\Fld@bordercolor]%
11821 \fi
11822 \ifx\Fld@bcolor\relax
11823 \else
11824 /BG[\Fld@bcolor]%
11825 \fi
11826 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11827 >>%
11828 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11829 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11830 /H/P%
11831 \ifFld@checked /V/Yes\else /V/Off\fi
11832 }

```

\PDFForm@Push

```

11833 \ifHy@pdfa
11834 \else
11835 \def\PDFForm@Push{%
11836 /Subtype/Widget%
11837 \Fld@annotflags
11838 /T(\Fld@name)%
11839 /FT/Btn%
11840 \Fld@flags
11841 /H/P%
11842 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11843 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11844 \ifx\Fld@bordercolor\relax\else 1\fi
11845 \space
11846 \else
11847 /MK<<%
11848 \ifnum\Fld@rotation=\z@
11849 \else
11850 /R \Fld@rotation
11851 \fi
11852 \ifx\Fld@bordercolor\relax
11853 \else
11854 /BC[\Fld@bordercolor]%

```

```

11855     \fi
11856     >>%
11857     \fi
11858     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11859     }%
11860 \fi

```

\Fld@additionalactions

```

11861 \def\Fld@@additionalactions{%
K input (keystroke) format
11862 \ifx\Fld@keystroke@code\@empty
11863 \else
11864     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11865 \fi

```

**F display format**

```

11866 \ifx\Fld@format@code\@empty
11867 \else
11868     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11869 \fi

```

**V validation**

```

11870 \ifx\Fld@validate@code\@empty
11871 \else
11872     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11873 \fi

```

**C calculation**

```

11874 \ifx\Fld@calculate@code\@empty
11875 \else
11876     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11877 \fi

```

**Fo receiving the input focus**

```

11878 \ifx\Fld@onfocus@code\@empty
11879 \else
11880     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11881 \fi

```

**Bl loosing the input focus (blurred)**

```

11882 \ifx\Fld@onblur@code\@empty
11883 \else
11884     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11885 \fi

```

**D pressing the mouse button (down)**

```

11886 \ifx\Fld@onmousedown@code\@empty
11887 \else
11888     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11889 \fi

```

**U releasing the mouse button (up)**

```

11890 \ifx\Fld@onmouseup@code\@empty
11891 \else
11892     /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11893 \fi

```

**E cursor enters the annotation's active area.**

```

11894 \ifx\Fld@onenter@code\@empty
11895 \else

```

```

11896 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11897 \fi
X cursor exits the annotation's active area.
11898 \ifx\Fld@onexit@code\@empty
11899 \else
11900 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11901 \fi
11902 }
11903 \def\Fld@additionalactions{%
11904 \if\Fld@@additionalactions-%
11905 \else
11906 \ifHy@pdfa
11907 \else
11908 /AA<<\Fld@@additionalactions>>%
11909 \fi
11910 \fi
11911 }

```

#### \PDFForm@List

```

11912 \def\PDFForm@List{%
11913 /Subtype/Widget%
11914 \Fld@annotflags
11915 /T(\Fld@name)%
11916 /FT/Ch%
11917 \Fld@flags
11918 /Q \Fld@align
11919 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11920 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11921 \ifx\Fld@bordercolor\relax\else 1\fi
11922 \ifx\Fld@bcolor\relax \else 1\fi
11923 \space
11924 \else
11925 /MK<<%
11926 \ifnum\Fld@rotation=\z@
11927 \else
11928 /R \Fld@rotation
11929 \fi
11930 \ifx\Fld@bordercolor\relax
11931 \else
11932 /BC[\Fld@bordercolor]%
11933 \fi
11934 \ifx\Fld@bcolor\relax
11935 \else
11936 /BG[\Fld@bcolor]%
11937 \fi
11938 >>%
11939 \fi
11940 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11941 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11942 \Fld@choices
11943 \Fld@additionalactions
11944 }

```

#### \PDFForm@Radio

```

11945 \def\PDFForm@Radio{%
11946 /Subtype/Widget%

```

```

11947 \Fld@annotflags
11948 /T(\Fld@name)%
11949 /FT/Btn%
11950 \Fld@flags
11951 /H/P%
11952 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11953 /MK<<%
11954 \ifnum\Fld@rotation=\z@
11955 \else
11956 /R \Fld@rotation
11957 \fi
11958 \ifx\Fld@bordercolor\relax
11959 \else
11960 /BC[\Fld@bordercolor]%
11961 \fi
11962 \ifx\Fld@bcolor\relax
11963 \else
11964 /BG[\Fld@bcolor]%
11965 \fi
11966 /CA(\Fld@radiosymbol)%
11967 >>%
11968 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11969 \ifx\Fld@color@empty\else\space\Fld@color\fi)%
11970 \ifx\@currValue\Fld@default
11971 /V/\Fld@default
11972 \else
11973 /V/Off%
11974 \fi
11975 \Fld@additionalactions
11976 }

```

\PDFForm@Text

```

11977 \def\PDFForm@Text{%
11978 /Subtype/Widget%
11979 \Fld@annotflags
11980 /T(\Fld@name)%
11981 /FT/Tx%
11982 \Fld@flags
11983 /Q \Fld@align
11984 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11985 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11986 \ifx\Fld@bordercolor\relax\else 1\fi
11987 \ifx\Fld@bcolor\relax \else 1\fi
11988 \space
11989 \else
11990 /MK<<%
11991 \ifnum\Fld@rotation=\z@
11992 \else
11993 /R \Fld@rotation
11994 \fi
11995 \ifx\Fld@bordercolor\relax
11996 \else
11997 /BC[\Fld@bordercolor]%
11998 \fi
11999 \ifx\Fld@bcolor\relax
12000 \else
12001 /BG[\Fld@bcolor]%

```

```

12002     \fi
12003     >>%
12004 \fi
12005 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12006     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12007 /DV(\Hy@escapestring{\Fld@default})%
12008 /V(\Hy@escapestring{\Fld@value})%
12009 \Fld@additionalactions
12010 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12011 }

```

#### \PDFForm@Submit

```

12012 \def\PDFForm@Submit{%
12013 /Subtype/Widget%
12014 \Fld@annotflags
12015 /T(\Fld@name)%
12016 /FT/Btn%
12017 \Fld@flags
12018 /H/P%
12019 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12020 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12021     \ifx\Fld@bordercolor\relax\else 1\fi
12022     \space
12023 \else
12024 /MK<<%
12025     \ifnum\Fld@rotation=\z@
12026     \else
12027     /R \Fld@rotation
12028     \fi
12029     \ifx\Fld@bordercolor\relax
12030     \else
12031     /BC[\Fld@bordercolor]%
12032     \fi
12033 >>%
12034 \fi
12035 /A<<%
12036 /S/SubmitForm%
12037 /F<<%
12038 /FS/URL%
12039 /F(\Hy@escapestring{\Form@action})%
12040 >>%
12041 \Fld@submitflags
12042 >>%
12043 }

```

#### \PDFForm@Reset

```

12044 \ifHy@pdfa
12045 \else
12046 \def\PDFForm@Reset{%
12047 /Subtype/Widget%
12048 \Fld@annotflags
12049 /T(\Fld@name)%
12050 /FT/Btn%
12051 \Fld@flags
12052 /H/P%
12053 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12054 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

12055         \ifx\Fld@bordercolor\relax\else 1\fi
12056         \space
12057     \else
12058         /MK<<%
12059         \ifnum\Fld@rotation=\z@
12060         \else
12061         /R \Fld@rotation
12062         \fi
12063         \ifx\Fld@bordercolor\relax
12064         \else
12065         /BC[\Fld@bordercolor]%
12066         \fi
12067 %      /CA (Clear)
12068 %      /AC (Done)
12069 >>%
12070 \fi
12071 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12072 /A<</S/ResetForm>>%
12073 }%
12074 \fi

12075 </pdfform>
12076 <*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  $\text{\LaTeX}$  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`

```

12077 \def\phantomsection{%
12078   \Hy@GlobalStepCount\Hy@linkcounter
12079   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12080   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12081 }
12082 </package>

```

### 48.1 Bookmarks

```
12083 <*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.

```

12084 \def\Hy@writebookmark#1#2#3#4#5{%
12085   % section number, text, label, level, file
12086   \ifx\WriteBookmarks\relax%
12087   \else
12088     \ifnum#4>\Hy@bookmarksdepth\relax
12089     \else
12090       \@writetorep{#1}{#2}{#3}{#4}{#5}%
12091     \fi
12092   \fi
12093 }
12094 \def\Hy@currentbookmarklevel{0}
12095 \def\Hy@numberline#1{#1 }
12096 \def\@writetorep#1#2#3#4#5{%
12097   \begingroup
12098   \edef\Hy@tempa{#5}%
12099   \ifx\Hy@tempa\Hy@bookmarkstype
12100     \edef\Hy@level{#4}%
12101     \ifx\Hy@levelcheck Y%
12102       \@tempcnta\Hy@level\relax
12103       \advance\@tempcnta by -1 %
12104       \ifnum\Hy@currentbookmarklevel<\@tempcnta
12105         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12106         \advance\@tempcnta by 1 %
12107         \Hy@Warning{%
12108           Difference (\the\@tempcnta) between bookmark levels is %
12109           greater \MessageBreak than one, level fixed%
12110         }%
12111         \@tempcnta\Hy@currentbookmarklevel
12112         \advance\@tempcnta by 1 %
12113         \edef\Hy@level{\the\@tempcnta}%
12114       \fi
12115     \else
12116       \global\let\Hy@levelcheck Y%
12117     \fi
12118     \global\let\Hy@currentbookmarklevel\Hy@level
12119     \@tempcnta\Hy@level\relax
12120     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12121     \advance\@tempcnta by -1 %
12122     \edef\Hy@tempa{#3}%
12123     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12124     \ifx\Hy@tempa\Hy@tempb
12125       \Hy@Warning{%
12126         The anchor of a bookmark and its parent's must not%
12127         \MessageBreak be the same. Added a new anchor%
12128       }%
12129     \phantomsection
12130   \fi
12131   \ifHy@bookmarksnumbered
12132     \let\numberline\Hy@numberline
12133     \let\partnumberline\Hy@numberline
12134     \let\chapternumberline\Hy@numberline
12135   \else
12136     \let\numberline\@gobble

```

```

12137 \let\partnumberline\@gobble
12138 \let\chapternumberline\@gobble
12139 \fi
12140 \HyPsd@XeTeXBigCharstrue
12141 \pdfstringdef\Hy@tempa{#2}%
12142 \if@filesw
12143 \stepcounter{bookmark@seq@number}%
12144 \protected@write\@outlinefile{}{%
12145 \protect\BOOKMARK
12146 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12147 {\Hy@tempa}{\Hy@tempb}%
12148 \@percentchar\space\thebookmark@seq@number
12149 }%
12150 \fi
12151 \fi
12152 \endgroup
12153 }
12154 \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 `]`.

```

12155 \newcommand{\currentpdfbookmark}{%
12156 \pdfbookmark[\Hy@currentbookmarklevel]%
12157 }
12158 \newcommand{\subpdfbookmark}{%
12159 \@tempcnta\Hy@currentbookmarklevel
12160 \Hy@StepCount\@tempcnta
12161 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
12162 }
12163 \newcommand{\belowpdfbookmark}[2]{%
12164 \@tempcnta\Hy@currentbookmarklevel
12165 \Hy@StepCount\@tempcnta
12166 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
12167 \advance\@tempcnta by -1 %
12168 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
12169 }

```

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.

```

12170 \renewcommand\pdfbookmark[3][0]{%
12171 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
12172 \hyper@anchorstart{#3.#1}\hyper@anchorend
12173 }
12174 \def\BOOKMARK{%
12175 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
12176 }
12177 \def\@BOOKMARK[#1]{%
12178 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
12179 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` pdf macros.

#### 48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

12180 \RequirePackage{rerunfilecheck}[2009/12/10]
12181 \def\Hy@OutlineRerunCheck{%
12182 \RerunFileCheck{\jobname.out}{%

```



```

12183 \immediate\closeout\@outlinefile
12184 }{%
12185 Rerun to get outlines right\MessageBreak
12186 or use package 'bookmark'%
12187 }%
12188 }

```

#### 48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

12189 <*vtex>
12190 \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.

```

12191 \begingroup
12192 \catcode'\'=12 %
12193 \ifnum\Hy@VTeXversion<650 %
12194 \catcode'\ "=12 %
12195 \gdef\hv@pdf@char#1#2#3{%
12196 \char
12197 \ifcase'#1#2#3 %
12198 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
12199 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
12200 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
12201 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
12202 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
12203 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
12204 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
12205 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
12206 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
12207 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
12208 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
12209 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
12210 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
12211 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
12212 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
12213 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
12214 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
12215 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
12216 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
12217 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
12218 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
12219 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
12220 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
12221 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
12222 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
12223 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
12224 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
12225 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
12226 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
12227 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%

```

```

12228 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
12229 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
12230 \fi
12231 }%
12232 \else
12233 \gdef\hv@pdf@char{\char'}%
12234 \fi
12235 \endgroup

```

#### \@@BOOKMARK

```

12236 \def\@@BOOKMARK[#1][#2]#3#4#5{%
12237 \expandafter\edef\csname @count@#3\endcsname{%
12238 \the\@serial@counter
12239 }%
12240 \edef\@mycount{\the\@serial@counter}%
12241 \Hy@StepCount\@serial@counter
12242 \edef\@parcount{%
12243 \expandafter\ifx\csname @count@#5\endcsname\relax
12244 0%
12245 \else
12246 \csname @count@#5\endcsname
12247 \fi
12248 }%
12249 \immediate\special{%
12250 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
12251 s=\ifx#2-c\else o\fi,t=#4%
12252 }%
12253 }%

```

#### \ReadBookmarks

```

12254 \def\ReadBookmarks{%
12255 \begingroup
12256 \def\0{\hv@pdf@char 0}%
12257 \def\1{\hv@pdf@char 1}%
12258 \def\2{\hv@pdf@char 2}%
12259 \def\3{\hv@pdf@char 3}%
12260 \def\({}%
12261 \def\)}%
12262 \def\do##1{%
12263 \ifnum\the\catcode'##1=\active
12264 \@makeother##1%
12265 \fi
12266 }%
12267 \dospecials
12268 \InputIfFileExists{\jobname.out}{-}{-}%
12269 \endgroup
12270 \ifx\WriteBookmarks\relax
12271 \else
12272 \if@filesw
12273 \newwrite\@outlinefile
12274 \Hy@OutlineRerunCheck
12275 \immediate\openout\@outlinefile=\jobname.out\relax
12276 \ifHy@typexml
12277 \immediate\write\@outlinefile{<relaxxml>\relax}%
12278 \fi
12279 \fi
12280 \fi

```

```

12281 }
12282 </vtex>
12283 <*\vtex>
12284 \def\ReadBookmarks{%
12285   \begingroup
12286   \escapechar='\'%
12287   \let\escapechar\@gobble %
12288   \def\@@BOOKMARK[##1][##2]##3##4##5{%
12289     \calc@bm@number{##5}%
12290   }%
12291   \InputIfFileExists{\jobname.out}{-}{-}%
12292   \ifx\WriteBookmarks\relax
12293     \global\let\WriteBookmarks\relax
12294   \fi
12295   \def\@@BOOKMARK[##1][##2]##3##4##5{%
12296     \def\Hy@temp{##4}%
12297   <*pdftex>
12298     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12299     \Hy@OutlineName{\Hy@pstringName{%
12300       ##2\check@bm@number{##3}}%
12301     }{%
12302       \expandafter\strip@prefix\meaning\Hy@temp
12303     }%
12304 </pdftex>
12305 <*pdfmark>
12306   \pdfmark{%
12307     pdfmark=/OUT,%
12308     Count={##2\check@bm@number{##3}},%
12309     Dest={##3},%
12310     Title=\expandafter\strip@prefix\meaning\Hy@temp
12311   }%
12312 </pdfmark>
12313 <*dvipdfm | xetex>
12314   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12315   \@pdfm@mark{%
12316     outline \ifHy@DvipdfmxOutlineOpen
12317       [%
12318         \ifnum##21>\z@
12319         \else
12320         -%
12321         \fi
12322       ] %
12323       \fi
12324       ##1<<%
12325       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12326       /A<<%
12327       /S/GoTo%
12328       /D(\Hy@pstringName)%
12329       >>%
12330       >>%
12331     }%
12332 </dvipdfm | xetex>
12333   }%
12334   {%
12335     \def\WriteBookmarks{0}%
12336     \InputIfFileExists{\jobname.out}{-}{-}%
12337   }%

```

```

12338 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}{\relax}}%
12339 \ifx\WriteBookmarks\relax
12340 \else
12341 \if@files
12342 \newwrite\@outlinefile
12343 \Hy@OutlineRerunCheck
12344 \immediate\openout\@outlinefile=\jobname.out\relax
12345 \ifHy@typexml
12346 \immediate\write\@outlinefile{<relaxxml>\relax}%
12347 \fi
12348 \fi
12349 \fi
12350 \endgroup
12351 }
12352 <*pdfTeX>
12353 \def\Hy@OutlineName#1#2#3#4{%
12354 \pdfoutline goto name{#2}count#3{#4}%
12355 }
12356 </pdfTeX>
12357 \def\check@bm@number#1{%
12358 \expandafter\ifx\csname B_#1\endcsname\relax
12359 0%
12360 \else
12361 \csname B_#1\endcsname
12362 \fi
12363 }
12364 \def\calc@bm@number#1{%
12365 \@tempcnta=\check@bm@number{#1}\relax
12366 \advance\@tempcnta by 1 %
12367 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12368 }
12369 </!vTeX>

12370 \ifHy@implicit
12371 \else
12372 \expandafter\endinput
12373 \fi

12374 </outlines>
12375 <*outlines | hypertex>

12376 \newlength\Hy@SectionHShift
12377 \def\Hy@SectionAnchor{%
12378 \ifx\protect\@typeset@protect
12379 \Hy@@@SectionAnchor
12380 \fi
12381 }
12382 \DeclareRobustCommand*\Hy@@@SectionAnchor{%
12383 \leavevmode
12384 \hbox to 0pt{%
12385 \kern-\Hy@SectionHShift
12386 \Hy@raisedlink{%
12387 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12388 }%
12389 \hss
12390 }%
12391 }
12392 \let\H@old@ssect\@ssect
12393 \def\@ssect#1#2#3#4#5{%

```

```

12394 \Hy@GlobalStepCount\Hy@linkcounter
12395 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12396 \setlength{\Hy@SectionHShift}{#1}%
12397 \H@old@ssect{#1}{#2}{#3}{#4}{\Hy@SectionAnchor#5}%
12398 }
12399 \let\H@old@schapter\@schapter
12400 \def\@schapter#1{%
12401   \begingroup
12402     \let\@mkboth\@gobbletwo
12403     \Hy@GlobalStepCount\Hy@linkcounter
12404     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12405     \Hy@raisedlink{%
12406       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12407     }%
12408   \endgroup
12409   \H@old@schapter{#1}%
12410 }

```

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:

```

12411 \ifundefined{@chapter}{-}{%
12412   \let\Hy@org@chapter\@chapter
12413   \def\@chapter{%
12414     \def\Hy@next{%
12415       \Hy@GlobalStepCount\Hy@linkcounter
12416       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12417       \Hy@raisedlink{%
12418         \hyper@anchorstart{\@currentHref}\hyper@anchorend
12419       }%
12420     }%
12421     \ifnum\c@secnumdepth>\m@ne
12422       \ifundefined{if@mainmatter}%
12423         \iftrue{\csname if@mainmatter\endcsname}%
12424         \let\Hy@next\relax
12425       \fi
12426     \fi
12427     \Hy@next
12428     \Hy@org@chapter
12429   }%
12430 }

12431 \let\H@old@part\@part
12432 \begingroup\expandafter\expandafter\expandafter\endgroup
12433 \expandafter\ifx\csname chapter\endcsname\relax
12434   \let\Hy@secnum@part\z@
12435 \else
12436   \let\Hy@secnum@part\m@ne
12437 \fi
12438 \def\@part{%
12439   \ifnum\Hy@secnum@part>\c@secnumdepth
12440     \phantomsection
12441   \fi
12442   \H@old@part
12443 }

12444 \let\H@old@spart\@spart
12445 \def\@spart#1{%
12446   \Hy@GlobalStepCount\Hy@linkcounter

```

```

12447 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12448 \Hy@raisedlink{%
12449   \hyper@anchorstart{\@currentHref}\hyper@anchorend
12450 }%
12451 \H@old@spart{#1}%
12452 }
12453 \let\H@old@sect\@sect
12454 \def\@sect#1#2#3#4#5#6[#7]#8{%
12455   \ifnum #2>\c@secnumdepth
12456     \expandafter\@firstoftwo
12457   \else
12458     \expandafter\@secondoftwo
12459   \fi
12460   {%
12461     \Hy@GlobalStepCount\Hy@linkcounter
12462     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12463     \setlength{\Hy@SectionHShift}{#3}%
12464     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{\Hy@SectionAnchor#8}%
12465   }{%
12466     \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
12467   }%
12468 }
12469 </outlines | hypertex>
12470 <*outlines>

12471 \expandafter\def\csname Parent-4\endcsname{}
12472 \expandafter\def\csname Parent-3\endcsname{}
12473 \expandafter\def\csname Parent-2\endcsname{}
12474 \expandafter\def\csname Parent-1\endcsname{}
12475 \expandafter\def\csname Parent0\endcsname{}
12476 \expandafter\def\csname Parent1\endcsname{}
12477 \expandafter\def\csname Parent2\endcsname{}
12478 \expandafter\def\csname Parent3\endcsname{}
12479 \expandafter\def\csname Parent4\endcsname{}

12480 </outlines>

```

## 49 Compatibility with koma-script classes

```
12481 <*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.

```

12482 \def\Hy@tempa{%
12483   \def\@addchap[##1]##2{%
12484     \typeout{##2}%
12485     \if@twoside
12486       \@mkboth{##1}{}%
12487     \else
12488       \@mkboth{}{##1}%
12489     \fi
12490     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12491     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12492     \Hy@GlobalStepCount\Hy@linkcounter
12493     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%

```

```

12494 \Hy@raisedlink{%
12495   \hyper@anchorstart{\@currentHref}\hyper@anchorend
12496 }%
12497 \if@twocolumn
12498   \@topnewpage[\@makeschapterhead{##2}]%
12499 \else
12500   \@makeschapterhead{##2}%
12501   \@afterheading
12502 \fi
12503 \addcontentsline{toc}{chapter}{##1}%
12504 }%
12505 }
12506 \ifclassloaded{scrbook}{%
12507   \ifclasslater{scrbook}{2001/01/01}{%
12508     \let\Hy@tempa\@empty
12509   }{}%
12510 }{%
12511   \ifclassloaded{scrreprt}{%
12512     \ifclasslater{scrreprt}{2001/01/01}{%
12513       \let\Hy@tempa\@empty
12514     }{}%
12515   }{%
12516     \let\Hy@tempa\@empty
12517   }%
12518 }%
12519 \Hy@tempa
12520 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

12521 <*pd1enc>
12522 \DeclareFontEncoding{PD1}{}{}

```

#### Accents

```

12523 \DeclareTextAccent{'}{PD1}{\textasciigrave}
12524 \DeclareTextAccent{'}{PD1}{\textacute}
12525 \DeclareTextAccent{^}{PD1}{\textasciicircum}
12526 \DeclareTextAccent{~}{PD1}{\texttilde}
12527 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
12528 \DeclareTextAccent{\r}{PD1}{\textring}
12529 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12530 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12531 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12532 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12533 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12534 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12535 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
12536 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
12537 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
12538 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
12539 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
12540 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12541 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}

```

```

12542 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12543 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12544 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12545 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12546 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12547 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
12548 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12549 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12550 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12551 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12552 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12553 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12554 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12555 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12556 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12557 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12558 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12559 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12560 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12561 \DeclareTextCommand{\newtie}{PD1}[1]{%
12562   \TextSymbolUnavailable{\newtie{#1}}#1%
12563 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12564 % U+0009 (CHARACTER TABULATION)
12565 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12566 % U+000A (LINE FEED)
12567 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12568 % U+000D (CARRIAGE RETURN)
12569 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

#### Accent glyph names

```

12570 % U+02D8 BREVE; breve
12571 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12572 % U+02C7 CARON; caron
12573 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12574 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12575 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12576 % U+02D9 DOT ABOVE; dotaccent
12577 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12578 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12579 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12580 % U+02DB OGONEK; ogonek
12581 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12582 % U+02DA RING ABOVE; ring
12583 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12584 % U+02DC SMALL TILDE; ilde, *tilde
12585 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

12586 % U+0022 QUOTATION MARK; quotedbl
12587 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
12588 % U+0023 NUMBER SIGN; numbersign
12589 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
12590 % U+0024 DOLLAR SIGN; dollar
12591 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
12592 % U+0025 PERCENT SIGN; percent
12593 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

```



12594 % U+0026 AMPERSAND; ampersand  
 12595 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 12596 % U+0028 LEFT PARENTHESIS; parenleft  
 12597 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 12598 % U+0029 RIGHT PARENTHESIS; parenright  
 12599 \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  
 12600 % U+002E FULL STOP; period  
 12601 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E  
 \057: U+002F SOLIDUS; slash  
 \060: U+0030 DIGIT ZERO; zero  
 ...  
 \071: U+0039 DIGIT NINE; nine  
 \072: U+003A COLON; colon  
 \073: U+003B SEMICOLON; semicolon  
 12602 % U+003C LESS-THAN SIGN; less  
 12603 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 12604 % U+003E GREATER-THAN SIGN; greater  
 12605 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E  
 \077: U+003F QUESTION MARK; question  
 \100: U+0040 COMMERCIAL AT; at  
 \101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \132: U+005A LATIN CAPITAL LETTER Z; Z  
 \133: U+005B LEFT SQUARE BRACKET; bracketleft  
 12606 % U+005C REVERSE SOLIDUS; backslash  
 12607 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12608 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12609 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12610 % U+005F LOW LINE; underscore  
 12611 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12612 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12613 % U+0060 GRAVE ACCENT; grave  
 12614 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12615 % U+0069 LATIN SMALL LETTER I; i  
 12616 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12617 % U+007B LEFT CURLY BRACKET; braceleft  
 12618 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12619 % U+007C VERTICAL LINE; \*bar, verticalbar

12620 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12621 % U+007D RIGHT CURLY BRACKET; braceright  
 12622 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12623 % U+007E TILDE; asciitilde  
 12624 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12625 % U+2022 BULLET; bullet  
 12626 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12627 % U+2020 DAGGER; dagger  
 12628 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12629 % U+2021 DOUBLE DAGGER; daggerdbl  
 12630 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12631 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12632 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12633 % U+2014 EM DASH; emdash  
 12634 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12635 % U+2013 EN DASH; endash  
 12636 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12637 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12638 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12639 % U+2044 FRACTION SLASH; fraction  
 12640 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 12641 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 12642 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 12643 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 12644 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 12645 % U+2212 MINUS SIGN; minus  
 12646 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 12647 % U+2030 PER MILLE SIGN; perthousand  
 12648 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 12649 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 12650 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 12651 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 12652 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 12653 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 12654 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 12655 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 12656 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 12657 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 12658 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 12659 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 12660 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 12661 % U+2122 TRADE MARK SIGN; trademark  
 12662 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 12663 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 12664 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 12665 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 12666 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 12667 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 12668 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 12669 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 12670 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 12671 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12672 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 12673 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis

12674 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
 12675 \DeclareTextCommand{IJ}{PD1}{\230}  
 12676 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 12677 \DeclareTextCompositeCommand{v}{PD1}{Z}{\231}% U+017D  
 12678 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12679 \DeclareTextCommand{i}{PD1}{\232}% U+0131  
 12680 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 12681 \DeclareTextCommand{l}{PD1}{\233}% U+0142  
 12682 % U+0153 LATIN SMALL LIGATURE OE; oe  
 12683 \DeclareTextCommand{oe}{PD1}{\234}% U+0153  
 12684 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12685 \DeclareTextCompositeCommand{v}{PD1}{s}{\235}% U+0161  
 12686 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 12687 \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.

12688 % U+20AC EURO SIGN; \*Euro, euro  
 12689 \DeclareTextCommand{texteuro}{PD1}{\240}% U+20AC  
 12690 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12691 \DeclareTextCommand{textexclamdown}{PD1}{\241}% U+00A1  
 12692 % U+00A2 CENT SIGN; cent  
 12693 \DeclareTextCommand{textcent}{PD1}{\242}% U+00A2  
 12694 % U+00A3 POUND SIGN; sterling  
 12695 \DeclareTextCommand{textsterling}{PD1}{\243}% U+00A3  
 12696 % U+00A4 CURRENCY SIGN; currency  
 12697 \DeclareTextCommand{textcurrency}{PD1}{\244}% U+00A4  
 12698 % U+00A5 YEN SIGN; yen  
 12699 \DeclareTextCommand{textyen}{PD1}{\245}% U+00A5  
 12700 % U+00A6 BROKEN BAR; brokenbar  
 12701 \DeclareTextCommand{textbrokenbar}{PD1}{\246}% U+00A6  
 12702 % U+00A7 SECTION SIGN; section  
 12703 \DeclareTextCommand{textsection}{PD1}{\247}% U+00A7  
 12704 % U+00A8 DIAERESIS; dieresis  
 12705 \DeclareTextCommand{textasciidieresis}{PD1}{\250}% U+00A8  
 12706 % U+00A9 COPYRIGHT SIGN; copyright  
 12707 \DeclareTextCommand{textcopyright}{PD1}{\251}% U+00A9  
 12708 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12709 \DeclareTextCommand{textordfeminine}{PD1}{\252}% U+00AA  
 12710 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 12711 \DeclareTextCommand{guillemotleft}{PD1}{\253}% U+00AB  
 12712 % U+00AC NOT SIGN; logicalnot  
 12713 \DeclareTextCommand{textlogicalnot}{PD1}{\254}% U+00AC  
 12714 \DeclareTextCommand{textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

12715 % U+00AE REGISTERED SIGN; registered  
 12716 \DeclareTextCommand{textregistered}{PD1}{\256}% U+00AE  
 12717 % U+00AF MACRON; \*macron, overscore  
 12718 \DeclareTextCommand{textasciimacron}{PD1}{\257}% U+00AF  
 12719 % U+00B0 DEGREE SIGN; degree  
 12720 \DeclareTextCommand{textdegree}{PD1}{\260}% U+00B0  
 12721 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12722 \DeclareTextCommand{textplusminus}{PD1}{\261}% U+00B1  
 12723 % U+00B2 SUPERScript TWO; twosuperior  
 12724 \DeclareTextCommand{texttwosuperior}{PD1}{\262}% U+00B2  
 12725 % U+00B3 SUPERScript THREE; threesuperior  
 12726 \DeclareTextCommand{textthreesuperior}{PD1}{\263}% U+00B3

12727 % U+00B4 ACUTE ACCENT; acute  
 12728 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 12729 % U+00B5 MICRO SIGN; mu, mul  
 12730 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 12731 % U+00B6 PILCROW SIGN; paragraph  
 12732 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 12733 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12734 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 12735 % U+00B8 CEDILLA; cedilla  
 12736 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 12737 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 12738 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 12739 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12740 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 12741 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 12742 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 12743 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12744 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 12745 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12746 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 12747 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 12748 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 12749 % U+00BF INVERTED QUESTION MARK; questiondown  
 12750 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 12751 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 12752 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 12753 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 12754 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 12755 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 12756 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302}% U+00C2  
 12757 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 12758 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 12759 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 12760 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
 12761 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 12762 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
 12763 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 12764 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
 12765 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 12766 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
 12767 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 12768 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
 12769 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 12770 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
 12771 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 12772 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA  
 12773 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 12774 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
 12775 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 12776 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
 12777 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 12778 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
 12779 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 12780 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE  
 12781 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 12782 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF

12783 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12784 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
12785 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
12786 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12787 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
12788 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12789 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
12790 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12791 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
12792 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12793 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
12794 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12795 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
12796 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12797 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
12798 % U+00D7 MULTIPLICATION SIGN; multiply  
12799 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
12800 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12801 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
12802 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12803 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
12804 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12805 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
12806 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12807 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
12808 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12809 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
12810 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12811 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
12812 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12813 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
12814 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12815 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
12816 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12817 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
12818 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12819 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12820 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12821 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12822 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12823 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12824 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12825 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12826 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12827 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12828 % U+00E6 LATIN SMALL LETTER AE; ae  
12829 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12830 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12831 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12832 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12833 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
12834 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12835 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12836 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12837 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12838 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12839 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB

12840 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12841 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
12842 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
12843 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12844 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
12845 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
12846 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12847 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE  
12848 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE  
12849 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12850 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12851 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12852 % U+00F0 LATIN SMALL LETTER ETH; eth  
12853 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12854 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12855 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12856 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12857 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
12858 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12859 \DeclareTextCompositeCommand{\`}{PD1}{o}{\363}% U+00F3  
12860 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12861 \DeclareTextCompositeCommand{\`}{PD1}{o}{\364}% U+00F4  
12862 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12863 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
12864 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
12865 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
12866 % U+00F7 DIVISION SIGN; divide  
12867 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
12868 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
12869 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
12870 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
12871 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
12872 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
12873 \DeclareTextCompositeCommand{\`}{PD1}{u}{\372}% U+00FA  
12874 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
12875 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB  
12876 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
12877 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
12878 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
12879 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD  
12880 % U+00FE LATIN SMALL LETTER THORN; thorn  
12881 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
12882 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
12883 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
12884 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12885 \DeclareTextCommand{\SS}{PD1}{SS}  
12886 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12887 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
12888 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
12889 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
12890 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
12891 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
12892 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
12893 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
12894 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

```

12895 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12896 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12897 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12898 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12899 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12900 \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).

```

12901 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12902 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12903 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12904 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12905 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12906 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12907 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12908 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12909 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12910 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12911 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12912 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12913 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12914 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

12915  $\langle$ /pdlenc $\rangle$

## 50.2 PU encoding

```

12916  $\langle$ *puenc $\rangle$ 
12917 \DeclareFontEncoding{PU}{-}{}

```

### 50.2.1 NFSS2 accents

```

12918 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12919 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
12920 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12921 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12922 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12923 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12924 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12925 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12926 % U+0304 COMBINING MACRON; macroncmb
12927 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12928 % U+0306 COMBINING BREVE; brevecmb
12929 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12930 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12931 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12932 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12933 % U+0308 COMBINING DIAERESIS; dieresiscmb
12934 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12935 % U+030A COMBINING RING ABOVE; ringcmb
12936 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12937 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12938 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12939 % U+030C COMBINING CARON; caroncmb
12940 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12941 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12942 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F

```

```

12943 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12944 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12945 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12946 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12947 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12948 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12949 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12950 % U+0327 COMBINING CEDILLA; cedillacmb
12951 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12952 % U+0328 COMBINING OGONEK; ogonekcmb
12953 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12954 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12955 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12956 % U+20DD COMBINING ENCLOSING CIRCLE
12957 \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.

```

12958 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12959 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12960 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12961 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
12962 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12963 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12964 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12965 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12966 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12967 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12968 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12969 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12970 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12971 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12972 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12973 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12974 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12975 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12976 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12977 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12978 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12979 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
12980 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
12981 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12982 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12983 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12984 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12985 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12986 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12987 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12988 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12989 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12990 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12991 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12992 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12993 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12994 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12995 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)



```

12996 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12997 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12998 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12999 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
13000 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
13001 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
13002 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
13003 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
13004 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
13005 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
13006 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
13007 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
13008 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
13009 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
13010 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

13011 % U+0009 (CHARACTER TABULATION)
13012 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
13013 % U+000A (LINE FEED)
13014 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
13015 % U+000D (CARRIAGE RETURN)
13016 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

13017 % U+0022 QUOTATION MARK; quotedbl
13018 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
13019 % U+0023 NUMBER SIGN; numbersign
13020 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
13021 % U+0024 DOLLAR SIGN; dollar
13022 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
13023 % U+0025 PERCENT SIGN; percent
13024 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
13025 % U+0026 AMPERSAND; ampersand
13026 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
13027 % U+0027 APOSTROPHE; quotesingle
13028 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
13029 % U+0028 LEFT PARENTHESIS; parenleft
13030 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
13031 % U+0029 RIGHT PARENTHESIS; parenright
13032 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
13033 % U+002A ASTERISK; asterisk
13034 \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
13035 % U+003C LESS-THAN SIGN; less

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13036 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 13037 % U+003E GREATER-THAN SIGN; greater  
 13038 \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  
 13039 % U+005C REVERSE SOLIDUS; backslash  
 13040 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13041 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13042 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13043 % U+005F LOW LINE; underscore  
 13044 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13045 % U+0060 GRAVE ACCENT; grave  
 13046 \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  
 13047 % U+0069 LATIN SMALL LETTER I; i  
 13048 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 13049 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 13050 % U+007B LEFT CURLY BRACKET; braceleft  
 13051 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 13052 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13053 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 13054 % U+007D RIGHT CURLY BRACKET; braceright  
 13055 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 13056 % U+007E TILDE; asciitilde  
 13057 \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  
 13058 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13059 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 13060 % U+00A2 CENT SIGN; cent  
 13061 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 13062 % U+00A3 POUND SIGN; sterling  
 13063 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 13064 % U+00A4 CURRENCY SIGN; currency  
 13065 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 13066 % U+00A5 YEN SIGN; yen  
 13067 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 13068 % U+00A6 BROKEN BAR; brokenbar  
 13069 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 13070 % U+00A7 SECTION SIGN; section

13071 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
13072 % U+00A8 DIAERESIS; dieresis  
13073 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
13074 % U+00A9 COPYRIGHT SIGN; copyright  
13075 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
13076 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
13077 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
13078 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
13079 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
13080 % U+00AC NOT SIGN; logicalnot  
13081 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
13082 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
13083 % U+00AE REGISTERED SIGN; registered  
13084 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
13085 % U+00AF MACRON; \*macron, overscore  
13086 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
13087 % U+00B0 DEGREE SIGN; degree  
13088 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
13089 % U+00B1 PLUS-MINUS SIGN; plusminus  
13090 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
13091 % U+00B2 SUPERSCRIFT TWO; twosuperior  
13092 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
13093 % U+00B3 SUPERSCRIFT THREE; threesuperior  
13094 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
13095 % U+00B4 ACUTE ACCENT; acute  
13096 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
13097 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
13098 % U+00B5 MICRO SIGN; mu, mu1  
13099 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
13100 % U+00B6 PILCROW SIGN; paragraph  
13101 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
13102 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13103 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
13104 % U+00B8 CEDILLA; cedilla  
13105 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
13106 % U+00B9 SUPERSCRIFT ONE; onesuperior  
13107 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
13108 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13109 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
13110 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13111 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
13112 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13113 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
13114 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13115 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
13116 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13117 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
13118 % U+00BF INVERTED QUESTION MARK; questiondown  
13119 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
13120 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13121 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
13122 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13123 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
13124 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex

13125 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\302}% U+00C2  
13126 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13127 \DeclareTextCompositeCommand{\-}{PU}{A}{\80\303}% U+00C3  
13128 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13129 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
13130 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13131 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
13132 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13133 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
13134 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13135 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
13136 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13137 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
13138 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13139 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
13140 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13141 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
13142 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13143 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
13144 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13145 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
13146 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13147 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
13148 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
13149 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
13150 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13151 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
13152 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13153 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
13154 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13155 \DeclareTextCompositeCommand{\-}{PU}{N}{\80\321}% U+00D1  
13156 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13157 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
13158 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13159 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
13160 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13161 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
13162 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13163 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5  
13164 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13165 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
13166 % U+00D7 MULTIPLICATION SIGN; multiply  
13167 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
13168 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13169 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
13170 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13171 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
13172 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13173 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
13174 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13175 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
13176 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13177 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
13178 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13179 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
13180 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13181 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE

13182 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13183 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
13184 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13185 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
13186 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13187 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
13188 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13189 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
13190 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13191 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
13192 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13193 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
13194 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13195 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
13196 % U+00E6 LATIN SMALL LETTER AE; ae  
13197 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
13198 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13199 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
13200 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13201 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
13202 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13203 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
13204 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
13205 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
13206 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13207 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
13208 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13209 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
13210 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
13211 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13212 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13213 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
13214 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13215 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
13216 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
13217 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13218 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
13219 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
13220 % U+00F0 LATIN SMALL LETTER ETH; eth  
13221 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
13222 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13223 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
13224 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13225 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
13226 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13227 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
13228 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13229 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
13230 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13231 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
13232 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13233 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
13234 % U+00F7 DIVISION SIGN; divide  
13235 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
13236 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13237 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
13238 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave

13239 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 13240 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 13241 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 13242 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 13243 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 13244 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 13245 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 13246 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 13247 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 13248 % U+00FE LATIN SMALL LETTER THORN; thorn  
 13249 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 13250 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 13251 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

13252 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 13253 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 13254 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 13255 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 13256 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 13257 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 13258 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 13259 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 13260 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 13261 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 13262 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 13263 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 13264 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 13265 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 13266 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 13267 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 13268 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 13269 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 13270 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 13271 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 13272 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 13273 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 13274 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 13275 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 13276 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 13277 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 13278 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 13279 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 13280 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 13281 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 13282 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 13283 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 13284 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 13285 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 13286 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
 13287 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 13288 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 13289 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
 13290 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
 13291 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
 13292 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve

13293 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
13294 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
13295 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
13296 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
13297 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
13298 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
13299 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
13300 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
13301 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
13302 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
13303 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
13304 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
13305 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
13306 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
13307 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
13308 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
13309 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
13310 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
13311 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
13312 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
13313 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
13314 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
13315 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
13316 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
13317 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
13318 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
13319 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
13320 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-  
cent  
13321 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
13322 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
13323 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
13324 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
13325 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
13326 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
13327 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
13328 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
13329 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
13330 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
13331 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
13332 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
13333 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
13334 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
13335 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13336 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13337 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
13338 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
13339 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
13340 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13341 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13342 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
13343 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
13344 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
13345 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13346 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
13347 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
13348 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E

13349 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
13350 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13351 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
13352 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
13353 \DeclareTextCompositeCommand{.}{PU}{I}{\81\060}% U+0130  
13354 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
13355 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
13356 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
13357 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
13358 % U+0133 LATIN SMALL LIGATURE IJ; ij  
13359 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
13360 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
13361 \DeclareTextCompositeCommand{^}{PU}{J}{\81\064}% U+0134  
13362 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
13363 \DeclareTextCompositeCommand{^}{PU}{j}{\81\065}% U+0135  
13364 \DeclareTextCompositeCommand{^}{PU}{j}{\81\065}% U+0135  
13365 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
13366 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
13367 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
13368 \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 choosen \textkra.

13369 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
13370 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
13371 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
13372 \DeclareTextCompositeCommand{'}{PU}{L}{\81\071}% U+0139  
13373 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
13374 \DeclareTextCompositeCommand{'}{PU}{l}{\81\072}% U+013A  
13375 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
13376 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
13377 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
13378 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
13379 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
13380 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
13381 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
13382 \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.

13383 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
13384 \DeclareTextCompositeCommand{.}{PU}{L}{\81\077}% U+013F  
13385 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
13386 \DeclareTextCompositeCommand{.}{PU}{l}{\81\100}% U+0140  
13387 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
13388 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
13389 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
13390 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
13391 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
13392 \DeclareTextCompositeCommand{'}{PU}{N}{\81\103}% U+0143  
13393 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
13394 \DeclareTextCompositeCommand{'}{PU}{n}{\81\104}% U+0144  
13395 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
13396 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145



13397 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 13398 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 13399 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 13400 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 13401 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 13402 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 13403 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 13404 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 13405 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 13406 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 13407 % U+014B LATIN SMALL LETTER ENG; eng  
 13408 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 13409 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 13410 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 13411 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 13412 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 13413 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 13414 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
 13415 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 13416 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
 13417 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
 13418 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
 13419 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
 13420 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 13421 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 13422 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 13423 % U+0153 LATIN SMALL LIGATURE OE; oe  
 13424 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 13425 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 13426 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 13427 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 13428 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 13429 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
 13430 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 13431 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 13432 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 13433 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 13434 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 13435 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 13436 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 13437 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 13438 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 13439 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 13440 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 13441 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 13442 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 13443 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 13444 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 13445 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 13446 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 13447 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 13448 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 13449 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron

13450 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
13451 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13452 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
13453 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
13454 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
13455 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
13456 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
13457 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
13458 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
13459 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
13460 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
13461 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
13462 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
13463 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
13464 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
13465 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
13466 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
13467 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
13468 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
13469 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
13470 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
13471 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
13472 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
13473 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
13474 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
13475 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
13476 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
13477 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
13478 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
13479 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
13480 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
13481 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-  
cute, Uhungarumlaut  
13482 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
13483 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-  
garumlaut  
13484 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
13485 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
13486 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
13487 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
13488 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
13489 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
13490 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
13491 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
13492 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
13493 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
13494 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
13495 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
13496 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
13497 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13498 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
13499 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
13500 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
13501 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
13502 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
13503 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent

13504 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 13505 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdotaccent  
 13506 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 13507 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13508 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13509 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13510 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13511 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13512 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

13513 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13514 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13515 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13516 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13517 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13518 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13519 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13520 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13521 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13522 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13523 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13524 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13525 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13526 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13527 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 13528 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 13529 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 13530 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 13531 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 13532 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 13533 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 13534 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 13535 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 13536 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 13537 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 13538 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 13539 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 13540 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 13541 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 13542 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 13543 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 13544 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 13545 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 13546 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 13547 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 13548 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 13549 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 13550 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 13551 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
 13552 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
 13553 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
 13554 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
 13555 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
 13556 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
 13557 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
 13558 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9

13559 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13560 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
13561 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13562 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
13563 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
13564 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
13565 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
13566 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
13567 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13568 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13569 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13570 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13571 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13572 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13573 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
13574 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
13575 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
13576 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
13577 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
13578 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13579 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13580 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
13581 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13582 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
13583 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
13584 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
13585 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
13586 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
13587 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
13588 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
13589 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
13590 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
13591 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
13592 % U+021E LATIN CAPITAL LETTER H WITH CARON  
13593 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
13594 % U+021F LATIN SMALL LETTER H WITH CARON  
13595 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
13596 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
13597 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
13598 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
13599 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
13600 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
13601 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
13602 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
13603 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
13604 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
13605 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
13606 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
13607 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
13608 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
13609 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
13610 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
13611 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
13612 % U+0237 LATIN SMALL LETTER DOTLESS J  
13613 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13614 % U+02C7 CARON; caron  
13615 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
13616 % U+02D8 BREVE; breve  
13617 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
13618 % U+02D9 DOT ABOVE; dotaccent  
13619 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
13620 % U+02DA RING ABOVE; ring  
13621 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
13622 % U+02DB OGONEK; ogonek  
13623 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
13624 % U+02DC SMALL TILDE; ilde, \*tilde  
13625 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
13626 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
13627 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
13628 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
13629 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
13630 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
13631 % U+02F7 MODIFIER LETTER LOW TILDE  
13632 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13633 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
13634 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
13635 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
13636 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
13637 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
13638 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
13639 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
13640 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
13641 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
13642 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

13643 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
13644 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
13645 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
13646 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
13647 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanotos  
13648 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
13649 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
13650 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
13651 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
13652 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
13653 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
13654 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
13655 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
crintonos  
13656 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
13657 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
13658 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
13659 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
13660 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
13661 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-  
tadiesistonos  
13662 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
13663 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha

13664 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
13665 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
13666 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
13667 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
13668 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
13669 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
13670 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13671 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13672 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13673 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13674 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13675 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13676 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13677 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13678 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13679 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13680 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13681 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13682 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13683 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13684 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13685 % U+039C GREEK CAPITAL LETTER MU; Mu  
13686 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13687 % U+039D GREEK CAPITAL LETTER NU; Nu  
13688 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13689 % U+039E GREEK CAPITAL LETTER XI; Xi  
13690 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13691 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13692 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13693 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13694 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13695 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13696 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13697 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13698 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13699 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13700 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13701 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13702 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13703 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13704 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13705 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13706 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13707 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13708 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13709 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13710 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13711 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13712 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13713 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13714 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis  
13715 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13716 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphonos  
13717 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13718 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononon  
13719 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD

13720 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos  
 13721 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE  
 13722 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos  
 13723 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF  
 13724 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
 silondieresisto  
 13725 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
 13726 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
 13727 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
 13728 % U+03B2 GREEK SMALL LETTER BETA; beta  
 13729 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
 13730 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
 13731 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
 13732 % U+03B4 GREEK SMALL LETTER DELTA; delta  
 13733 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
 13734 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
 13735 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
 13736 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
 13737 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
 13738 % U+03B7 GREEK SMALL LETTER ETA; eta  
 13739 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
 13740 % U+03B8 GREEK SMALL LETTER THETA; theta  
 13741 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
 13742 % U+03B9 GREEK SMALL LETTER IOTA; iota  
 13743 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
 13744 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
 13745 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
 13746 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
 13747 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
 13748 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
 13749 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
 13750 % U+03BD GREEK SMALL LETTER NU; nu  
 13751 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
 13752 % U+03BE GREEK SMALL LETTER XI; xi  
 13753 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
 13754 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
 13755 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
 13756 % U+03C0 GREEK SMALL LETTER PI; pi  
 13757 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
 13758 % U+03C1 GREEK SMALL LETTER RHO; rho  
 13759 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
 13760 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
 13761 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
 13762 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
 13763 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
 13764 % U+03C4 GREEK SMALL LETTER TAU; tau  
 13765 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
 13766 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
 13767 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
 13768 % U+03C6 GREEK SMALL LETTER PHI; phi  
 13769 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
 13770 % U+03C7 GREEK SMALL LETTER CHI; chi  
 13771 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
 13772 % U+03C8 GREEK SMALL LETTER PSI; psi  
 13773 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
 13774 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
 13775 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9

13776 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis  
13777 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
13778 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilonadieresis  
13779 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
13780 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
13781 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
13782 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
13783 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
13784 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
13785 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
13786 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
13787 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
13788 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
13789 % U+03DB GREEK SMALL LETTER STIGMA  
13790 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
13791 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
13792 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
13793 % U+03DD GREEK SMALL LETTER DIGAMMA  
13794 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
13795 % U+03DE GREEK LETTER KOPPA; Koppagreek  
13796 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
13797 % U+03DF GREEK SMALL LETTER KOPPA  
13798 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
13799 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
13800 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
13801 % U+03E1 GREEK SMALL LETTER SAMPI  
13802 \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.

13803 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
13804 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
13805 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
13806 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
13807 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
13808 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
13809 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
13810 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
13811 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403  
13812 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
13813 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
13814 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
13815 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
13816 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, \*afii10055  
13817 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
13818 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
13819 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
13820 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
13821 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
13822 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
13823 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
13824 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
13825 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
13826 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A



13827 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tsh Cyrillic, \*afii10060  
 13828 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
 13829 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
 13830 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
 13831 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
 13832 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
 13833 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
 13834 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
 13835 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
 13836 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
 13837 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
 13838 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
 13839 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
 13840 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
 13841 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
 13842 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
 13843 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
 13844 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
 13845 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
 13846 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
 13847 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
 13848 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
 13849 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
 13850 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
 13851 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
 13852 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
 13853 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
 13854 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
 13855 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
 13856 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
 13857 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
 13858 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
 13859 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
 13860 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
 13861 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
 13862 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
 13863 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
 13864 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
 13865 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
 13866 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
 13867 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
 13868 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
 13869 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
 13870 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
 13871 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
 13872 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
 13873 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
 13874 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
 13875 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
 13876 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
 13877 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
 13878 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
 13879 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
 13880 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
 13881 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
 13882 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
 13883 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040

13884 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13885 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13886 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13887 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13888 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13889 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13890 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13891 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13892 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13893 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
13894 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13895 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13896 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13897 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13898 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13899 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, \*afii10048  
13900 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13901 % U+042F CYRILLIC CAPITAL LETTER YA; IACyrillic, \*afii10049  
13902 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13903 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13904 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13905 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
13906 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13907 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13908 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13909 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13910 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13911 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13912 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13913 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13914 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13915 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13916 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
13917 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13918 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13919 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
13920 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13921 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13922 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13923 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13924 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13925 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13926 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13927 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B  
13928 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13929 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13930 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13931 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13932 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13933 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13934 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13935 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13936 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13937 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13938 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
13939 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
13940 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic

13941 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13942 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13943 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13944 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13945 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13946 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13947 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13948 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13949 \DeclareTextCommand{\cyrct}{PU}{\84\106}% U+0446  
13950 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13951 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13952 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13953 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13954 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13955 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13956 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13957 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
13958 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13959 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B  
13960 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13961 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
13962 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13963 \DeclareTextCommand{\cyrev}{PU}{\84\115}% U+044D  
13964 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13965 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
13966 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13967 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
13968 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13969 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13970 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13971 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
13972 \DeclareTextCompositeCommand{"}{PU}{\cyre}{\84\121}% U+0451  
13973 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13974 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13975 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13976 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13977 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13978 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13979 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13980 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13981 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyril-  
lic  
13982 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13983 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13984 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13985 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457  
13986 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13987 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13988 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13989 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
13990 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13991 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13992 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13993 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13994 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13995 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
13996 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE

13997 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13998 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13999 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14000 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14001 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14002 \DeclareTextCommand{\cyr dzhe}{PU}{\84\137}% U+045F  
14003 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14004 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14005 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
14006 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14007 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14008 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14009 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14010 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463  
14011 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14012 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14013 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14014 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
14015 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
14016 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14017 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
14018 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
14019 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-  
tifiedcyrillic  
14020 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14021 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-  
fiedcyrillic  
14022 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14023 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14024 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14025 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14026 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
14027 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
14028 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
14029 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
14030 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
14031 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
14032 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
14033 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
14034 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
14035 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
14036 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
14037 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
14038 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
14039 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
14040 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
14041 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
14042 \DeclareTextCommand{\cyrfta}{PU}{\84\163}% U+0473  
14043 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
14044 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
14045 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
14046 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
14047 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
CENT; Izhitsadblgravecyrillic  
14048 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476

14049 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; izhitsadblgravecyrillic  
 14050 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 14051 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 14052 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 14053 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 14054 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 14055 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 14056 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 14057 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 14058 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 14059 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
 cyrillic  
 14060 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 14061 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 14062 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 14063 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14064 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14065 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14066 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14067 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14068 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14069 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 14070 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 14071 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 14072 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-  
 licmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-  
 cyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-  
 licmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 14073 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 14074 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 14075 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 14076 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 14077 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 14078 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 14079 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 14080 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 14081 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 14082 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 14083 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 14084 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 14085 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 14086 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 14087 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 14088 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491

14089 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
 14090 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 14091 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 14092 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 14093 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-dlehookcyrillic  
 14094 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 14095 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-dlehookcyrillic  
 14096 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 14097 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 14098 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 14099 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 14100 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 14101 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 14102 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 14103 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 14104 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 14105 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 14106 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 14107 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 14108 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 14109 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 14110 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 14111 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic  
 14112 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 14113 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic  
 14114 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 14115 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 14116 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 14117 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 14118 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 14119 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 14120 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 14121 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 14122 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 14123 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 14124 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 14125 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 14126 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 14127 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 14128 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 14129 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 14130 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 14131 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-dlehookcyrillic

14132 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
14133 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
14134 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
14135 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
14136 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
14137 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
14138 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
14139 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
14140 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
14141 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
14142 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
14143 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
14144 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
14145 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
14146 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
14147 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
14148 \DeclareTextCommand{\cyrt dsc}{PU}{\84\255}% U+04AD  
14149 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
14150 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
14151 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; usstraightcyrillic  
14152 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
14153 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
14154 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
14155 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
14156 \DeclareTextCommand{\cyr yhcrs}{PU}{\84\261}% U+04B1  
14157 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
14158 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
14159 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
14160 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
14161 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
14162 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
14163 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
14164 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
14165 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
14166 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
14167 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
14168 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
14169 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
14170 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
14171 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
14172 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
14173 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
14174 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA

14175 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
14176 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
14177 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic  
14178 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
14179 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
14180 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
14181 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
14182 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
14183 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
14184 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
14185 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
14186 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
14187 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
14188 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
14189 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
14190 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
14191 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
14192 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
14193 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
14194 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
14195 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
14196 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
14197 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
14198 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
14199 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
14200 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
14201 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
14202 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
14203 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
14204 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
14205 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic  
14206 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
14207 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic  
14208 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
14209 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
14210 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
14211 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
14212 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
14213 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
14214 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
14215 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
14216 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
14217 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
14218 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
14219 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
14220 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
14221 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
14222 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
14223 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic



14224 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
14225 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
14226 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
14227 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
14228 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
14229 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
14230 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
14231 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
14232 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
14233 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-  
siscyrillic  
14234 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
14235 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-  
siscyrillic  
14236 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
14237 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
14238 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
14239 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieres-  
cyrillic  
14240 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
14241 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieres-  
cyrillic  
14242 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
14243 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresicyrillic  
14244 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
14245 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
cyrillic  
14246 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
14247 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
14248 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
14249 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
14250 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
14251 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
14252 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
14253 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresicyrillic  
14254 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
14255 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresicyrillic  
14256 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
14257 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresicyril-  
lic  
14258 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
14259 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresicyrillic  
14260 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
14261 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
14262 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
14263 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
14264 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
14265 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-  
SIS; Obarreddieresicyrillic  
14266 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
14267 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-  
dieresicyrillic  
14268 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
14269 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
14270 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
14271 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS

14272 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 14273 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 14274 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
 14275 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 14276 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 14277 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 14278 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 14279 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 14280 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 14281 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 14282 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 14283 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 14284 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 14285 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 14286 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 14287 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieres-  
 iscyrillic  
 14288 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 14289 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 14290 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 14291 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 14292 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 14293 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 14294 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 14295 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 14296 \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  
 14297 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 14298 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 14299 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 14300 \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

14301 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 14302 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

## 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

14303 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 14304 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 14305 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 14306 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 14307 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 14308 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 14309 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 14310 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 14311 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 14312 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A

14313 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
14314 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
14315 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
14316 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
14317 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
14318 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
14319 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
14320 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
14321 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
14322 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
14323 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
14324 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
14325 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
14326 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
14327 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
14328 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
14329 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
14330 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
14331 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
14332 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
14333 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
14334 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
14335 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
14336 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
14337 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
14338 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
14339 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
14340 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
14341 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
14342 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
14343 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
14344 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
14345 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
14346 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
14347 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
14348 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
14349 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
14350 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
14351 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
14352 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
14353 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
14354 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
14355 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
14356 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
14357 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
14358 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
14359 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
14360 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
14361 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
14362 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
14363 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
14364 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
14365 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
14366 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
14367 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
14368 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
14369 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow

14370 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
14371 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
14372 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
14373 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
14374 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
14375 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
14376 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
14377 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
14378 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
14379 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
14380 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
14381 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
14382 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
14383 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
14384 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
14385 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
14386 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
14387 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
14388 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
14389 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
14390 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
14391 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
14392 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
14393 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
14394 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
14395 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
14396 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
14397 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
14398 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
14399 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
14400 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
14401 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
14402 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
14403 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
14404 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
14405 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
14406 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
14407 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
14408 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
14409 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
14410 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
14411 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
14412 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
14413 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
14414 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
14415 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
14416 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
14417 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
14418 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
14419 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
14420 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
14421 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
14422 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
14423 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
14424 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
14425 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
14426 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F

14427 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
 14428 \DeclareTextCompositeCommand{\~}{PU}{z}{\9036\220}% U+1E90  
 14429 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
 14430 \DeclareTextCompositeCommand{\~}{PU}{z}{\9036\221}% U+1E91  
 14431 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 14432 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 14433 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 14434 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 14435 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 14436 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 14437 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 14438 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 14439 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 14440 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 14441 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 14442 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 14443 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
 cent  
 14444 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 14445 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 14446 \DeclareTextCompositeCommand{\-}{PU}{E}{\9036\274}% U+1EBC  
 14447 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 14448 \DeclareTextCompositeCommand{\-}{PU}{e}{\9036\275}% U+1EBD  
 14449 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 14450 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 14451 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 14452 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 14453 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 14454 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}% U+1EF8  
 14455 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 14456 \DeclareTextCompositeCommand{\-}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

14457 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 14458 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 14459 % U+2013 EN DASH; endash  
 14460 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 14461 % U+2014 EM DASH; emdash  
 14462 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 14463 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 14464 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 14465 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14466 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 14467 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14468 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 14469 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14470 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 14471 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14472 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14473 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14474 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14475 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14476 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14477 % U+2020 DAGGER; dagger  
 14478 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14479 % U+2021 DOUBLE DAGGER; daggerdbl  
 14480 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021

14481 % U+2022 BULLET; bullet  
 14482 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14483 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14484 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 14485 % U+2030 PER MILLE SIGN; perthousand  
 14486 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14487 % U+2031 PER TEN THOUSAND SIGN  
 14488 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14489 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 14490 \DeclareTextCommand{\guillemotleft}{PU}{\9040\071}% U+2039  
 14491 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 14492 \DeclareTextCommand{\guillemotright}{PU}{\9040\072}% U+203A  
 14493 % U+203B REFERENCE MARK; referencemark  
 14494 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14495 % U+203D INTERROBANG  
 14496 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 14497 % U+2044 FRACTION SLASH; fraction  
 14498 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14499 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14500 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14501 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14502 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14503 % U+2052 COMMERCIAL MINUS SIGN  
 14504 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

14505 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 14506 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 14507 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 14508 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 14509 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 14510 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 14511 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 14512 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 14513 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 14514 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 14515 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 14516 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 14517 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 14518 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 14519 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 14520 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 14521 % U+207B SUPERSCRIPT MINUS  
 14522 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 14523 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 14524 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 14525 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 14526 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 14527 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 14528 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 14529 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 14530 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 14531 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 14532 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 14533 % U+2081 SUBSCRIPT ONE; oneinferior

14534 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 14535 % U+2082 SUBSCRIPT TWO; twoinferior  
 14536 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 14537 % U+2083 SUBSCRIPT THREE; threeinferior  
 14538 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 14539 % U+2084 SUBSCRIPT FOUR; fourinferior  
 14540 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 14541 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 14542 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 14543 % U+2086 SUBSCRIPT SIX; sixinferior  
 14544 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 14545 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 14546 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 14547 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 14548 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 14549 % U+2089 SUBSCRIPT NINE; nineinferior  
 14550 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 14551 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 14552 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 14553 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14554 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

## 50.2.14 Currency Symbols: U+20A0 to U+20CF

14555 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14556 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14557 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14558 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14559 % U+20A6 NAIRA SIGN  
 14560 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14561 % U+20A7 PESETA SIGN; peseta  
 14562 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14563 % U+20A9 WON SIGN; won  
 14564 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14565 % U+20AB DONG SIGN; dong  
 14566 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14567 % U+20AC EURO SIGN; \*Euro, euro  
 14568 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14569 % U+20B1 PESO SIGN  
 14570 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14571 % U+20B2 GUARANI SIGN  
 14572 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

## 50.2.15 Letterlike Symbols: U+2100 to U+214F

14573 % U+2103 DEGREE CELSIUS; centigrade  
 14574 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14575 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14576 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14577 % U+2117 SOUND RECORDING COPYRIGHT  
 14578 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14579 % U+211E PRESCRIPTION TAKE; prescription  
 14580 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14581 % U+2120 SERVICE MARK  
 14582 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14583 % U+2122 TRADE MARK SIGN; trademark  
 14584 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14585 % U+2126 OHM SIGN; Ohm, Omega  
 14586 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126

14587 % U+2127 INVERTED OHM SIGN  
14588 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
14589 % U+212B ANGSTROM SIGN; angstrom  
14590 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
14591 % U+212E ESTIMATED SYMBOL; estimated  
14592 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
14593 % U+2135 ALEF SYMBOL; aleph  
14594 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

14595 % U+2190 LEFTWARDS ARROW; arrowleft  
14596 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
14597 % U+2191 UPWARDS ARROW; arrowup  
14598 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
14599 % U+2192 RIGHTWARDS ARROW; arrowright  
14600 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
14601 % U+2193 DOWNWARDS ARROW; arrowdown  
14602 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

14603 % U+2212 MINUS SIGN; minus  
14604 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
14605 % U+221A SQUARE ROOT; radical  
14606 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14607 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
14608 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
14609 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
14610 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

### 50.2.19 Control Pictures: U+2400 to U+243F

14611 % U+2422 BLANK SYMBOL  
14612 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
14613 % U+2423 OPEN BOX; blank  
14614 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14615 % U+2460 CIRCLED DIGIT ONE; onecircle  
14616 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
14617 % U+2461 CIRCLED DIGIT TWO; twocircle  
14618 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
14619 % U+2462 CIRCLED DIGIT THREE; threecircle  
14620 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
14621 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
14622 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
14623 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
14624 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
14625 % U+2465 CIRCLED DIGIT SIX; sixcircle  
14626 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
14627 % U+2466 CIRCLED DIGIT SEVEN; sevencircle  
14628 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
14629 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
14630 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
14631 % U+2468 CIRCLED DIGIT NINE; ninecircle  
14632 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
14633 % U+2469 CIRCLED NUMBER TEN; tencircle



14634 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
14635 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
14636 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
14637 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
14638 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
14639 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14640 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14641 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14642 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14643 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14644 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14645 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14646 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14647 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14648 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14649 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14650 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14651 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14652 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14653 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14654 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14655 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14656 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14657 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14658 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14659 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14660 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14661 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14662 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14663 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14664 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
14665 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14666 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14667 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14668 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14669 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14670 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14671 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14672 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14673 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14674 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14675 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14676 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14677 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14678 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14679 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14680 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14681 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14682 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14683 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14684 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14685 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14686 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14687 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
14688 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14689 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14690 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7

14691 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 14692 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 14693 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 14694 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 14695 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 14696 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 14697 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 14698 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 14699 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 14700 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 14701 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 14702 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 14703 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 14704 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 14705 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 14706 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 14707 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 14708 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 14709 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 14710 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 14711 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 14712 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 14713 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 14714 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 14715 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 14716 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 14717 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 14718 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 14719 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 14720 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 14721 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 14722 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 14723 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 14724 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 14725 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 14726 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 14727 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 14728 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 14729 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 14730 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 14731 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 14732 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 14733 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 14734 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 14735 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 14736 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 14737 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 14738 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 14739 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 14740 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 14741 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 14742 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 14743 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 14744 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 14745 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 14746 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 14747 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle

14748 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 14749 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 14750 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 14751 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 14752 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 14753 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 14754 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14755 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 14756 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14757 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 14758 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14759 % U+24EA CIRCLED DIGIT ZERO  
 14760 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

14761 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14762 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14763 % U+25EF LARGE CIRCLE; largecircle  
 14764 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14765 % U+266A EIGHTH NOTE; musicalnote  
 14766 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14767 % U+26AD MARRIAGE SYMBOL  
 14768 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14769 % U+26AE DIVORCE SYMBOL  
 14770 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14771 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14772 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 14773 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 14774 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

14775 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14776 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 14777 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14778 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

14779 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

14780 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 14781 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 14782 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 14783 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 14784 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 14785 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 14786 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 14787 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

14788 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 14789 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}

```

14790 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14791 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14792 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14793 </puenc>

```

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14794 <*puvnenc>

14795 \DeclareTextCommand{\abreve}{PU}{\81\003}
14796 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14797 \DeclareTextCommand{\dj}{PU}{\81\021}
14798 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14799 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14800 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14801 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14802 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14803 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14804 \DeclareTextCommand{\DJ}{PU}{\81\020}
14805 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14806 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14807 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14808 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14809 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14810 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14811 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14812 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14813 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14814 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14815 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14816 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14817 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14818 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14819 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14820 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14821 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14822 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14823 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14824 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14825 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14826 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14827 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14828 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14829 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14830 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14831 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14832 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14833 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14834 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14835 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14836 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14837 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14838 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14839 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14840 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14841 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}

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14842 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
14843 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
14844 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
14845 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
14846 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
14847 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
14848 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14849 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14850 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14851 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14852 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14853 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14854 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14855 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14856 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14857 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14858 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14859 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14860 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
14861 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14862 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14863 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14864 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14865 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
14866 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
14867 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14868 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14869 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14870 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14871 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14872 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14873 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14874 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14875 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14876 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14877 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14878 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14879 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14880 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14881 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14882 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14883 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14884 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14885 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
14886 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
14887 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
14888 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
14889 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
14890 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14891 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14892 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14893 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14894 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
14895 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
14896 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
14897 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
14898 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}

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14899 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
14900 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
14901 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
14902 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
14903 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
14904 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
14905 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14906 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14907 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14908 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14909 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14910 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14911 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14912 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14913 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14914 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14915 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14916 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14917 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14918 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14919 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14920 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14921 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14922 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
14923 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14924 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14925 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14926 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14927 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14928 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14929 </puvnenc>

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## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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14930 <*puarenc>
14931 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
14932 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
14933 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
14934 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
14935 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
14936 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
14937 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
14938 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
14939 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
14940 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
14941 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
14942 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM

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14943 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH  
14944 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH  
14945 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL  
14946 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL  
14947 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH  
14948 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN  
14949 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN  
14950 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LET-  
TER SHEEN  
14951 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD  
14952 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD  
14953 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH  
14954 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH  
14955 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN  
14956 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LET-  
TER GHAIN  
14957 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL  
14958 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH  
14959 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF  
14960 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF  
14961 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM  
14962 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LET-  
TER MEEM  
14963 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON  
14964 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH  
14965 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW  
14966 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LET-  
TER ALEF MAKSURA  
14967 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH  
14968 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN  
14969 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN  
14970 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN  
14971 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA  
14972 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA  
14973 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA  
14974 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA  
14975 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN  
  
Farsi  
14976 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH  
14977 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LET-  
TER TCHEH  
14978 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH  
14979 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LET-  
TER KAF  
14980 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF  
14981 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LET-  
TER YEH  
  
14982 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%  
14983 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ  
  
14984 \puarenc)

## 51 End of file hycheck.tex

14985 (\*check)

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14986 \typeout{}  
14987 \begin{document}  
14988 \end{document}  
14989 </check>
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## 52 Index

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