

# Hypertext marks in $\text{\LaTeX}$

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## 1 Documentation overview for `hyperref`

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

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

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

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

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

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with `hyperref`, `pdfTeX` and `thumbpdf`” at Euro $\text{\TeX}$  1999.

**Bookmark talk, paper** The paper version of the talk.

Source code documentation:

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

**`backref.dtx`** “Back referencing from bibliographical citations”

**`nameref.dtx`** “Section name references in  $\text{\LaTeX}$ ”

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### 3 File hycheck.tex

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

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

`\checklatex` Optional argument: release date of L<sup>A</sup>T<sub>E</sub>X.

```
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 L<sup>A</sup>T<sub>E</sub>X 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#1{%
126   \HyC@Toks={#1}%

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L<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 `\hypercalcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
  - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
  - For calculations package `calc` has to be loaded.
  - The expansion of the argument is done at definition time.

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

```

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

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

```

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

Important: In  $\text{\TeX}$ '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 (vtex driver, Unicode support).

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

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

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

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

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

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

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

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

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

```
388 \ifHy@unicode
```

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

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

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

```
392 \HyPsd@UTFviii
```

```
393 \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\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{La\TeX}%
418 \def\LaTeXe{LaTeX2e}%
419 \def\eTeX{e-\TeX}%
420 \def\SliTeX{Sli\TeX}%
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

```

**Package color.**

```

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

```

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

```

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

```

Disable \cyr, used in russianb.ldf.

```

465 \let\cyr\relax

```

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

```

466 \let\es@roman\@Roman

```

**Package german.**

```

467 \let\glqq\textglqq
468 \let\grqq\textgrqq
469 \let\glq\textglq
470 \let\grq\textgrq
471 \let\flqq\textflqq
472 \let\frqq\textfrqq
473 \let\flq\textflq
474 \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}

475 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

476 \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.

```

477 \let\hspace\HyPsd@hspace

```

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

```

478 \let\label\@gobble
479 \let\index\@gobble
480 \let\glossary\@gobble
481 \let\href\@secondoftwo
482 \let\mkboth\@gobbletwo

```

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

```

483 \let\ref\HyPsd@ref
484 \let\pageref\HyPsd@pageref
485 \let\nameref\HyPsd@nameref
486 \let\autoref\HyPsd@autoref

```

**Miscellaneous commands.**

```

487 \let\leavevmode\@empty
488 \let\mbox\@empty

```

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

```

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

```

**Patch for cjk bookmarks.**

```

490 \ifHy@CJKbookmarks
491 \HyPsd@CJKhook
492 \fi

```

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

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

```
493 \Hy@pdfstringtrue
494 \pdfstringdefPreHook
```

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

```
495 \HyPsd@LetUnexpandableSpace\space
496 \HyPsd@LetUnexpandableSpace\ %
497 \HyPsd@LetUnexpandableSpace~%
498 \HyPsd@LetUnexpandableSpace\nobreakspace
```

**Package `xspace`.**

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

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

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

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

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

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

```
508 \let\@ifnextchar\HyPsd@ifnextchar
509 \let\@ifnextchar\HyPsd@new@ifnextchar
510 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
511 \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).

```

512   \begingroup
513   \let\GenericError\@gobblefour
514   \let\GenericWarning\@gobbletwo
515   \let\GenericInfo\@gobbletwo

```

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

```

516   \ifx\nofrenchguillemets\@undefined
517   \else
518   \nofrenchguillemets
519   \fi

```

**Definition commands and expansion.** Redefining the defining commands (see sec. 6.5.9). The original meaning of `\xdef` is saved in `\Hy@temp`.

```

520   \let\Hy@temp\xdef
521   \let\def\HyPsd@DefCommand
522   \let\gdef\HyPsd@DefCommand
523   \let\edef\HyPsd@DefCommand
524   \let\xdef\HyPsd@DefCommand
525   \let\futurelet\HyPsd@LetCommand
526   \let\let\HyPsd@LetCommand
527   \Hy@temp#1{#2}%
528   \endgroup

```

### 6.2.3 Postprocessing

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

```
529 \ifx#1\@empty
530 \else
```

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with T<sub>E</sub>X's argument parsing. With this method we must take the following item into account, that makes things a little more complicate:

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

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

```
531 \HyPsd@ProtectSpaces#1%
532 \let\HyPsd@String\@empty
533 \expandafter\HyPsd@RemoveBraces\expandafter{#1}%
534 \global\let#1\HyPsd@String
```

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

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

After \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.

```
535 \let\HyPsd@SPACEOPTI\relax
536 {%
537 \let\HyPsd@String\@empty
538 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
539 \global\let#1\HyPsd@String
540}%
541 \expandafter\HyPsd@RemoveMask\expandafter
542 |\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.

```
543 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
544 \let\HyPsd@String\@empty
545 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
546 \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.

```
547 \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.

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

**Right parenthesis.** Also \xspace detects a right parenthesis. For the \xspace support and the following parenthesis check the different parenthesis notations ), \), and \051 are converted to one type \) and before \HyPsd@empty with the meaning of \relax is introduced for \xspace. By redefining to \@empty \HyPsd@empty can easily removed later.

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



```

570      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
571      \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`.

```

572      \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
573      \@ifundefined{xspace}{%
574      }{%
575      \let\HyPsd@xspace\relax
576      \expandafter\HyPsd@Subst\expandafter
577      {\HyPsd@XSPACE}\HyPsd@xspace#1%
578      \let\HyPsd@xspace\HyPsd@doxspace
579      }%
580      \xdef#1{#1\HyPsd@empty}%

```

**Ligatures.**  $\TeX$  forms ligatures in its stomach, but the PDF strings are treated only by  $\TeX$ 's mouth. The `PDFDocEncoding` contains some ligatures, but the current version 3 of the `AcrobatReader` lacks the `fi` and `fl` glyphs, and the Linux version lacks the `emdash` and `endash` glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the `AcrobatReader` is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an `\HyPsd@empty`. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package `xspace` is loaded.

Since newer `AcrobatReader` versions now show the `en-` and `emdash` in a correct way (`AR7/Linux`, `AR8/Linux`), the substitution code for them is enabled starting with version 6.781.

```

581      \HyPsd@Subst{---}\textemdash#1%
582      \HyPsd@Subst{--}\textendash#1%
583 %      \HyPsd@Subst{fi}\textfi#1%
584 %      \HyPsd@Subst{fl}\textfl#1%
585      \HyPsd@Subst{!'}\textexclamdown#1%
586      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

587      \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.

```

588      \ifHy@unicode
589      \HyPsd@StringSubst{\( \textparenleft#1%
590      \HyPsd@Subst(\textparenleft#1%
591      \else

```

```

592      \HyPsd@StringSubst\({\050}#1%
593      \HyPsd@Subst({\050}#1%
594      \HyPsd@StringSubst{\050}{\string\()}#1%
595      \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.

```

596      \ifHy@unicode
597      \edef\HyPsd@SPACEOPTI{\80\040}%
598      \else
599      \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
600      \fi
601      \xdef#1{#1\@empty}%
602      \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.

```

603      \endgroup
604      \begingroup
605      \ifHy@unicode
606      \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

607      \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
608      \@ifundefined{StringEncodingConvertTest}{%
609      }{%
610      \EdefUnescapeString\HyPsd@temp#1%
611      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
612      {utf16be}{pdfdoc}{%
613      \EdefEscapeString\HyPsd@temp\HyPsd@temp
614      \global\let#1\HyPsd@temp
615      \Hy@unicodedefalse
616      }{%}%
617      }%
618      \fi
619      \fi

```

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

```

620      \pdfstringdefPostHook#1%
621      \endgroup
622      }

```

\Hy@pdfstringdef

```

623      \def\Hy@pdfstringdef#1#2{%
624      \pdfstringdef\Hy@gtemp{#2}%
625      \let#1\Hy@gtemp
626      }

```

## 6.3 Encodings

### 6.3.1 Workaround for package linguex

```

627 \@ifpackageloaded{linguex}{%
628   \let\HyLinguex@OrgB\b
629   \let\HyLinguex@OrgC\c
630   \let\HyLinguex@OrgD\d
631   \def\HyLinguex@Restore{%
632     \let\b\HyLinguex@OrgB
633     \let\c\HyLinguex@OrgC
634     \let\d\HyLinguex@OrgD
635   }%
636   \AtEndOfPackage{%
637     \pdfstringdefDisableCommands{%
638       \@ifundefined{oldb}{-}{\let\b\oldb}%
639       \@ifundefined{oldc}{-}{\let\c\oldc}%
640       \@ifundefined{oldd}{-}{\let\d\oldd}%
641     }%
642   }%
643 }{%
644   \let\HyLinguex@Restore\relax
645 }%
```

### 6.3.2 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.

```

646 \@ifundefined{T@PD1}{%
647   \input{pd1enc.def}%
648   \HyLinguex@Restore
649 }{}
650 \DeclareFontFamily{PD1}{pdf}{}
651 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
652 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

### 6.3.3 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.

```

653 \def\HyPsd@InitUnicode{%
654   \@ifundefined{T@PU}{%
655     \input{puenc.def}%
656     \HyLinguex@Restore
657   }{}%
658   \DeclareFontFamily{PU}{pdf}{}%
659   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
660   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
661   \let\HyPsd@InitUnicode\relax
```

662 }

## 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.

```
663 \def\texorpdfstring{%
664   \ifHy@pdfstring
665     \expandafter\@secondoftwo
666   \else
667     \expandafter\@firstoftwo
668   \fi
669 }
```

### 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`.

```
670 \@ifundefined{pdfstringdefPreHook}{%
671   \let\pdfstringdefPreHook\@empty
672 }{}
673 \@ifundefined{pdfstringdefPostHook}{%
674   \let\pdfstringdefPostHook\@gobble
675 }{}
```

`\pdfstringdefDisableCommands` In `\pdfstringdefPreHook` the user can add code that is executed before the string, that have to be converted by `\pdfstringdef`, is expanded. So replacements for problematic macros can be given. The code in `\pdfstringdefPreHook` should not be replaced perhaps by an `\renewcommand`, because a previous meaning gets lost.

Macro `\pdfstringdefDisableCommands` avoids this, because it reuses the old meaning of the hook and appends the new code to `\pdfstringdefPreHook`, e.g.:

```
\pdfstringdefDisableCommands{%
  \let~\textasciitilde
  \def\url{\pdfstringdefWarn\url}%
  \let\textcolor\@gobble
}%
```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful  $\LaTeX$  commands like `\@gobble` or `\@firstofone`.

```
676 \def\pdfstringdefDisableCommands{%
677   \begingroup
678     \makeatletter
679     \HyPsd@DisableCommands
680 }
```

`\HyPsd@DisableCommands`

```
681 \long\def\HyPsd@DisableCommands#1{%
682   \toks0=\expandafter{\pdfstringdefPreHook}%
683   \toks1={#1}%
684   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
```

```

685 \endgroup
686 }

```

`\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`.

```

687 \def\pdfstringdefWarn#1{%
688   \expandafter\noexpand\csname\<>-string#1\endcsname
689 }

```

## 6.5 Help macros for expansion

### 6.5.1 Babel languages

```

690 \newif\ifHy@next

  Nothing to do for english.
691 \@ifundefined{danish@sh@"@sel}{-}{%
692   \def\HyPsd@babel@danish{%
693     \declare@shorthand{danish}{-}{-}%
694     \declare@shorthand{danish}{-}{-}%
695   }%
696 }
697 \@ifundefined{dutch@sh@"@sel}{-}{%
698   \def\HyPsd@babel@dutch{%
699     \declare@shorthand{dutch}{-}{-}%
700     \declare@shorthand{dutch}{-}{-}%
701   }%
702 }
703 \@ifundefined{finnish@sh@"@sel}{-}{%
704   \def\HyPsd@babel@finnish{%
705     \declare@shorthand{finnish}{-}{-}%
706   }%
707 }
708 \@ifundefined{french@sh@:@sel}{-}{%
709   \def\HyPsd@babel@frenchb{%
710     \def\guill@spacing{ }%
711   }%
712 }
713 \@ifundefined{german@sh@"@sel}{-}{%
714   \def\HyPsd@babel@german{%
715     \declare@shorthand{german}{f}{f}%
716     \declare@shorthand{german}{-}{-}%
717     \declare@shorthand{german}{-}{-}%
718   }%
719 }
720 \@ifundefined{macedonian@sh@"@sel}{-}{%
721   \def\HyPsd@babel@macedonian{%
722     \declare@shorthand{macedonian}{-}{-}%
723     \declare@shorthand{macedonian}{-}{-}%
724   }%
725 }{}

```

```

726 \@ifundefined{ngerman@sh@"@sel}{-}{%
727   \def\HyPsd@babel@ngerman{%
728     \declare@shorthand{ngerman}{"}{|}{}%
729     \declare@shorthand{ngerman}{"}{~}{-}%
730   }%
731 }
732 \@ifundefined{portuges@sh@"@sel}{-}{%
733   \def\HyPsd@babel@portuges{%
734     \declare@shorthand{portuges}{"}{|}{}%
735   }%
736 }
737 \@ifundefined{russian@sh@"@sel}{-}{%
738   \def\HyPsd@babel@russian{%
739     \declare@shorthand{russian}{"}{|}{}%
740     \declare@shorthand{russian}{"}{~}{-}%
741   }%
742 }
743 \@ifundefined{slovene@sh@"@sel}{-}{%
744   \def\HyPsd@babel@slovene{%
745     \declare@shorthand{slovene}{"}{|}{}%
746   }%
747 }

```

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

```

748 \@ifundefined{spanish@sh@>@sel}{-}{%
749   \def\HyPsd@babel@spanish{%
750     \declare@shorthand{spanish}{<<}{\guillemotleft}%
751     \declare@shorthand{spanish}{>>}{\guillemotright}%
752     \declare@shorthand{spanish}{"}{=}{-}%
753     \declare@shorthand{spanish}{"}{~}{-}%
754     \declare@shorthand{spanish}{"}{!}{\textexclamdown}%
755     \declare@shorthand{spanish}{"}{?}{\textquestiondown}%
756   }%
757 }
758 \@ifundefined{swedish@sh@"@sel}{-}{%
759   \def\HyPsd@babel@swedish{%
760     \declare@shorthand{swedish}{"}{|}{}%
761     \declare@shorthand{swedish}{"}{~}{-}%
762   }%
763 }
764 \@ifundefined{ukrainian@sh@"@sel}{-}{%
765   \def\HyPsd@babel@ukrainian{%
766     \declare@shorthand{ukrainian}{"}{|}{}%
767     \declare@shorthand{ukrainian}{"}{~}{-}%
768   }%
769 }
770 \@ifundefined{usorbian@sh@"@sel}{-}{%
771   \def\HyPsd@babel@usorbian{%
772     \declare@shorthand{usorbian}{"}{f}{f}%
773     \declare@shorthand{usorbian}{"}{|}{}%
774   }%
775 }
776 \@ifundefined{greek@sh@\string~@sel}{-}{%
777   \let\HyPsd@GreekPatch\empty
778 }{%
779   \def\HyPsd@GreekPatch{%
780     \let\greeknumeral\HyPsd@greeknumeral
781     \let\Greeknnumeral\HyPsd@greeknumeral

```

```

782 }%
783 }
784 \def\HyPsd@greeknumeral#1{%
785   \HyPsd@GreekNum\@firstoftwo{#1}%
786 }
787 \def\HyPsd@Greeknatural#1{%
788   \HyPsd@GreekNum\@secondoftwo{#1}%
789 }
790 \def\HyPsd@GreekNum#1#2{%
791   \ifHy@unicode
792     \ifnum#2<\@ne
793       \@arabic{#2}%
794     \else
795       \ifnum#2<1000000 %
796         \HyPsd@@GreekNum#1{#2}%
797       \else
798         \@arabic{#2}%
799       \fi
800     \fi
801   \else
802     \@arabic{#2}%
803   \fi
804 }
805 \def\HyPsd@@GreekNum#1#2{%
806   \ifnum#2<\@m
807     \ifnum#2<10 %
808       \expandafter\HyPsd@GreekNumI
809       \expandafter\@gobble\expandafter#1\number#2%
810     \else
811       \ifnum#2<100 %
812         \expandafter\HyPsd@GreekNumII
813         \expandafter\@gobble\expandafter#1\number#2%
814       \else
815         \expandafter\HyPsd@GreekNumIII
816         \expandafter\@gobble\expandafter#1\number#2%
817       \fi
818     \fi
819   \ifnum#2>\z@
820     \textnumeralsigngreek
821   \fi
822 \else
823   \ifnum#2<\@M
824     \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
825   \else
826     \ifnum#2<100000 %
827       \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
828     \else
829       \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
830     \fi
831   \fi
832 \fi
833 }
834 \def\HyPsd@GreekNumI#1#2#3{%
835   #1{%
836     \ifnum#3>\z@
837       \textnumeralsignlowergreek
838     \fi

```

```

839 }%
840 \expandafter#2%
841 \ifcase#3 %
842   {}{}%
843 \or\textalpha\textAlpha
844 \or\textbeta\textBeta
845 \or\textgamma\textGamma
846 \or\textdelta\textDelta
847 \or\textepsilon\textEpsilon
848 \or\textstigmagreek\textStigmagreek
849 \or\textzeta\textZeta
850 \or\texteta\textEta
851 \or\texttheta\textTheta
852 \else
853   {}{}%
854 \fi
855 }
856 \def\HyPsd@GreekNumII#1#2#3#4{%
857   #1{%
858     \ifnum#3>\z@
859       \textnumeralsignlowergreek
860       \fi
861   }%
862   \expandafter#2%
863   \ifcase#3 %
864     {}{}%
865 \or\textiota\textIota
866 \or\textkappa\textKappa
867 \or\textlambda\textLambda
868 \or\textmu\textMu
869 \or\textnu\textNu
870 \or\textxi\textXi
871 \or\textomicron\textOmicron
872 \or\textpi\textPi
873 \or\textkoppagreek\textKoppagreek
874 \else
875   {}{}%
876 \fi
877 \HyPsd@GreekNumI#1#2#4%
878 }
879 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
880   #1{%
881     \ifnum#3>\z@
882       \textnumeralsignlowergreek
883       \fi
884   }%
885   \expandafter#2%
886   \ifcase#3 %
887     {}{}%
888 \or\textrho\textRho
889 \or\textsigma\textSigma
890 \or\texttau\textTau
891 \or\textupsilon\textUpsilon
892 \or\textphi\textPhi
893 \or\textchi\textChi
894 \or\textpsi\textPsi
895 \or\textomega\textOmega

```



```

896 \or\textsampigreek\textSampigreek
897 \else
898   {}{}%
899 \fi
900 \HyPsd@GreekNumII#1#2#4#5%
901 }
902 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
903   \HyPsd@GreekNumI\@firstofone#1#2%
904   \HyPsd@@GreekNum#1{#3#4#5}%
905 }
906 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
907   \HyPsd@GreekNumII\@firstofone#1#2#3%
908   \HyPsd@@GreekNum#1{#4#5#6}%
909 }
910 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
911   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
912   \HyPsd@@GreekNum#1{#5#6#7}%
913 }

```

## 6.5.2 CJK bookmarks

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

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

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

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

```

914 \begingroup
915   \catcode"7F=\active
916   \toks@{%
917     \let\CJK@ignorespaces\empty
918     \def\CJK@char#1{\@gobbletwo}%
919     \let\CJK@charx\@gobblefour
920     \let\CJK@punctchar\@gobblefour
921     \def\CJK@punctcharx#1{\@gobblefour}%
922     \catcode"7F=\active
923     \def^^7f#1^^7f#2^^7f{%
924       \string #1\HyPsd@DecimalToOctal{#2}%
925     }%
926     % ... ?
927     \ifHy@unicode
928       \def\Hy@cjkpu{\80}%
929     \else
930       \let\Hy@cjkpu\@empty
931     \fi
932     \HyPsd@CJKActiveChars
933   }%
934   \count@=127 %
935   \@whilenum\count@<255 \do{%
936     \advance\count@ by 1 %
937     \lccode'\~= \count@
938     \lowercase{%
939       \toks@\expandafter{\the\toks@ ~}%
940     }%

```

```

941 }%
942 \toks@\expandafter{\the\toks@ !}%
943 \xdef\HyPsd@CJKhook{\the\toks@}%
944 \endgroup

```

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

```

945 \def\HyPsd@CJKActiveChars#1{%
946 \ifx#1!%
947 \let\HyPsd@CJKActiveChars\relax
948 \else
949 \edef#1{\noexpand\Hy@cjkpu\string#1}%
950 \fi
951 \HyPsd@CJKActiveChars
952 }

```

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

```

953 \def\HyPsd@DecimalToOctal#1{%
954 \ifcase #1 %
955 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
956 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
957 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
958 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
959 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
960 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
961 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
962 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
963 \or @\or A\or B\or C\or D\or E\or F\or G%
964 \or H\or I\or J\or K\or L\or M\or N\or O%
965 \or P\or Q\or R\or S\or T\or U\or V\or W%
966 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
967 \or \140\or a\or b\or c\or d\or e\or f\or g%
968 \or h\or i\or j\or k\or l\or m\or n\or o%
969 \or p\or q\or r\or s\or t\or u\or v\or w%
970 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
971 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
972 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
973 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
974 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
975 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
976 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
977 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
978 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
979 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
980 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
981 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
982 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
983 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
984 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
985 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
986 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
987 \fi
988 }

```

### 6.5.3 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with  $\text{\LaTeX}$  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\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname ?\string#1\endcsname\relax
        \expandafter\def\csname ?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

989 \def\HyPsd@inmathwarn#1#2{%
990   \ifx#2\expandafter
991     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
992       \HyPsd@GLYPHERR
993       \expandafter\@gobble\string#1%
994       >%
995       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
996     \else
997       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
998     \fi
999   \else
1000     \expandafter#2%
1001   \fi
1002 }
1003 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
```

```
1004 \def\HyPsd@EndWithElse#1\else{\else}
```

\HyPsd@add@accent

```
1005 \def\HyPsd@add@accent#1#2{%
1006   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1007   #2%
1008 }%
```

#### 6.5.4 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.

```
1009 \def\HyPsd@LetUnexpandableSpace#1{%
1010   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1011 }
```

\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.

```
1012 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

#### 6.5.5 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.

```
1013 \edef\HyPsd@XSPACE{\string#\string X}
1014 \edef\HyPsd@ITALCORR{\string#\string I}
1015 \edef\HyPsd@GLYPHERR{\string#\string G}
```

#### 6.5.6 \hspace fix

\HyPsd@hspace

```
1016 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1017 \def\HyPsd@@hspace#1*#2\END{%
1018   \ifx\#2\%
1019     \HyPsd@hspacetest{#1}%
1020   \else
1021     \expandafter\HyPsd@hspacetest
1022   \fi
1023 }
```

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

```
1024 \def\HyPsd@hspacetest#1{\ifdim#1>z@\space\fi}
```

### 6.5.7 Fix for AMS classes

```

1025 \@ifundefined{tocsection}{%
1026   \let\HyPsd@AMSclassfix\relax
1027 }{%
1028   \def\HyPsd@AMSclassfix{%
1029     \let\tocpart\HyPsd@tocsection
1030     \let\tocchapter\HyPsd@tocsection
1031     \let\tocappendix\HyPsd@tocsection
1032     \let\tocsection\HyPsd@tocsection
1033     \let\tocsubsection\HyPsd@tocsection
1034     \let\tocsubsubsection\HyPsd@tocsection
1035     \let\tocparagraph\HyPsd@tocsection
1036   }%
1037   \def\HyPsd@tocsection#1#2#3{%
1038     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1039     #3%
1040   }%
1041 }

```

### 6.5.8 Reference commands

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

```

1042 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1043 \def\HyPsd@@ref#1*#2\END{%
1044   \ifx\#2\%
1045     \HyPsd@@@ref{#1}%
1046   \else
1047     \expandafter\HyPsd@@@ref
1048   \fi
1049 }%

```

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

```

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

```

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

```

1058 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1059 \def\HyPsd@@pageref#1*#2\END{%
1060   \ifx\#2\%
1061     \HyPsd@@@pageref{#1}%
1062   \else
1063     \expandafter\HyPsd@@@pageref
1064   \fi
1065 }

```

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

```

1066 \def\HyPsd@@pageref#1{%
1067   \expandafter\ifx\csname r@#1\endcsname\relax
1068     ??%
1069   \else
1070     \expandafter\expandafter\expandafter\expandafter
1071     \expandafter\expandafter\expandafter\@car
1072     \expandafter\expandafter\expandafter\@gobble
1073     \csname r@#1\endcsname{}\@nil
1074   \fi
1075 }

```

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

```

1076 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1077 \def\HyPsd@@nameref#1*#2\END{%
1078   \ifx\#2\%
1079     \HyPsd@@nameref{#1}%
1080   \else
1081     \expandafter\HyPsd@@nameref
1082   \fi
1083 }

```

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

```

1084 \def\HyPsd@@@nameref#1{%
1085   \expandafter\ifx\csname r@#1\endcsname\relax
1086     ??%
1087   \else
1088     \expandafter\expandafter\expandafter\expandafter
1089     \expandafter\expandafter\expandafter\@car
1090     \expandafter\expandafter\expandafter\@gobbletwo
1091     \csname r@#1\endcsname{}\@nil
1092   \fi
1093 }

```

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

```

1094 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1095 \def\HyPsd@@autoref#1*#2\END{%
1096   \ifx\#2\%
1097     \HyPsd@@autoref{#1}%
1098   \else
1099     \expandafter\HyPsd@@autoref
1100   \fi
1101 }

```

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

```

1102 \def\HyPsd@@@autoref#1{%
1103   \expandafter\ifx\csname r@#1\endcsname\relax
1104     ??%
1105   \else
1106     \expandafter\expandafter\expandafter\HyPsd@autorefname

```

```

1107      \csname r@#1\endcsname{}{}{}{} \@nil
1108      \expandafter\expandafter\expandafter
1109      \@car\csname r@#1\endcsname \@nil
1110      \fi
1111 }

```

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

```

1112 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1113   \ifx\#4\%
1114   \else
1115     \HyPsd@autorefname#4.\@nil
1116   \fi
1117 }

```

`\HyPsd@@autorefname`

```

1118 \def\HyPsd@@autorefname#1.#2\@nil{%
1119   \@ifundefined{#1autorefname}{%
1120     \@ifundefined{#1name}{%
1121       }{%
1122         \csname#1name\endcsname\space
1123       }%
1124     }{%
1125       \csname#1autorefname\endcsname\space
1126     }%
1127 }

```

### 6.5.9 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1128 \begingroup
1129 \def\x#1#2{%
1130 \endgroup
1131 \let#1\def
1132 \def\HyPsd@DefCommand##1##2##3{%
1133 #1%
1134 \expandafter\noexpand
1135 \csname\expandafter\@gobble\string##1\@empty\endcsname
1136 \@gobble
1137 }%
1138 \let#2\let
1139 \def\HyPsd@@LetCommand##1{%
1140 \expandafter\ifx\csname##1\expandafter\endcsname
1141 \csname iftrue\endcsname
1142 \pdfstringdefWarn\let
1143 \expandafter\@gobble
1144 \else
1145 \expandafter\ifx\csname##1\expandafter\endcsname
1146 \csname iffalse\endcsname
1147 \pdfstringdefWarn\let
1148 \expandafter\expandafter\expandafter\@gobble
1149 \else
1150 #2%
1151 \expandafter\noexpand
1152 \csname##1\expandafter\expandafter\expandafter\endcsname
1153 \fi
1154 \fi
1155 }%
1156 }%
1157 \expandafter\x\csname <def>-command\expandafter\endcsname
1158 \csname <let>-command\endcsname
1159 \def\HyPsd@LetCommand#1{%
1160 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1161 \expandafter\expandafter\expandafter{%
1162 \expandafter\@gobble\string#1\@empty
1163 }%
1164 }

```

### 6.5.10 \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.

```

1165 \def\HyPsd@ifnextchar{%
1166 \pdfstringdefWarn\@ifnextchar
1167 \expandafter\@gobbletwo\@gobble
1168 }

```

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

```

1169 \def\HyPsd@new@ifnextchar{%
1170 \pdfstringdefWarn\new@ifnextchar
1171 \expandafter\@gobbletwo\@gobble
1172 }

```



### 6.5.11 \@protected@testopt@ifnextchar

`\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`.

```

1173 \def\HyPsd@protected@testopt#1{%
1174   \pdfstringdefWarn#1%
1175   \@gobbletwo
1176 }

```

## 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:

```

1177 \def\HyPsd@Warning#1{%
1178   \begingroup
1179   \def\space{ }%
1180   \Hy@Warning{#1}%
1181   \endgroup
1182 }

```

### 6.6.2 Protecting spaces

```

1183 \RequirePackage{etexcmds}[2007/09/09]
1184 \ifetex@unexpanded
1185   \expandafter\@secondoftwo
1186 \else
1187   \expandafter\@firstoftwo
1188 \fi
1189 {%

```

`\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`.

```

1190   \def\HyPsd@ProtectSpaces#1{%
1191     \iftrue
1192       \expandafter\HyPsd@@ProtectSpacesFi
1193       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1194     \fi
1195   }%

```

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

```

1196   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1197     \fi
1198     \ifx\scrollmode#2\scrollmode
1199       \HyPsd@RemoveMask#1\HyPsd@End#3%
1200     \else
1201       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1202       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1203     \fi
1204   }%

```

### 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.

```
1205 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1206   \toks@{\expandafter{#1}}%
1207   \xdef#2{\the\toks@}%
1208 }%

1209 }{%
1210   \let\HyPsd@fi\fi
1211   \def\HyPsd@ProtectSpaces#1{%
1212     \xdef#1{%
1213       \iftrue
1214         \expandafter\HyPsd@@ProtectSpacesFi
1215         \expandafter|\expandafter\@empty#1| %
1216       \HyPsd@fi
1217     }%
1218     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1219   }%
1220   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1221     \fi
1222     \etex@unexpanded{#1}%
1223     \ifx\scrollmode#2\scrollmode
1224     \else
1225       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1226     \HyPsd@fi
1227   }%
1228   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1229     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1230   }%
1231 }
```

### 6.6.3 Remove grouping braces

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

```
1232 \def\HyPsd@RemoveBraces#1{%
1233   \ifx\scrollmode#1\scrollmode
1234   \else
1235     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1236   \fi
1237 }
```

`\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`.

```
1238 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1239   \fi
1240   \def\Hy@temp@A{#1#2}%
1241   \def\Hy@temp@B{#3}%
```

```

1242 \ifx\Hy@temp@A\Hy@temp@B
1243   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1244     \HyPsd@String#1%
1245   }%
1246   \ifx\scrollmode#2\scrollmode
1247   \else
1248     \Hy@ReturnAfterFiFiEnd{%
1249       \HyPsd@RemoveBraces{#2}%
1250     }%
1251   \fi
1252 \else
1253   \def\Hy@temp@A{#1}%
1254   \HyPsd@AppendItalcorr\HyPsd@String
1255   \ifx\Hy@temp@A\@empty
1256     \Hy@ReturnAfterElseFiFiEnd{%
1257       \HyPsd@RemoveBraces{#2}%
1258     }%
1259   \else
1260     \HyPsd@ProtectSpaces\Hy@temp@A
1261     \HyPsd@AppendItalcorr\Hy@temp@A
1262     \Hy@ReturnAfterFiFiEnd{%
1263       \expandafter\HyPsd@RemoveBraces\expandafter
1264       {\Hy@temp@A#2}%
1265     }%
1266   \fi
1267 \fi
1268 \Hy@ReturnEnd
1269 }

```

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

```

1270 \def\HyPsd@AppendItalcorr#1{%
1271   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1272 }
1273 \def\HyPsd@@AppendItalcorr#1#2{%
1274   \expandafter\def\expandafter#2\expandafter{#2#1}%
1275 }

```

#### 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).

```

1276 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1277   \global\let\HyPsd@Rest\relax
1278   \ifcat\relax\noexpand#1\relax
1279     \ifx#1\protect
1280     \else

```

```

1281 \ifx#1\penalty
1282 \setbox\z@=\hbox{%
1283 \afterassignment\HyPsd@AfterCountRemove
1284 \count@=#2\HyPsd@End
1285 }%
1286 \else
1287 \ifx#1\kern
1288 \setbox\z@=\hbox{%
1289 \afterassignment\HyPsd@AfterDimenRemove
1290 \dimen@=#2\HyPsd@End
1291 }%
1292 \else
1293 \ifx#1\hskip
1294 \setbox\z@=\hbox{%
1295 \afterassignment\HyPsd@AfterSkipRemove
1296 \skip@=#2\HyPsd@End
1297 }%
1298 \else
1299 \HyPsd@CatcodeWarning{#1}%
1300 \fi
1301 \fi
1302 \fi
1303 \fi
1304 \else
1305 \ifcat#1A% letter
1306 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1307 \HyPsd@String#1%
1308 }%
1309 \else
1310 \ifcat#1 % SPACE
1311 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1312 \HyPsd@String\HyPsd@SPACEOPTI
1313 }%
1314 \else
1315 \ifcat$#1%
1316 \HyPsd@CatcodeWarning{math shift}%
1317 \else
1318 \ifcat&#1%
1319 \HyPsd@CatcodeWarning{alignment tab}%
1320 \else
1321 \ifcat^#1%
1322 \HyPsd@CatcodeWarning{superscript}%
1323 \else
1324 \ifcat_#1%
1325 \HyPsd@CatcodeWarning{subscript}%
1326 \else
1327 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1328 \HyPsd@String#1%
1329 }%
1330 \fi
1331 \fi
1332 \fi
1333 \fi
1334 \fi
1335 \fi
1336 \fi
1337 \ifx\HyPsd@Rest\relax

```

```

1338     \ifx\scrollmode#2\scrollmode
1339     \else
1340         \Hy@ReturnAfterFiFiEnd{%
1341             \HyPsd@CheckCatcodes#2\HyPsd@End
1342         }%
1343     \fi
1344 \else
1345     \ifx\HyPsd@Rest\@empty
1346     \else
1347         \Hy@ReturnAfterFiFiEnd{%
1348             \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1349         }%
1350     \fi
1351 \fi
1352 \Hy@ReturnEnd
1353 }

```

### Remove counts, dimens, skips.

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

```

1354 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1355     \gdef\HyPsd@Rest{#1}%
1356 }

```

`\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.

```

1357 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1358     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>\fi>1ex %
1359         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1360         \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1361     \else
1362         \ifdim\dimen@=\z@
1363         \else
1364             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1365         \fi
1366         \gdef\HyPsd@Rest{#1}%
1367     \fi
1368 }

```

`\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).

```

1369 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1370     \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>1ex %
1371         \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1372         \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1373     \else
1374         \ifdim\skip@=\z@
1375         \else
1376             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1377         \fi
1378         \gdef\HyPsd@Rest{#1}%
1379     \fi
1380 }

```

### Catcode warnings.

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

```
1381 \def\HyPsd@CatcodeWarning#1{%
1382   \HyPsd@Warning{%
1383     Token not allowed in a PDF string (%)
1384     \ifHy@unicode
1385       Unicode%
1386     \else
1387       PDFDocEncoding%
1388     \fi
1389   }:%
1390   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1391 }%
1392 }
1393 \begingroup
1394   \catcode'\|=0 %
1395   \catcode'\|=12 %
1396   \gdef\HyPsd@RemoveCmdPrefix#1{%
1397     \expandafter\HyPsd@@RemoveCmdPrefix
1398     \string#1|@empty\<>-|@empty|@empty
1399   }%
1400   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1401 \endgroup
```

\HyPsd@RemoveSpaceWarning

```
1402 \def\HyPsd@RemoveSpaceWarning#1{%
1403   \HyPsd@Warning{%
1404     Token not allowed in a PDF string (%)
1405     \ifHy@unicode
1406       Unicode%
1407     \else
1408       PDFDocEncoding%
1409     \fi
1410   }:%
1411   \MessageBreak #1\MessageBreak
1412   removed%
1413 }%
1414 }
```

\HyPsd@ReplaceSpaceWarning

```
1415 \def\HyPsd@ReplaceSpaceWarning#1{%
1416   \HyPsd@Warning{%
1417     Token not allowed in a PDF string (%)
1418     \ifHy@unicode
1419       Unicode%
1420     \else
1421       PDFDocEncoding%
1422     \fi
1423   }:%
1424   \MessageBreak #1\MessageBreak
1425   replaced by space%
1426 }%
1427 }
```

### 6.6.5 Check for wrong glyphs

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

```
1428 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1429   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1430     \HyPsd@String#1%
1431   }%
1432   \ifx\#2\%
1433   \else
1434     \Hy@ReturnAfterFi{%
1435       \HyPsd@GlyphProcessWarning#2\@empty
1436     }%
1437   \fi
1438 }
1439 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1440   \HyPsd@@GlyphProcessWarning#1++>%
1441   \HyPsd@GlyphProcess#2\@empty
1442 }
1443 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1444   \ifx\#2\%
1445     \HyPsd@Warning{%
1446       Glyph not defined in %
1447       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1448       removing '@backslashchar#1'%
1449     }%
1450   \else
1451     \HyPsd@Warning{%
1452       Composite letter '@backslashchar#1+#2'\MessageBreak
1453       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1454       \MessageBreak
1455       removing '@backslashchar#1'%
1456     }%
1457   \fi
1458 }
```

### 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`.

```
1459 \def\HyPsd@spaceopti#1{ % first space
1460   \ifx\HyPsd@spaceopti#1%
1461     \040%
1462   \else
1463     #1%
1464   \fi
1465 }
```

### 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.

```

1466 \def\HyPsd@Subst#1#2#3{%
1467   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1468     \fi
1469     ##1%
1470     \ifx\scrollmode##2\scrollmode
1471     \else
1472       #2%
1473       \HyPsd@@ReplaceFi##2\END
1474     \fi
1475   }%
1476   \xdef#3{%
1477     \iftrue
1478       \expandafter\HyPsd@@ReplaceFi#3#1\END
1479     \fi
1480   }%
1481 }

```

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

```

1482 \def\HyPsd@StringSubst#1{%
1483   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1484 }

```

### 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.

```

1485 \def\HyPsd@doxspace#1{%
1486   \ifx#1\relax\else
1487     \ifx#1.\else
1488       \ifx#1:\else
1489         \ifx#1,\else
1490           \ifx#1;\else
1491             \ifx#1!\else
1492               \ifx#1?\else
1493                 \ifx#1/\else
1494                   \ifx#1-\else
1495                     \ifx#1'\else
1496                       \HyPsd@SPACEOPTI
1497                     \fi
1498                   \fi
1499                 \fi
1500               \fi
1501             \fi
1502           \fi
1503         \fi
1504       \fi
1505     \fi
1506   \fi
1507   #1%
1508 }%

```

### 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.

```
1509 \begingroup
1510 \catcode'\|=0 %
1511 \catcode'\|=12 %
```

\HyPsd@ConvertToUnicode

```
1512 |gdef|HyPsd@ConvertToUnicode#1{%
1513   |xdef#1{%
1514     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1515   }%
1516   |ifx#1|@empty
1517   |else
1518     |xdef#1{%
1519       \376\377%
1520     #1%
1521   }%
1522   |fi
1523 }%
```

\HyPsd@DoConvert

```
1524 |gdef|HyPsd@DoConvert#1{%
1525   |ifx#1|@empty
1526   |else
1527     |Hy@ReturnAfterFi{%
1528       |ifx#1\%%
1529       \%%
1530     |expandafter|HyPsd@DoEscape
1531   |else
1532     \000#1%
1533     |expandafter|HyPsd@DoConvert
1534   |fi
1535 }%
1536 |fi
1537 }%
```

\HyPsd@DoEscape

```
1538 |gdef|HyPsd@DoEscape#1{%
1539   |ifx#19%
1540   |expandafter|HyPsd@GetTwoBytes
1541   |else
1542     |Hy@ReturnAfterFi{%
1543       |ifx#18%
1544       00%
1545     |expandafter|HyPsd@GetTwoBytes
1546   |else
1547     #1%
1548     |expandafter|HyPsd@GetOneByte
1549   |fi
1550 }%
1551 |fi
1552 }%
```

\HyPsd@GetTwoBytes

```
1553 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1554   #1\#2#3#4%
1555   |HyPsd@DoConvert
1556 }%
```

`\HyPsd@GetOneByte`

```
1557 |gdef|HyPsd@GetOneByte#1#2{%
1558   #1#2%
1559   |HyPsd@DoConvert
1560   }%
1561 |endgroup
```

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

```
1562 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1563   \xdef#4{#4#1#2}%
1564   \HyPsd@@ConvertToUnicode#3\END#4%
1565 }
```

### 6.6.9 Support for UTF-8 input encoding

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

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

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

```
1566 \begingroup\expandafter\expandafter\expandafter\endgroup
1567 \expandafter\ifx\csname numexpr\endcsname\relax
1568   \let\HyPsd@UTFviii\relax
1569 \else
1570   \begingroup
1571     \lccode'\~='^f4\relax
1572     \lowercase{\endgroup
1573       \def\HyPsd@UTFviii{%
1574         \let\UTFviii@two@octets\HyPsd@UTFviii@two
1575         \let\UTFviii@three@octets\HyPsd@UTFviii@three
1576         \let\UTFviii@four@octets\HyPsd@UTFviii@four
1577         \ifx~\HyPsd@UTFviii@ccxliv@undef
1578           \let~\HyPsd@UTFviii@ccxliv@def
1579         \fi
1580         \let\unichar\HyPsd@unichar
1581       }%
1582     }%
1583     \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1584     \edef\HyPsd@UTFviii@ccxliv@def{%
1585       \noexpand\UTFviii@four@octets\string ^f4%
1586     }%
```

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.

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

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

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

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

$$(5)$$

```

1587 \def\HyPsd@UTFviii@two#1#2{%
1588   \expandafter\HyPsd@UTFviii@two
1589   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1590   \number'#1\expandafter|
1591   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1592   \number'#2 \@nil
1593 }%
1594 \def\HyPsd@UTFviii@three#1#2#3#4\@nil{%
1595   \expandafter\8
1596   \number\numexpr #1-48\expandafter\relax
1597   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1598   \number\numexpr #3-8*%
1599   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1600   \number\numexpr #4-8*#3\relax
1601 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1602 \def\HyPsd@UTFviii@three#1#2#3{%
1603   \expandafter\HyPsd@UTFviii@three
1604   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1605   \number'#1\expandafter|
1606   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1607   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1608   \number'#2\expandafter|
1609   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1610   \number'#3 \@nil
1611 }%
1612 \def\HyPsd@UTFviii@four#1#2#3#4#5#6#7\@nil{%
1613   \expandafter\9
1614   \number\numexpr #1-56\expandafter\relax
1615   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1616   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1617   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1618   \number\numexpr #6-16\expandafter\relax
1619   \number\numexpr #7-8*#6\relax
1620 }%

```

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

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

```

1621 \def\HyPsd@UTFviii@four#1#2{%
1622   \expandafter\HyPsd@UTFviii@four\number

```

```

1623 \numexpr-1+(' #1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1624 \expandafter|\number
1625 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
1626 }%
1627 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1628 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1629 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1630 \ifodd#2 %
1631 \number\numexpr(#2-1)/2\relax
1632 \else
1633 \number\numexpr#2/2\relax
1634 \fi
1635 \number\numexpr\ifodd#2 4+\fi
1636 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1637 \933%
1638 \expandafter\HyPsd@@UTFviii@four\number
1639 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
1640 }%
1641 \def\HyPsd@@UTFviii@four#1|#2{%
1642 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1643 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1644 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1645 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1646 }%

```

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

```

1647 \def\HyPsd@unichar#1{%
1648 \ifHy@unicode
1649 \ifnum#1>"10FFFF %
1650 \HyPsd@UnicodeReplacementCharacter % illegal
1651 \else
1652 \ifnum#1>"FFFF %

```

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

```

1653 \expandafter\HyPsd@unichar\expandafter{%
1654 \number\numexpr 55296+%
1655 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1656 \relax\relax\relax
1657 }%

```

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

```

1658 \expandafter\HyPsd@unichar\expandafter{%
1659 \number\numexpr#1-9216%
1660 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1661 \relax\relax\relax
1662 }%
1663 \else
1664 \ifnum#1>"7FF %
1665 \9%
1666 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1667 \number
1668 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1669 }%
1670 \else
1671 \8%
1672 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1673 \fi

```

```

1674         \expandafter\HyPsd@unichar@second@byte\expandafter{%
1675         \number
1676         \numexpr#1-256*\number
1677         \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1678     }%
1679     \fi
1680 \fi
1681 \else
1682     .% unsupported (Unicode -> PDF Doc Encoding)
1683 \fi
1684 }%
1685 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1686 \def\HyPsd@unichar@first@byte#1{%
1687     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1688     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1689     \number
1690     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1691     \relax\relax\relax
1692 }%
1693 }%
1694 \def\HyPsd@unichar@second@byte#1{%
1695     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1696     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1697     \number
1698     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1699     \relax\relax\relax
1700 }%
1701 }%
1702 \def\HyPsd@unichar@octtwo#1{%
1703     \number\dimexpr.125\dimexpr#1sp\relax\relax
1704     \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1705     \relax\relax\relax
1706 }%
1707 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

1708 \@ifclassloaded{memoir}{%
1709     \AtEndOfPackage{\RequirePackage{memhfixc}}%
1710 }{}

```

### 7.2 Package subfigure

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

```

1711 \@ifpackageloaded{subfigure}{%
1712     \@ifundefined{sub@label}{%
1713         \Hy@hypertextnamesfalse
1714     }{%
1715         \renewcommand*{\sub@label}[1]{%
1716             \@bsphack
1717             \subfig@oldlabel{#1}%
1718             \if@filesw
1719                 \begingroup
1720                 \edef\@currentlabstr{%
1721                     \expandafter\strip@prefix\meaning\@currentlabelname

```

```

1722      }%
1723      \protected@write\@auxout{}\{
1724      \string\newlabel{sub@#1}\{
1725      {\@nameuse{\@thesub\@capttype}}\{
1726      {\thepage}\{
1727      {\%
1728      \expandafter\strip@period\@currentlabstr
1729      \relax.\relax\@@@%
1730      }%
1731      {\@currentHref}%
1732      }\}
1733      }%
1734      }%
1735      \endgroup
1736      \fi
1737      \@esphack
1738      }%
1739      \@ifpackagelater{subfigure}{2002/03/26}\{
1740      \providecommand*\toclevel@subfigure{1}%
1741      \providecommand*\toclevel@subtable{1}%
1742      }%
1743      }%
1744      }{}

```

### 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:

```

1745 \ifundefined{XR@addURL}\{
1746 }\{

```

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.

```

1747 \def\XR@addURL#1{\XR@dURL#1\{\}\{\}\{\}\}%
1748 \def\XR@dURL#1#2#3#4#5\{\%
1749   {\#1}\{\#2}\%
1750   \if!\#4!\%
1751   \else
1752     {\#3}\{\#4}\{\XR@URL}\%
1753   \fi
1754   }%
1755 }

```

```

1756 \def\Hy@true{true}
1757 \def\Hy@false{false}

```

Providing dummy definitions.

```

1758 \let\literalps@out\@gobble
1759 \newcommand\pdfbookmark[3]{}
1760 \def\Acrobatmenu#1#2{\leavevmode#2}
1761 \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

```
1762 \let\HyperRaiseLinkHook\@empty
```

```
1763 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
1764 \def\Hy@raisedlink#1{%
```

```
1765   \ifvmode
```

```
1766     #1%
```

```
1767   \else
```

```
1768     \penalty\@M
```

```
1769     \smash{%
```

```
1770       \begingroup
```

```
1771         \let\HyperRaiseLinkLength\@tempdima
```

```
1772         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
```

```
1773         \HyperRaiseLinkHook
```

```
1774         \expandafter\endgroup
```

```
1775         \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
```

```
1776     }%
```

```
1777   \fi
```

```
1778 }
```

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

`\Hy@RestoreLastskip`

```
1779 \def\Hy@SaveLastskip{%
```

```
1780   \let\Hy@RestoreLastskip\relax
```

```
1781   \ifvmode
```

```
1782     \ifdim\lastskip=\z@
```

```
1783       \let\Hy@RestoreLastskip\nobreak
```

```
1784     \else
```

```
1785       \begingroup
```

```
1786         \skip@=-\lastskip
```

```
1787         \edef\x{%
```

```
1788           \endgroup
```

```
1789           \def\noexpand\Hy@RestoreLastskip{%
```

```
1790             \noexpand\ifvmode
```

```
1791               \noexpand\nobreak
```

```
1792               \vskip\the\skip@
```

```
1793               \vskip\the\lastskip\relax
```

```
1794             \noexpand\fi
```

```
1795           }%
```

```
1796         }%
```

```
1797       \x
```

```
1798     \fi
```

```
1799   \else
```

```
1800     \ifhmode
```

```
1801       \ifdim\lastskip=\z@
```

```
1802         \let\Hy@RestoreLastskip\nobreak
```

```
1803       \else
```

```
1804         \begingroup
```

```
1805           \skip@=-\lastskip
```

```
1806           \edef\x{%
```

```

1807         \endgroup
1808         \def\noexpand\Hy@RestoreLastskip{%
1809             \noexpand\ifhmode
1810             \noexpand\nobreak
1811             \hskip\the\skip@
1812             \hskip\the\lastskip\relax
1813             \noexpand\fi
1814         }%
1815     }%
1816     \x
1817     \fi
1818     \fi
1819     \fi
1820 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

1821 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1822 \def\Hy@@boolkey[#1]#2#3{%
1823     \lowercase{\def\Hy@tempa{#3}}%
1824     \ifx\Hy@tempa\@empty
1825         \let\Hy@tempa\Hy@true
1826     \fi
1827     \ifx\Hy@tempa\Hy@true
1828     \else
1829         \ifx\Hy@tempa\Hy@false
1830         \else
1831             \let\Hy@tempa\relax
1832         \fi
1833     \fi
1834     \ifx\Hy@tempa\relax
1835         \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1836     \else
1837         \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1838         \csname Hy@#2\Hy@tempa\endcsname
1839     \fi
1840 }

```

\Hy@WarnOptionValue

```

1841 \def\Hy@WarnOptionValue#1#2#3{%
1842     \Hy@Warning{%
1843         Unexpected value ‘#1’\MessageBreak
1844         of option ‘#2’ instead of\MessageBreak
1845         #3%
1846     }%
1847 }

```

\Hy@DisableOption

```

1848 \def\Hy@DisableOption#1{%
1849     \@ifundefined{KV@Hyp@#1@default}{%
1850         \define@key{Hyp}{#1}%
1851     }{%
1852         \define@key{Hyp}{#1}[]%

```



```

1853 }%
1854 {\Hy@WarnOptionDisabled{#1}}%
1855 }

```

\Hy@WarnOptionDisabled

```

1856 \def\Hy@WarnOptionDisabled#1{%
1857   \Hy@Warning{%
1858     Option ‘#1’ has already been used,\MessageBreak
1859     setting the option has no effect%
1860   }%
1861 }

```

\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.

```

1862 \def\Hy@CheckOptionValue#1#2#3{%
1863   \begingroup
1864   \edef\x{#1}%
1865   \@onelevel@sanitize\x
1866   \let\y=y%
1867   \def\do##1##2{%
1868     \def\z{##1}%
1869     \@onelevel@sanitize\z
1870     \ifx\x\z
1871       \let\y=n%
1872       \let\do\gobbletwo
1873     \fi
1874   }%
1875   #3%
1876   \ifx\y y%
1877     \def\do##1##2{%
1878       * ‘##1’%
1879       \ifx\\##2\\else\space(##2)\fi
1880       \MessageBreak
1881     }%
1882     \Hy@Warning{%
1883       Values of option ‘#2’:\MessageBreak
1884       #3%
1885       * An empty value disables the option.\MessageBreak
1886       Unknown value ‘\x’%
1887     }%
1888   \fi
1889   \endgroup
1890 }

```

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

```

1891 \def\Hy@DefNameKey#1{%
1892   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1893 }

```

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

```

1894 \def\Hy@@DefNameKey#1#2#3{%
1895   \define@key{Hyp}{#2}{%

```

```

1896 \edef#1{##1}%
1897 \ifx#1\@empty
1898 \else
1899 \Hy@CheckOptionValue{##1}{#2}{#3}%
1900 \fi
1901 }%
1902 \let#1\@empty
1903 }

```

\Hy@UseNameKey

```

1904 \def\Hy@UseNameKey#1#2{%
1905 \ifx#2\@empty
1906 \else
1907 /#1/#2%
1908 \fi
1909 }

```

## 9.2 Defining the options

```

1910 \define@key{Hyp}{implicit}[true]{%
1911 \Hy@boolkey{implicit}{#1}%
1912 }
1913 \define@key{Hyp}{draft}[true]{%
1914 \Hy@boolkey{draft}{#1}%
1915 }
1916 \define@key{Hyp}{final}[true]{%
1917 \Hy@boolkey{final}{#1}%
1918 }
1919 \let\KV@Hyp@nolinks\KV@Hyp@draft
1920 \define@key{Hyp}{a4paper}[true]{%
1921 \def\special@paper{210mm,297mm}%
1922 \def\Hy@pageheight{842}%
1923 }
1924 \define@key{Hyp}{a5paper}[true]{%
1925 \def\special@paper{148mm,210mm}%
1926 \def\Hy@pageheight{595}%
1927 }
1928 \define@key{Hyp}{b5paper}[true]{%
1929 \def\special@paper{176mm,250mm}%
1930 \def\Hy@pageheight{709}%
1931 }
1932 \define@key{Hyp}{letterpaper}[true]{%
1933 \def\special@paper{8.5in,11in}%
1934 \def\Hy@pageheight{792}%
1935 }
1936 \define@key{Hyp}{legalpaper}[true]{%
1937 \def\special@paper{8.5in,14in}%
1938 \def\Hy@pageheight{1008}%
1939 }
1940 \define@key{Hyp}{executivepaper}[true]{%
1941 \def\special@paper{7.25in,10.5in}%
1942 \def\Hy@pageheight{720}%
1943 }
1944 \define@key{Hyp}{setpagesize}[true]{%
1945 \Hy@boolkey{setpagesize}{#1}%
1946 }
1947 \define@key{Hyp}{debug}[true]{%

```

```

1948 \Hy@boolkey{debug}{verbose}{#1}%
1949 }
1950 \define@key{Hyp}{linktocpage}[true]{%
1951 \Hy@boolkey{linktocpage}{#1}%
1952 \ifHy@linktocpage
1953 \let\Hy@linktoc\Hy@linktoc@page
1954 \else
1955 \let\Hy@linktoc\Hy@linktoc@section
1956 \fi
1957 }
1958 \chardef\Hy@linktoc@none=0 %
1959 \chardef\Hy@linktoc@section=1 %
1960 \chardef\Hy@linktoc@page=2 %
1961 \chardef\Hy@linktoc@all=3 %
1962 \ifHy@linktocpage
1963 \let\Hy@linktoc\Hy@linktoc@page
1964 \else
1965 \let\Hy@linktoc\Hy@linktoc@section
1966 \fi
1967 \define@key{Hyp}{linktoc}{%
1968 \@ifundefined{Hy@linktoc@#1}{%
1969 \Hy@Warning{%
1970 Unexpected value ‘#1’ of\MessageBreak
1971 option ‘linktoc’ instead of ‘none’,\MessageBreak
1972 ‘section’, ‘page’ or ‘all’%
1973 }%
1974 }{%
1975 \expandafter\let\expandafter\Hy@linktoc
1976 \csname Hy@linktoc@#1\endcsname
1977 }%
1978 }
1979 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1980 \let\XR@ext\relax
1981 \define@key{Hyp}{verbose}[true]{%
1982 \Hy@boolkey{verbose}{#1}%
1983 }
1984 \define@key{Hyp}{typexml}[true]{%
1985 \Hy@boolkey{typexml}{#1}%
1986 }

```

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.

```

1987 \define@key{Hyp}{raiselinks}[true]{%
1988 \Hy@boolkey{raiselinks}{#1}%
1989 }

```

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

```

1990 \def\Hy@setbreaklinks#1{%
1991 \csname breaklinks#1\endcsname
1992 }
1993 \def\Hy@breaklinks@unsupported{%
1994 \ifx\Hy@setbreaklinks\@gobble
1995 \ifHy@breaklinks
1996 \Hy@WarningNoLine{%
1997 You have enabled option ‘breaklinks’.\MessageBreak
1998 But driver ‘\Hy@driver.def’ does not support this.\MessageBreak

```

```

1999      Expect trouble with the link areas of broken links%
2000      }%
2001      \fi
2002 \fi
2003 }

2004 \define@key{Hyp}{breaklinks}[true]{%
2005   \Hy@boolkey{breaklinks}{#1}%
2006   \let\Hy@setbreaklinks\@gobble
2007 }

```

Determines whether an automatic anchor is put on each page

```

2008 \define@key{Hyp}{pageanchor}[true]{%
2009   \Hy@boolkey{pageanchor}{#1}%
2010 }

```

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.

```

2011 \define@key{Hyp}{plainpages}[true]{%
2012   \Hy@boolkey{plainpages}{#1}%
2013 }

```

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?

```

2014 \define@key{Hyp}{naturalnames}[true]{%
2015   \Hy@boolkey{naturalnames}{#1}%
2016 }

```

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

```

2017 \define@key{Hyp}{hypertexnames}[true]{%
2018   \Hy@boolkey{hypertexnames}{#1}%
2019 }

```

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

```

2020 \define@key{Hyp}{nesting}[true]{%
2021   \Hy@boolkey{nesting}{#1}%
2022 }

2023 \define@key{Hyp}{unicode}[true]{%
2024   \Hy@boolkey{unicode}{#1}%
2025   \ifHy@unicode
2026     \def\HyPsd@pdfencoding{unicode}%
2027   \else
2028     \def\HyPsd@pdfencoding{pdfdoc}%
2029   \fi
2030   \HyPsd@LoadUnicode
2031 }

2032 \def\HyPsd@LoadUnicode{%
2033   \@ifundefined{T@PU}{%
2034     \input{puenc.def}%
2035     \HyLinguex@Restore
2036   }{}%
2037   \DeclareFontFamily{PU}{pdf}{}%
2038   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2039   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2040   \global\let\HyPsd@LoadUnicode\relax
2041 }

2042 \AtBeginDocument{%
2043   \ifx\HyPsd@LoadUnicode\relax
2044   \else
2045     \def\HyPsd@LoadUnicode{%

```

```

2046 \PackageError{hyperref}{%
2047     Unicode support for bookmarks is not available.\MessageBreak
2048     Activate unicode support by using one of the options\MessageBreak
2049     'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2050     in the preamble%
2051 } \@ehc
2052 \global\let\HyPsd@LoadUnicode\relax
2053 \global\Hy@unicodedefalse
2054 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2055 }%
2056 \fi
2057 }

2058 \define@key{Hyp}{pdfencoding}{%
2059 \edef\HyPsd@temp{#1}%
2060 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2061 \let\HyPsd@pdfencoding\HyPsd@temp
2062 \Hy@unicodedefalse
2063 \else
2064 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2065 \z@
2066 \else
2067 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2068 \z@
2069 \else
2070 \@ne
2071 \fi
2072 \fi
2073 \let\HyPsd@pdfencoding\HyPsd@temp
2074 \hypersetup{unicode}%
2075 \ifHy@unicode
2076 \def\HyPsd@pdfencoding{#1}%
2077 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2078 \HyPsd@LoadStringEncoding
2079 \fi
2080 \else
2081 \Hy@Warning{Cannot switch to unicode bookmarks}%
2082 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2083 \fi
2084 \else
2085 \@onelevel@sanitize\HyPsd@temp
2086 \Hy@Warning{%
2087     Values of option 'pdfencoding':\MessageBreak
2088     'pdfdoc', 'unicode', 'auto'.\MessageBreak
2089     Ignoring unknown value '\HyPsd@temp'%
2090 }%
2091 \fi
2092 \fi
2093 }

2094 \def\HyPsd@pdfencoding@auto{auto}
2095 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2096 \def\HyPsd@pdfencoding@unicode{unicode}
2097 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2098 \def\HyPsd@LoadStringEncoding{%
2099 \RequirePackage{stringenc}[2007/06/14]%
2100 \let\HyPsd@LoadStringEncoding\relax
2101 }
2102 \AtBeginDocument{%

```

```

2103 \@ifpackageloaded{stringenc}{%
2104   \let\HyPsd@LoadStringEnc\relax
2105 }{%
2106   \def\HyPsd@LoadStringEnc{%
2107     \Hy@WarningNoLine{%
2108       Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2109       in the preamble or load the package there%
2110     }%
2111   }%
2112 }%
2113 }

2114 \newif\ifHy@setpdfversion
2115 \define@key{Hyp}{pdfversion}{%
2116   \@ifundefined{Hy@pdfversion@#1}{%
2117     \PackageWarning{hyperref}{%
2118       Unsupported PDF version ‘#1’.\MessageBreak
2119       Valid values: 1.2 until 1.9%
2120     }%
2121   }{%
2122     \Hy@setpdfversiontrue
2123     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2124   }%
2125 }

2126 \@namedef{Hy@pdfversion@1.2}{2}%
2127 \@namedef{Hy@pdfversion@1.3}{3}%
2128 \@namedef{Hy@pdfversion@1.4}{4}%
2129 \@namedef{Hy@pdfversion@1.5}{5}%
2130 \@namedef{Hy@pdfversion@1.6}{6}%
2131 \@namedef{Hy@pdfversion@1.7}{7}%
2132 \@namedef{Hy@pdfversion@1.8}{8}%
2133 \@namedef{Hy@pdfversion@1.9}{9}%
2134 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2135 \define@key{Hyp}{hyperref}[true]{%
2136 \define@key{Hyp}{tex4ht}[true]{%
2137   \Hy@texhttrue
2138   \setkeys{Hyp}{colorlinks=true}%
2139   \def\BeforeTeXIVht{\usepackage{color}}%
2140   \def\Hy@driver{htex4ht}%
2141   \def\MaybeStopEarly{%
2142     \typeout{Hyperref stopped early}%
2143     \AfterBeginDocument{%
2144       \PDF@FinishDoc
2145       \gdef\PDF@FinishDoc{}%
2146     }%
2147   \endinput
2148 }%
2149 }

2150 \define@key{Hyp}{pdftex}[true]{%
2151   \def\Hy@driver{hpdftex}%
2152 }

2153 \define@key{Hyp}{nativepdf}[true]{%
2154   \def\Hy@driver{hdvips}%
2155 }

2156 \define@key{Hyp}{dvipdfm}[true]{%

```

```

2157 \def\Hy@driver{hdvipdfm}%
2158 }
2159 \define@key{Hyp}{dvipdfmx}[true]{%
2160 \def\Hy@driver{hdvipdfm}%
2161 }
2162 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2163 \expandafter\ifx\csname if#1\expandafter\endcsname
2164 \csname iftrue\endcsname
2165 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2166 \else
2167 \chardef\SpecialDvipdfmxOutlineOpen\z@
2168 \fi
2169 }
2170 \define@key{Hyp}{xetex}[true]{%
2171 \def\Hy@driver{hdvipdfm}%
2172 }
2173 \define@key{Hyp}{pdfmark}[true]{%
2174 \def\Hy@driver{hdvips}%
2175 }
2176 \define@key{Hyp}{dvips}[true]{%
2177 \def\Hy@driver{hdvips}%
2178 }
2179 \define@key{Hyp}{hypertex}[true]{%
2180 \def\Hy@driver{hypertex}%
2181 }
2182 \let\Hy@MaybeStopNow\relax
2183 \define@key{Hyp}{vtex}[true]{%
2184 \begingroup\expandafter\expandafter\expandafter\endgroup
2185 \expandafter\ifx\csname OpMode\endcsname\relax
2186 \@latex@error{Non-VTeX processor}{}%
2187 \global\let\Hy@MaybeStopNow\endinput
2188 \endinput
2189 \else
2190 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2191 \def\Hy@driver{hvtex}%
2192 \else
2193 \ifnum\OpMode=10\relax
2194 \def\Hy@driver{hvtexhtm}%
2195 \def\MaybeStopEarly{%
2196 \typeout{Hyperref stopped early}%
2197 \AfterBeginDocument{%
2198 \PDF@FinishDoc
2199 \gdef\PDF@FinishDoc{}}%
2200 }%
2201 \endinput
2202 }%
2203 \else
2204 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2205 \global\let\Hy@MaybeStopNow\endinput
2206 \endinput
2207 \fi
2208 \fi
2209 \fi
2210 }
2211 \define@key{Hyp}{vtexpdfmark}[true]{%
2212 \begingroup\expandafter\expandafter\expandafter\endgroup
2213 \expandafter\ifx\csname OpMode\endcsname\relax

```

```

2214 \latex@error{Non-VTeX processor}{}%
2215 \let\Hy@MaybeStopNow\endinput
2216 \endinput
2217 \else
2218 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2219 \def\Hy@driver{hvtexmrk}%
2220 \else
2221 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2222 \let\Hy@MaybeStopNow\endinput
2223 \endinput
2224 \fi
2225 \fi
2226 }
2227 \define@key{Hyp}{dviwindo}[true]{%
2228 \def\Hy@driver{hdviwind}%
2229 \setkeys{Hyp}{colorlinks}%
2230 \PassOptionsToPackage{dviwindo}{color}%
2231 }
2232 \define@key{Hyp}{dvipsone}[true]{%
2233 \def\Hy@driver{hdvipson}%
2234 }
2235 \define@key{Hyp}{textures}[true]{%
2236 \def\Hy@driver{htexture}%
2237 }
2238 \define@key{Hyp}{latex2html}[true]{%
2239 \AtBeginDocument{\@@latextohtmlX}%
2240 }

```

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

```

2241 \define@key{Hyp}{ps2pdf}[true]{%
2242 \def\Hy@driver{hdvips}%
2243 \providecommand*\@pdfborder{0 0 1}%
2244 }

```

## 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.

```

2245 \define@key{Hyp}{hyperfigures}[true]{%
2246 \Hy@boolkey[hyperfigures]{figures}{#1}%
2247 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2248 \define@key{Hyp}{hyperfootnotes}[true]{%
2249 \Hy@boolkey[hyperfootnotes]{#1}%
2250 }

```

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

```

2251 \def\back@none{none}
2252 \def\back@section{section}
2253 \def\back@page{page}
2254 \def\back@slide{slide}
2255 \define@key{Hyp}{backref}[section]{%
2256 \lowercase{\def\Hy@tempa{#1}}%
2257 \ifx\Hy@tempa\@empty
2258 \let\Hy@tempa\back@section
2259 \fi
2260 \ifx\Hy@tempa\Hy>false

```



```

2261 \let\Hy@tempa\back@none
2262 \fi
2263 \ifx\Hy@tempa\back@slide
2264 \let\Hy@tempa\back@section
2265 \fi
2266 \ifx\Hy@tempa\back@page
2267 \PassOptionsToPackage{hyperpageref}{backref}%
2268 \Hy@backreftrue
2269 \else
2270 \ifx\Hy@tempa\back@section
2271 \PassOptionsToPackage{hyperref}{backref}%
2272 \Hy@backreftrue
2273 \else
2274 \ifx\Hy@tempa\back@none
2275 \Hy@backreffalse
2276 \else
2277 \Hy@WarnOptionValue{#1}{backref}{%
2278 'section', 'slide', 'page', 'none', \MessageBreak
2279 or 'false'}%
2280 \fi
2281 \fi
2282 \fi
2283 }
2284 \define@key{Hyp}{pagebackref}[true]{%
2285 \lowercase{\def\Hy@tempa{#1}}%
2286 \ifx\Hy@tempa\@empty
2287 \let\Hy@tempa\Hy@true
2288 \fi
2289 \ifx\Hy@tempa\Hy@true
2290 \PassOptionsToPackage{hyperpageref}{backref}%
2291 \Hy@backreftrue
2292 \else
2293 \ifx\Hy@tempa\Hy@false
2294 \Hy@backreffalse
2295 \else
2296 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2297 \fi
2298 \fi
2299 }

```

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

```

2300 \define@key{Hyp}{hyperindex}[true]{%
2301 \Hy@boolkey{hyperindex}{#1}%
2302 }

```

Configuration of encap char.

```

2303 \define@key{Hyp}{encap}[\|]{%
2304 \def\HyInd@EncapChar{#1}%
2305 }

```

## 12 Language options

The \autoref feature depends on the language.

```

2306 \def\HyLang@afrikaans{%
2307 \def\equationautorefname{Vergelyking}%
2308 \def\footnoteautorefname{Voetnota}%

```

```

2309 \def\itemautorefname{Item}%
2310 \def\figureautorefname{Figuur}%
2311 \def\tableautorefname{Tabel}%
2312 \def\partautorefname{Deel}%
2313 \def\appendixautorefname{Bylae}%
2314 \def\chapterautorefname{Hoofstuk}%
2315 \def\sectionautorefname{Afdeling}%
2316 \def\subsectionautorefname{Subafdeling}%
2317 \def\subsubsectionautorefname{Subsubafdeling}%
2318 \def\paragraphautorefname{Paragraaf}%
2319 \def\subparagraphautorefname{Subparagraaf}%
2320 \def\FancyVerbLineautorefname{Lyn}%
2321 \def\theoremautorefname{Teorema}%
2322 \def\pageautorefname{Bladsy}%
2323 }
2324 \def\HyLang@english{%
2325 \def\equationautorefname{Equation}%
2326 \def\footnoteautorefname{footnote}%
2327 \def\itemautorefname{item}%
2328 \def\figureautorefname{Figure}%
2329 \def\tableautorefname{Table}%
2330 \def\partautorefname{Part}%
2331 \def\appendixautorefname{Appendix}%
2332 \def\chapterautorefname{chapter}%
2333 \def\sectionautorefname{section}%
2334 \def\subsectionautorefname{subsection}%
2335 \def\subsubsectionautorefname{subsubsection}%
2336 \def\paragraphautorefname{paragraph}%
2337 \def\subparagraphautorefname{subparagraph}%
2338 \def\FancyVerbLineautorefname{line}%
2339 \def\theoremautorefname{Theorem}%
2340 \def\pageautorefname{page}%
2341 }
2342 \def\HyLang@french{%
2343 \def\equationautorefname{\`Equation}%
2344 \def\footnoteautorefname{note}%
2345 \def\itemautorefname{item}%
2346 \def\figureautorefname{Figure}%
2347 \def\tableautorefname{Tableau}%
2348 \def\partautorefname{Partie}%
2349 \def\appendixautorefname{Appendice}%
2350 \def\chapterautorefname{chapitre}%
2351 \def\sectionautorefname{section}%
2352 \def\subsectionautorefname{sous-section}%
2353 \def\subsubsectionautorefname{sous-sous-section}%
2354 \def\paragraphautorefname{paragraphe}%
2355 \def\subparagraphautorefname{sous-paragraphe}%
2356 \def\FancyVerbLineautorefname{ligne}%
2357 \def\theoremautorefname{Th\'eor\`eme}%
2358 \def\pageautorefname{page}%
2359 }
2360 \def\HyLang@german{%
2361 \def\equationautorefname{Gleichung}%
2362 \def\footnoteautorefname{Fu\ss note}%
2363 \def\itemautorefname{Punkt}%
2364 \def\figureautorefname{Abbildung}%
2365 \def\tableautorefname{Tabelle}%

```

```

2366 \def\partautorefname{Teil}%
2367 \def\appendixautorefname{Anhang}%
2368 \def\chapterautorefname{Kapitel}%
2369 \def\sectionautorefname{Abschnitt}%
2370 \def\subsectionautorefname{Unterabschnitt}%
2371 \def\subsubsectionautorefname{Unterunterabschnitt}%
2372 \def\paragraphautorefname{Absatz}%
2373 \def\subparagraphautorefname{Unterabsatz}%
2374 \def\FancyVerbLineautorefname{Zeile}%
2375 \def\theoremautorefname{Theorem}%
2376 \def\pageautorefname{Seite}%
2377 }
2378 \def\HyLang@italian{%
2379 \def\equationautorefname{Equazione}%
2380 \def\footnoteautorefname{nota}%
2381 \def\itemautorefname{punto}%
2382 \def\figureautorefname{Figura}%
2383 \def\tableautorefname{Tabella}%
2384 \def\partautorefname{Parte}%
2385 \def\appendixautorefname{Appendice}%
2386 \def\chapterautorefname{Capitolo}%
2387 \def\sectionautorefname{sezione}%
2388 \def\subsectionautorefname{sottosezione}%
2389 \def\subsubsectionautorefname{sottosottosezione}%
2390 \def\paragraphautorefname{paragrafo}%
2391 \def\subparagraphautorefname{sottoparagrafo}%
2392 \def\FancyVerbLineautorefname{linea}%
2393 \def\theoremautorefname{Teorema}%
2394 \def\pageautorefname{Pag.\@}%
2395 }
2396 \def\HyLang@magyar{%
2397 \def\equationautorefname{Egyenlet}%
2398 \def\footnoteautorefname{l\'abjegyzet}%
2399 \def\itemautorefname{Elem}%
2400 \def\figureautorefname{'Abra}%
2401 \def\tableautorefname{T\'abl\'azat}%
2402 \def\partautorefname{R\'esz}%
2403 \def\appendixautorefname{F\'uggel\'ek}%
2404 \def\chapterautorefname{fejezet}%
2405 \def\sectionautorefname{szakasz}%
2406 \def\subsectionautorefname{alszakasz}%
2407 \def\subsubsectionautorefname{alalszakasz}%
2408 \def\paragraphautorefname{bekezd\'es}%
2409 \def\subparagraphautorefname{albekezd\'es}%
2410 \def\FancyVerbLineautorefname{sor}%
2411 \def\theoremautorefname{T\'étel}%
2412 \def\pageautorefname{oldal}%
2413 }
2414 \def\HyLang@portuges{%
2415 \def\equationautorefname{Equa\c c\~ao}%
2416 \def\footnoteautorefname{Nota de rodap\'e}%
2417 \def\itemautorefname{Item}%
2418 \def\figureautorefname{Figura}%
2419 \def\tableautorefname{Tabela}%
2420 \def\partautorefname{Parte}%
2421 \def\appendixautorefname{Ap\~endice}%
2422 \def\chapterautorefname{Cap\'itulo}%

```



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

```
2450 \def\partautorefname{\cyr\cyrch.}%
2451 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2452 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
2453 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2454 % \def\appendixautorefname{%
2455 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2456 % }%
```

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.

```
2457 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2458 \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.

```
2459 \def\paragraphautorefname{\cyr\cyrp.}%
2460 \def\subparagraphautorefname{\cyr\cyrp.}%
```

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

```
2461 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2462 % \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.

```
2463 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2464 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2465 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2466 % \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 ...

```
2467 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2468 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2469 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2470 \def\pageautorefname{\cyr\cyrs.}%
2471 }
```

```

2472 \def\HyLang@spanish{%
2473   \def\equationautorefname{Ecuaci\'}on}%
2474   \def\footnoteautorefname{Nota a pie de p\'}agina}%
2475   \def\itemautorefname{Elemento}%
2476   \def\figureautorefname{Figura}%
2477   \def\tableautorefname{Tabla}%
2478   \def\partautorefname{Parte}%
2479   \def\appendixautorefname{Ap\'}endice}%
2480   \def\chapterautorefname{Cap\'}itulo}%
2481   \def\sectionautorefname{Secci\'}on}%
2482   \def\subsectionautorefname{Subsecci\'}on}%
2483   \def\subsubsectionautorefname{Subsubsecci\'}on}%
2484   \def\paragraphautorefname{P\'}arrafo}%
2485   \def\subparagraphautorefname{Subp\'}arrafo}%
2486   \def\FancyVerbLineautorefname{L\'}inea}%
2487   \def\theoremautorefname{Teorema}%
2488   \def\pageautorefname{P\'}agina}%
2489 }
2490 \def\HyLang@vietnamese{%
2491   \def\equationautorefname{Ph\'}uhorn{\'}\ohorn{\'}ng tr\'}inh}%
2492   \def\footnoteautorefname{Ch\'}u th\'}ich}%
2493   \def\itemautorefname{m\'}d{u}{c}%
2494   \def\figureautorefname{H\'}inh}%
2495   \def\tableautorefname{B\'}h{a}{ng}%
2496   \def\partautorefname{Ph\'}\acircumflex{n}%
2497   \def\appendixautorefname{Ph\'}d{u} l\'}d{u}{c}%
2498   \def\chapterautorefname{ch\'}uhorn{\'}\ohorn{\'}ng}%
2499   \def\sectionautorefname{m\'}d{u}{c}%
2500   \def\subsectionautorefname{m\'}d{u}{c}%
2501   \def\subsubsectionautorefname{m\'}d{u}{c}%
2502   \def\paragraphautorefname{d\'}j{\'}o{d}{a}{n}%
2503   \def\subparagraphautorefname{d\'}j{\'}o{d}{a}{n}%
2504   \def\FancyVerbLineautorefname{d\'}ong}%
2505   \def\theoremautorefname{D\'}J{\'}d{i}{nh l\'}y}%
2506   \def\pageautorefname{Trang}%
2507 }

```

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

```

2508 \def\HyLang@addto#1#2{%
2509   #2%
2510   \@temptokena{#2}%
2511   \ifx#1\relax
2512     \let#1\@empty
2513   \fi
2514   \ifx#1\undefined
2515     \edef#1{\the\@temptokena}%
2516   \else
2517     \toks@\expandafter{#1}%
2518     \edef#1{\the\toks@\the\@temptokena}%
2519   \fi
2520   \@temptokena{}\toks@\@temptokena
2521 }
2522 \def\HyLang@DeclareLang#1#2#3{%
2523   \begingroup
2524     \edef\x##1##2{%
2525       \noexpand\ifx##2\relax

```

```

2526 \errmessage{No definitions for language #2' found!}%
2527 \noexpand\fi
2528 \endgroup
2529 \noexpand\define@key{Hyp}{#1}[]{}%
2530 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2531 #3%
2532 }%
2533 }%
2534 \expandafter\x\csname extras#1\expandafter\endcsname
2535 \csname HyLang@#2\endcsname
2536 }
2537 \HyLang@DeclareLang{english}{english}{}
2538 \HyLang@DeclareLang{UKenglish}{english}{}
2539 \HyLang@DeclareLang{british}{english}{}
2540 \HyLang@DeclareLang{USenglish}{english}{}
2541 \HyLang@DeclareLang{american}{english}{}
2542 \HyLang@DeclareLang{german}{german}{}
2543 \HyLang@DeclareLang{austrian}{german}{}
2544 \HyLang@DeclareLang{ngerman}{german}{}
2545 \HyLang@DeclareLang{naustrian}{german}{}
2546 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2547 \HyLang@DeclareLang{brazil}{portuges}{}
2548 \HyLang@DeclareLang{brazilian}{portuges}{}
2549 \HyLang@DeclareLang{portuguese}{portuges}{}
2550 \HyLang@DeclareLang{spanish}{spanish}{}
2551 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2552 \HyLang@DeclareLang{french}{french}{}
2553 \HyLang@DeclareLang{frenchb}{french}{}
2554 \HyLang@DeclareLang{francais}{french}{}
2555 \HyLang@DeclareLang{acadian}{french}{}
2556 \HyLang@DeclareLang{canadien}{french}{}
2557 \HyLang@DeclareLang{italian}{italian}{}
2558 \HyLang@DeclareLang{magyar}{magyar}{}
2559 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2560 \define@key{Hyp}{vietnamese}[]{}%
2561 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2562 \AtEndOfPackage{%
2563 \ifundefined{T@PU}{}{}%
2564 \input{puvnenc.def}%
2565 }%
2566 }%
2567 }
2568 \define@key{Hyp}{vietnam}[]{}%
2569 \HyLang@addto\extravietnam\HyLang@vietnamese
2570 \AtEndOfPackage{%
2571 \ifundefined{T@PU}{}{}%
2572 \input{puvnenc.def}%
2573 }%
2574 }%
2575 }

```

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

```

2576 \define@key{Hyp}{arabic}[]{}%
2577 \AtEndOfPackage{%
2578 \ifundefined{T@PU}{}{}%
2579 \input{puarenc.def}%

```

```

2580     }%
2581 }%
2582 }

```

## 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.

```

2583 \define@key{Hyp}{colorlinks}[true]{%
2584   \Hy@boolkey{colorlinks}{#1}%
2585 }
2586 \define@key{Hyp}{ocgcolorlinks}[true]{%
2587   \Hy@boolkey{ocgcolorlinks}{#1}%
2588 }
2589 \AtBeginDocument{%
2590   \begingroup
2591     \ifundefined{OBJ@OCG@view}{%
2592       \ifHy@ocgcolorlinks
2593         \Hy@Warning{%
2594           Driver does not support ‘ocgcolorlinks’,\MessageBreak
2595           using ‘colorlinks’ instead%
2596         }%
2597       \fi
2598     }{}%
2599   \endgroup
2600 }
2601 \define@key{Hyp}{frenchlinks}[true]{%
2602   \Hy@boolkey{frenchlinks}{#1}%
2603 }

```

## 14 Bookmarking

```

2604 \define@key{Hyp}{bookmarks}[true]{%
2605   \Hy@boolkey{bookmarks}{#1}%
2606 }
2607 \define@key{Hyp}{bookmarksopen}[true]{%
2608   \Hy@boolkey{bookmarksopen}{#1}%
2609 }

```

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.

```

2610 \let\Hy@bookmarksdepth\c@tocdepth
2611 \define@key{Hyp}{bookmarksdepth}[]{%
2612   \begingroup
2613     \edef\x{#1}%
2614     \ifx\x\empty
2615       \global\let\Hy@bookmarksdepth\c@tocdepth

```



```

2616 \else
2617 \ifundefined{toclevel@x}{%
2618 \onelevel@sanitize\x
2619 \edef\y{\expandafter\@car\x\@nil}%
2620 \ifcase 0\expandafter\ifx\y-1\fi
2621 \expandafter\ifnum\expandafter'\y>47 %
2622 \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2623 \Hy@Warning{Unknown document division name (\x)}%
2624 \else
2625 \setbox\z@=\hbox{%
2626 \count@=\x
2627 \xdef\Hy@bookmarksdepth{\the\count@}%
2628 }%
2629 \fi
2630 }{%
2631 \setbox\z@=\hbox{%
2632 \count@=\csname toclevel@x\endcsname
2633 \xdef\Hy@bookmarksdepth{\the\count@}%
2634 }%
2635 }%
2636 \fi
2637 \endgroup
2638 }

```

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

```

2639 \define@key{Hyp}{bookmarksopenlevel}{%
2640 \def\@bookmarksopenlevel{#1}%
2641 }
2642 \def\@bookmarksopenlevel{\maxdimen}
2643 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2644 \define@key{Hyp}{bookmarkstype}{%
2645 \def\Hy@bookmarkstype{#1}%
2646 }
2647 \def\Hy@bookmarkstype{toc}

```

Richard Curnow [richard@curnow.demon.co.uk](mailto:richard@curnow.demon.co.uk) suggested this functionality. It adds section numbers etc to bookmarks.

```

2648 \define@key{Hyp}{bookmarksnumbered}[true]{%
2649 \Hy@boolkey{bookmarksnumbered}{#1}%
2650 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2651 \define@key{Hyp}{CJKbookmarks}[true]{%
2652 \Hy@boolkey{CJKbookmarks}{#1}%
2653 }

2654 \def\Hy@temp#1{%
2655 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2656 }
2657 \def\Hy@@temp#1#2#3{%
2658 \define@key{Hyp}{#2color}{%
2659 \HyColor@HyperrefColor{##1}#1%
2660 }%
2661 \def#1{#3}%
2662 }
2663 \Hy@temp{link}{red}
2664 \Hy@temp{anchor}{black}
2665 \Hy@temp{cite}{green}
2666 \Hy@temp{file}{cyan}

```

```

2667 \Hy@temp{url}{magenta}
2668 \Hy@temp{menu}{red}
2669 \Hy@temp{run}{\@filecolor}
2670 \define@key{Hyp}{pagecolor}{%
2671   \Hy@WarningPageColor
2672 }
2673 \def\Hy@WarningPageColor{%
2674   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2675   \global\let\Hy@WarningPageColor\relax
2676 }

2677 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2678 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2679 \let\@baseurl\empty
2680 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2681 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2682 \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.

```

2683 \let\@pdfpagetransition\relax
2684 \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.

```

2685 \let\@pdfpageduration\relax
2686 \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.

```

2687 \newif\ifHy@useHidKey
2688 \Hy@useHidKeyfalse
2689 \define@key{Hyp}{pdfpagehidden}[true]{%
2690   \Hy@boolkey{pdfpagehidden}{#1}%
2691   \ifHy@pdfpagehidden
2692     \global\Hy@useHidKeytrue
2693   \fi
2694 }

```

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).

```

2695 \def\Hy@ColorList{cite,file,link,menu,run,url}
2696 \@for\Hy@temp:=\Hy@ColorList\do{%
2697   \edef\Hy@temp{%
2698     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2699       \noexpand\Hy@Color@HyperrefBorderColor

```

```

2700      {##1}%
2701      \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2702      {hyperref}%
2703      {\Hy@temp bordercolor}%
2704  }%
2705 }%
2706 \Hy@temp
2707 }
2708 \define@key{Hyp}{pagebordercolor}{%
2709   \Hy@WarningPageBorderColor
2710 }
2711 \def\Hy@WarningPageBorderColor{%
2712   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2713   \global\let\Hy@WarningPageBorderColor\relax
2714 }

2715 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2716 \Hy@DefNameKey{pdfhighlight}{%
2717   \do{/I}{Invert}%
2718   \do{/N}{None}%
2719   \do{/O}{Outline}%
2720   \do{/P}{Push}%
2721 }
2722 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2723 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2724 \def\Hy@setpdfborder{%
2725   \ifx\@pdfborder\@empty
2726   \else
2727     /Border[\@pdfborder]%
2728   \fi
2729   \ifx\@pdfborderstyle\@empty
2730   \else
2731     /BS<<\@pdfborderstyle>>%
2732   \fi
2733 }
2734 \Hy@DefNameKey{pdfpagemode}{%
2735   \do{UseNone}{}%
2736   \do{UseOutlines}{}%
2737   \do{UseThumbs}{}%
2738   \do{FullScreen}{}%
2739   \do{UseOC}{PDF 1.5}%
2740   \do{UseAttachments}{PDF 1.6}%
2741 }
2742 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2743   \do{UseNone}{}%
2744   \do{UseOutlines}{}%
2745   \do{UseThumbs}{}%
2746   \do{FullScreen}{}%
2747   \do{UseOC}{PDF 1.5}%
2748   \do{UseAttachments}{PDF 1.6}%
2749 }
2750 \Hy@DefNameKey{pdfdirection}{%
2751   \do{L2R}{Left to right}%
2752   \do{R2L}{Right to left}%
2753 }
2754 \Hy@DefNameKey{pdfviewarea}{%
2755   \do{MediaBox}{}%
2756   \do{CropBox}{}%

```

```

2757 \do{BleedBox}{}%
2758 \do{TrimBox}{}%
2759 \do{ArtBox}{}%
2760 }
2761 \Hy@DefNameKey{pdfviewclip}{%
2762 \do{MediaBox}{}%
2763 \do{CropBox}{}%
2764 \do{BleedBox}{}%
2765 \do{TrimBox}{}%
2766 \do{ArtBox}{}%
2767 }
2768 \Hy@DefNameKey{pdfprintarea}{%
2769 \do{MediaBox}{}%
2770 \do{CropBox}{}%
2771 \do{BleedBox}{}%
2772 \do{TrimBox}{}%
2773 \do{ArtBox}{}%
2774 }
2775 \Hy@DefNameKey{pdfprintclip}{%
2776 \do{MediaBox}{}%
2777 \do{CropBox}{}%
2778 \do{BleedBox}{}%
2779 \do{TrimBox}{}%
2780 \do{ArtBox}{}%
2781 }
2782 \Hy@DefNameKey{pdfprintscaling}{%
2783 \do{AppDefault}{}%
2784 \do{None}{}%
2785 }
2786 \Hy@DefNameKey{pdfduplex}{%
2787 \do{Simplex}{}%
2788 \do{DuplexFlipShortEdge}{}%
2789 \do{DuplexFlipLongEdge}{}%
2790 }
2791 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2792 \do{true}{}%
2793 \do{false}{}%
2794 }
2795 \define@key{Hyp}{pdfprintpagerange}{%
2796 \def\@pdfprintpagerange{#1}%
2797 }
2798 \Hy@DefNameKey{pdfnumcopies}{%
2799 \do{2}{two copies}%
2800 \do{3}{three copies}%
2801 \do{4}{four copies}%
2802 \do{5}{five copies}%
2803 }
2804 \define@key{Hyp}{pdfusetitle}[true]{%
2805 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2806 }
2807 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2808 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2809 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2810 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2811 \define@key{Hyp}{pdfcreationdate}{%
2812 \begingroup
2813 \Hy@unicodedefalse

```

```

2814 \pdfstringdef\@pdfcreationdate{#1}%
2815 \endgroup
2816 }
2817 \define@key{Hyp}{pdfmoddate}{%
2818 \beginingroup
2819 \Hy@unicodedefalse
2820 \pdfstringdef\@pdfmoddate{#1}%
2821 \endgroup
2822 }
2823 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2824 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2825 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2826 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2827 \let\setpdflinkmargin\@gobble
2828 \def\calculate@pdfview#1 #2\{%
2829 \def\@pdfview{#1}%
2830 \ifx\#2\%
2831 \def\@pdfviewparams{ -32768}%
2832 \else
2833 \def\@pdfviewparams{ #2}%
2834 \fi
2835 }
2836 \beginingroup\expandafter\expandafter\expandafter\endgroup
2837 \expandafter\ifx\csname numexpr\endcsname\relax
2838 \def\Hy@number#1{%
2839 \expandafter\@firstofone\expandafter{\number#1}%
2840 }%
2841 \else
2842 \def\Hy@number#1{%
2843 \the\numexpr#1\relax
2844 }%
2845 \fi
2846 \define@key{Hyp}{pdfstartpage}{%
2847 \ifx\#1\%
2848 \def\@pdfstartpage{%
2849 \else
2850 \edef\@pdfstartpage{\Hy@number{#1}}%
2851 \fi
2852 }%
2853 \define@key{Hyp}{pdfstartview}{%
2854 \ifx\#1\%
2855 \def\@pdfstartview{%
2856 \else
2857 \hypercalcbpdef\@pdfstartview{ /#1 }%
2858 \fi
2859 }
2860 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2861 \define@key{Hyp}{pdftoolbar}[true]{%
2862 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2863 }
2864 \define@key{Hyp}{pdfmenubar}[true]{%
2865 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2866 }
2867 \define@key{Hyp}{pdfwindowui}[true]{%
2868 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2869 }
2870 \define@key{Hyp}{pdffitwindow}[true]{%

```

```

2871 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2872 }
2873 \define@key{Hyp}{pdfcenterwindow}[true]{%
2874 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2875 }
2876 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2877 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2878 }
2879 \define@key{Hyp}{pdffa}[true]{%
2880 \Hy@boolkey[pdfa]{#1}%
2881 }
2882 \define@key{Hyp}{pdfnewwindow}[true]{%
2883 \def\Hy@temp{#1}%
2884 \ifx\Hy@temp\@empty
2885 \Hy@newwindowsetfalse
2886 \else
2887 \Hy@newwindowsettrue
2888 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2889 \fi
2890 }
2891 \def\Hy@SetNewWindow{%
2892 \ifHy@newwindowset
2893 /NewWindow %
2894 \ifHy@newwindow true\else false\fi
2895 \fi
2896 }
2897 \Hy@DefNameKey[pdfpagelayout]{%
2898 \do{SinglePage}{}%
2899 \do{OneColumn}{}%
2900 \do{TwoColumnLeft}{}%
2901 \do{TwoColumnRight}{}%
2902 \do{TwoPageLeft}{PDF 1.5}%
2903 \do{TwoPageRight}{PDF 1.5}%
2904 }
2905 \define@key{Hyp}{pdflang}{%
2906 \def\@pdflang{#1}%
2907 }
2908 \define@key{Hyp}{pdfpagelabels}[true]{%
2909 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2910 }
2911 \define@key{Hyp}{pdfescapeform}[true]{%
2912 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2913 }

```

Default values:

```

2914 \def\@linkbordercolor{1 0 0}
2915 \def\@urlbordercolor{0 1 1}
2916 \def\@menubordercolor{1 0 0}
2917 \def\@filebordercolor{0 .5 .5}
2918 \def\@runbordercolor{0 .7 .7}
2919 \def\@citebordercolor{0 1 0}
2920 \def\@pdfhighlight{/I}
2921 \def\@pdftitle{}
2922 \def\@pdfauthor{}
2923 \let\@pdfproducer\relax
2924 \def\@pdfcreator{LaTeX with hyperref package}
2925 \def\@pdfcreationdate{}
2926 \def\@pdfmoddate{}

```

```

2927 \def\@pdfsubject{}
2928 \def\@pdfkeywords{}
2929 \def\@pdfpagescrop{}
2930 \def\@pdfstartview{ /Fit }
2931 \def\@pdfstartpage{1}
2932 \def\@pdfprintpagerange{}
2933 \def\@pdflang{}
2934 \let\PDF@SetupDoc\@empty
2935 \let\PDF@FinishDoc\@empty
2936 \let\phantomsection\@empty
2937 \let\special@paper\@empty
2938 \def\HyperDestNameFilter#1{#1}
2939 \@ifundefined{stockwidth}{%
2940   \ifdim\paperwidth>\z@
2941     \ifdim\paperheight>\z@
2942       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2943     \fi
2944   \fi
2945 }{%
2946   \ifdim\stockwidth>\z@
2947     \ifdim\stockheight>\z@
2948       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2949     \fi
2950   \fi
2951 }
2952 \begingroup
2953   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2954   \dimen@=\x\relax
2955   \ifdim\dimen@>\z@
2956   \else
2957     \dimen@=11in\relax
2958     \Hy@WarningNoLine{%
2959       Height of page (\expandafter\string\x) %
2960       is invalid (\the\x),\MessageBreak
2961       using 11in%
2962     }%
2963   \fi
2964   \dimen@=0.99626401\dimen@
2965   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2966 \endgroup
2967 \def\HyInd@EncapChar{\|}
2968 \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.

```

2969 \let\hyper@normalise\ExecuteOptions
2970 \let\ExecuteOptions\hypersetup
2971 \Hy@RestoreCatcodes
2972 \InputIfFileExists{hyperref.cfg}{-}{-}
2973 \Hy@SetCatcodes
2974 \let\ExecuteOptions\hyper@normalise
2975 \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.

2976 \RequirePackage{kvoptions}[2006/08/17]

Add option tex4ht if package tex4ht is loaded.

```
2977 \@ifpackageloaded{tex4ht}{%
2978   \@ifpackagewith{hyperref}{tex4ht}{-}{%
2979     \PassOptionsToPackage{tex4ht}{hyperref}%
2980   }%
2981 }{}

2982 \let\ReadBookmarks\relax
2983 \ProcessKeyvalOptions{Hyp}
```

After processing options.

```
2984 \AtBeginDocument{%
2985   \ifHy@draft
2986     \let\hyper@@anchor\@gobble
2987     \gdef\hyper@link#1#2#3{#3}%
2988     \let\hyper@anchorstart\@gobble
2989     \let\hyper@anchorend\@empty
2990     \let\hyper@linkstart\@gobbletwo
2991     \let\hyper@linkend\@empty
2992     \def\hyper@linkurl#1#2{#1}%
2993     \def\hyper@linkfile#1#2#3{#1}%
2994     \def\hyper@link@[#1]#2#3{#1}%
2995     \def\Acrobatmenu#1#2{\leavevmode#2}%
2996     \let\PDF@SetupDoc\@empty
2997     \let\PDF@FinishDoc\@empty
2998     \let\@fifthoffive\@secondoftwo
2999     \let\@secondoffive\@secondoftwo
3000     \let\ReadBookmarks\relax
3001     \let\WriteBookmarks\relax
3002     \Hy@WarningNoLine{ draft mode on}%
3003   \fi
3004   \Hy@DisableOption{draft}%
3005   \Hy@DisableOption{nolinks}%
3006   \Hy@DisableOption{final}%
3007 }
```

## 15.1 PDF/A

```
3008 \Hy@DisableOption{pdfa}

3009 \ifHy@pdfa
3010   \setkeys{Hyp}{pdfversion=1.4}%
3011   \def\Hy@Acrobatmenu#1#2{%
3012     \leavevmode
3013     \begingroup
3014       \edef\x{#1}%
3015       \@onelevel@sanitize\x
3016       \ifx\x\Hy@NextPage
3017         \let\y=Y%
3018       \else
3019         \ifx\x\Hy@PrevPage
3020           \let\y=Y%
3021         \else
3022           \ifx\x\Hy@FirstPage
3023             \let\y=Y%
```



```

3024         \else
3025         \ifx\x\Hy@LastPage
3026         \let\y=Y%
3027         \else
3028         \let\y=N%
3029         \fi
3030     \fi
3031 \fi
3032 \fi
3033 \expandafter\endgroup
3034 \ifx\y Y%
3035 \else
3036     \PackageError{hyperref}{%
3037     PDF/A: Named action ‘#1’ is not permitted%
3038     }\@ehc
3039     {#2}%
3040     \expandafter\@gobble
3041 \fi
3042 }%
3043 \def\Hy@temp#1{%
3044     \expandafter\def\csname Hy@#1\endcsname{#1}%
3045     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3046 }%
3047 \Hy@temp{NextPage}%
3048 \Hy@temp{PrevPage}%
3049 \Hy@temp{FirstPage}%
3050 \Hy@temp{LastPage}%
3051 \else
3052     \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3053 \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.

```

3054 \Hy@nextfalse
3055 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3056 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3057 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3058 \ifHy@next
3059     \let\texttilde\~%
3060 \fi

```

## 15.3 Patch for babel 3.8j

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

```

3061 \@ifpackageloaded{babel}{%
3062     \@ifpackagelater{babel}{2008/03/16}{%
3063         \def\Hy@PatchLanguageShorthands#1{%
3064             \begingroup
3065             \edef\x{#1}%
3066             \@onelevel@sanitize\x
3067             \def\y{system}%
3068             \@onelevel@sanitize\y
3069             \expandafter\endgroup
3070             \ifx\x\y

```

```

3071     \else
3072     \HyOrg@languageshorthands{#1}%
3073     \fi
3074 }%
3075 \AtBeginDocument{%
3076     \begingroup
3077     \toks0=\expandafter{\pdfstringdefPreHook}%
3078     \xdef\pdfstringdefPreHook{%
3079         \let\noexpand\HyOrg@languageshorthands
3080         \noexpand\languageshorthands
3081         \let\noexpand\languageshorthands
3082         \noexpand\Hy@PatchLanguageShorthands
3083         \the\toks0 %
3084         \let\noexpand\languageshorthands
3085         \noexpand\HyOrg@languageshorthands
3086     }%
3087     \endgroup
3088 }%
3089 }{}%
3090 }{}

3091 \ifHy@figures
3092 \Hy@Info{Hyper figures ON}%
3093 \else
3094 \Hy@Info{Hyper figures OFF}%
3095 \fi
3096 \ifHy@nesting
3097 \Hy@Info{Link nesting ON}%
3098 \else
3099 \Hy@Info{Link nesting OFF}%
3100 \fi
3101 \ifHy@hyperindex
3102 \Hy@Info{Hyper index ON}%
3103 \else
3104 \Hy@Info{Hyper index OFF}%
3105 \fi
3106 \ifHy@plainpages
3107 \Hy@Info{Plain pages ON}%
3108 \else
3109 \Hy@Info{Plain pages OFF}%
3110 \fi
3111 \ifHy@backref
3112 \Hy@Info{Backreferencing ON}%
3113 \else
3114 \Hy@Info{Backreferencing OFF}%
3115 \fi
3116 \ifHy@typexml
3117 \AtEndOfPackage{%
3118     \RequirePackage{color}%
3119     \RequirePackage{nameref}%
3120 }%
3121 \fi
3122 \Hy@DisableOption{typexml}
3123 \ifHy@implicit
3124 \typeout{Implicit mode ON; LaTeX internals redefined}%
3125 \else
3126 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3127 \def\MaybeStopEarly{%

```

```

3128 \typeout{Hyperref stopped early}%
3129 \AfterBeginDocument{%
3130 \PDF@FinishDoc
3131 \gdef\PDF@FinishDoc{}}%
3132 }%
3133 \endinput
3134 }%
3135 \AtBeginDocument{%
3136 \let\autoref\ref
3137 \let\autopageref\pageref
3138 \ifx\@pdfpagemode\@empty
3139 \gdef\@pdfpagemode{UseNone}%
3140 \fi
3141 \global\Hy@backreffalse
3142 }%
3143 \AtEndOfPackage{%
3144 \global\let\ReadBookmarks\relax
3145 \global\let\WriteBookmarks\relax
3146 }%
3147 \fi
3148 \Hy@DisableOption{implicit}

```

### 15.3.1 Driver loading

```

3149 \AtEndOfPackage{%
3150 \ifpackageloaded{tex4ht}{%
3151 \def\Hy@driver{htex4ht}%
3152 \Hy@texhttrue
3153 }{}%

```

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.

```

3154 \ifx\Hy@driver\@empty
3155 \else
3156 \def\Hy@temp{hpdfTeX}%
3157 \ifpdf
3158 \ifx\Hy@driver\Hy@temp
3159 \else
3160 \Hy@WarningNoLine{%
3161 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3162 pdfTeX is running in PDF mode.\MessageBreak
3163 Forcing driver ‘\Hy@temp.def’%
3164 }%
3165 \let\Hy@driver\Hy@temp
3166 \fi
3167 \else
3168 \ifx\Hy@driver\Hy@temp
3169 \Hy@WarningNoLine{%
3170 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3171 pdfTeX is not running in PDF mode.\MessageBreak
3172 Using default driver%
3173 }%
3174 \let\Hy@driver\@empty
3175 \fi
3176 \fi
3177 \fi
3178 \ifx\Hy@driver\@empty
3179 \else

```

```

3180 \def\Hy@temp{hdvipdfm}%
3181 \ifxetex
3182 \ifx\Hy@driver\Hy@temp
3183 \else
3184 \Hy@WarningNoLine{%
3185   Wrong driver '\Hy@driver.def';\MessageBreak
3186   XeTeX is running.\MessageBreak
3187   Forcing driver '\Hy@temp.def' for XeTeX%
3188 }%
3189 \let\Hy@driver\Hy@temp
3190 \fi
3191 \fi
3192 \fi
3193 \ifx\Hy@driver\@empty
3194 \else
3195 \def\Hy@temp{hvtexhtm}%
3196 \ifvtexhtml
3197 \ifx\Hy@driver\Hy@temp
3198 \else
3199 \Hy@WarningNoLine{%
3200   Wrong driver '\Hy@driver.def';\MessageBreak
3201   VTeX is running in HTML mode.\MessageBreak
3202   Forcing driver '\Hy@temp.def'%
3203 }%
3204 \let\Hy@driver\Hy@temp
3205 \fi
3206 \else
3207 \ifx\Hy@driver\Hy@temp
3208 \Hy@WarningNoLine{%
3209   Wrong driver '\Hy@driver.def';\MessageBreak
3210   VTeX is not running in HTML mode.\MessageBreak
3211   Using default driver%
3212 }%
3213 \let\Hy@driver\@empty
3214 \fi
3215 \fi
3216 \fi

```

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

```

3217 \ifx\Hy@driver\@empty
3218 \providecommand*{\Hy@defaultdriver}{hypertex}%
3219 \ifpdf
3220 \def\Hy@driver{hpdfTeX}%
3221 \else
3222 \ifxetex
3223 \def\Hy@driver{hdvipdfm}%
3224 \else
3225 \ifvtexhtml
3226 \def\Hy@driver{hvtexhtm}%
3227 \def\MaybeStopEarly{%
3228   \typeout{Hyperref stopped early}%
3229   \AfterBeginDocument{%
3230     \PDF@FinishDoc
3231     \gdef\PDF@FinishDoc{}%
3232   }%
3233   \endinput
3234 }%
3235 \else

```

```

3236         \ifvtexpdf
3237         \def\Hy@driver{hvtex}%
3238     \else
3239         \ifvtexps
3240         \def\Hy@driver{hvtex}%
3241     \else
3242         \let\Hy@driver\Hy@defaultdriver
3243     \fi
3244 \fi
3245 \fi
3246 \fi
3247 \fi
3248 \ifx\Hy@driver\Hy@defaultdriver
3249     \def\Hy@temp{hdvwind}%
3250     \ifx\Hy@temp\Hy@driver
3251         \setkeys{Hyp}{colorlinks}%
3252         \PassOptionsToPackage{dviwindo}{color}%
3253     \fi
3254 \fi
3255     \typeout{*hyperref using default driver \Hy@driver*}%
3256 \else
3257     \typeout{*hyperref using driver \Hy@driver*}%
3258 \fi
3259 \input{\Hy@driver.def}%
3260 \let\@unprocessedoptions\relax
3261 \Hy@RestoreCatcodes
3262 }
3263 \newif\ifHy@DvipdfmxOutlineOpen
3264 \begingroup\expandafter\expandafter\expandafter\endgroup
3265 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3266 \else
3267     \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3268         \Hy@DvipdfmxOutlineOpentru
3269     \fi
3270 \fi
3271 \Hy@DisableOption{tex4ht}
3272 \Hy@DisableOption{pdftex}
3273 \Hy@DisableOption{nativepdf}
3274 \Hy@DisableOption{dvipdfm}
3275 \Hy@DisableOption{dvipdfmx}
3276 \Hy@DisableOption{dvipdfmx-outline-open}
3277 \Hy@DisableOption{pdfmark}
3278 \Hy@DisableOption{dvips}
3279 \Hy@DisableOption{hypertex}
3280 \Hy@DisableOption{vtex}
3281 \Hy@DisableOption{vtexpdfmark}
3282 \Hy@DisableOption{dviwindo}
3283 \Hy@DisableOption{dvipsone}
3284 \Hy@DisableOption{textures}
3285 \Hy@DisableOption{latex2html}
3286 \Hy@DisableOption{ps2pdf}
3287 \Hy@DisableOption{xetex}
3288 \AtEndOfPackage{%
3289     \Hy@DisableOption{pdfversion}%
3290 }

```

### 15.3.2 Bookmarks

```

3291 \def\WriteBookmarks{0}
3292 \def\@bookmarkopenstatus#1{%
3293   \ifHy@bookmarkopen

```

The purpose of the \@firstofone-number-space-construct is that no \relax will be inserted by T<sub>E</sub>X before the \else:

```

3294   \ifnum#1<\expandafter\@firstofone\expandafter
3295     {\number\@bookmarkopenlevel} % explicit space
3296   \else
3297     -%
3298   \fi
3299 \else
3300   -%
3301 \fi
3302 }
3303 \ifHy@bookmarks
3304   \Hy@Info{Bookmarks ON}%
3305   \ifx\@pdfpagemode\@empty
3306     \def\@pdfpagemode{UseOutlines}%
3307   \fi
3308 \else
3309   \def\@bookmarkopenstatus#1{%
3310     \Hy@Info{Bookmarks OFF}%
3311     \AtEndOfPackage{%
3312       \global\let\ReadBookmarks\relax
3313       \global\let\WriteBookmarks\relax
3314     }%
3315     \ifx\@pdfpagemode\@empty
3316       \def\@pdfpagemode{UseNone}%
3317     \fi
3318   \fi
3319 \Hy@DisableOption{bookmarks}

```

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

```

3320 \def\Hy@CatcodeWrapper#1{%
3321   \def\Hy@EndWrap{}%
3322   \def\TMP@EnsureCode##1##2{%
3323     \edef\Hy@EndWrap{%
3324       \Hy@EndWrap
3325       \catcode##1 \the\catcode##1\relax
3326     }%
3327     \catcode##1 ##2\relax
3328   }%
3329   \TMP@EnsureCode{10}{12}% ^^J
3330   \TMP@EnsureCode{33}{12}% !
3331   \TMP@EnsureCode{34}{12}% "
3332   \TMP@EnsureCode{36}{3}% $ (math)
3333   \TMP@EnsureCode{38}{4}% & (alignment)
3334   \TMP@EnsureCode{39}{12}% '
3335   \TMP@EnsureCode{40}{12}% (
3336   \TMP@EnsureCode{41}{12}% )
3337   \TMP@EnsureCode{42}{12}% *
3338   \TMP@EnsureCode{43}{12}% +
3339   \TMP@EnsureCode{44}{12}% ,
3340   \TMP@EnsureCode{45}{12}% -
3341   \TMP@EnsureCode{46}{12}% .
3342   \TMP@EnsureCode{47}{12}% /
3343   \TMP@EnsureCode{58}{12}% :
3344   \TMP@EnsureCode{59}{12}% ;

```

```

3345 \TMP@EnsureCode{60}{12}% <
3346 \TMP@EnsureCode{61}{12}% =
3347 \TMP@EnsureCode{62}{12}% >
3348 \TMP@EnsureCode{63}{12}% ?
3349 \TMP@EnsureCode{91}{12}% [
3350 \TMP@EnsureCode{93}{12}% ]
3351 \TMP@EnsureCode{94}{7}% ^ (superscript)
3352 \TMP@EnsureCode{95}{8}% _ (subscript)
3353 \TMP@EnsureCode{96}{12}% '
3354 \TMP@EnsureCode{124}{12}% |
3355 \TMP@EnsureCode{126}{13}% ~ (active)
3356 #1\relax
3357 \Hy@endWrap
3358 }

```

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

```

3359 \AtBeginDocument{%
3360   \ifHy@ocgcolorlinks
3361     \setkeys{Hyp}{colorlinks}%
3362     \ifHy@pdfa
3363       \Hy@Warning{%
3364         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3365         using 'colorlinks' instead of 'ocgcolorlinks'%
3366       }%
3367     \Hy@ocgcolorlinksfalse
3368   \fi
3369 \fi
3370 \ifHy@ocgcolorlinks
3371 \else
3372   \Hy@DisableOption{ocgcolorlinks}%
3373 \fi
3374 \ifHy@colorlinks
3375   \def\@pdfborder{0 0 0}%
3376   \let\@pdfborderstyle\@empty
3377   \ifHy@typexml
3378   \else
3379     \Hy@CatcodeWrapper{%
3380       \RequirePackage{color}%
3381     }%
3382   \fi
3383   \def\Hy@colorlink#1{%
3384     \begingroup
3385     \HyColor@UseColor#1%
3386   }%
3387   \def\Hy@endcolorlink{\endgroup}%
3388   \Hy@Info{Link coloring ON}%
3389 \else
3390   \ifHy@frenchlinks
3391     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3392     \def\Hy@endcolorlink{\endgroup}%
3393     \Hy@Info{French linking ON}%
3394   \else

```

for grouping consistency:

```

3395   \def\Hy@colorlink#1{\begingroup}%
3396   \def\Hy@endcolorlink{\endgroup}%
3397   \Hy@Info{Link coloring OFF}%
3398 \fi

```

```

3399 \fi
3400 \Hy@DisableOption{colorlinks}%
3401 \Hy@DisableOption{frenchlinks}%
3402 \ifHy@texht
3403   \long\def\@firstoffive#1#2#3#4#5{#1}%
3404   \long\def\@secondoffive#1#2#3#4#5{#2}%
3405   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3406   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3407   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3408   \providecommand*\@safe@activestruet{}%
3409   \providecommand*\@safe@activesfalse{}%
3410   \def\T@ref#1{%
3411     \Hy@safe@activestruet
3412     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3413     \Hy@safe@activesfalse
3414   }%
3415   \def\T@pageref#1{%
3416     \Hy@safe@activestruet
3417     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3418     \Hy@safe@activesfalse
3419   }%
3420 \else
3421   \ifHy@typexml
3422   \else
3423     \Hy@CatcodeWrapper{%
3424       \RequirePackage{nameref}%
3425     }%
3426   \fi
3427 \fi
3428 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3429 \DeclareRobustCommand\pageref{%
3430   \@ifstar\@pagerefstar\T@pageref
3431 }%
3432 }
3433 \AfterBeginDocument{%
3434   \ifHy@texht
3435   \else
3436     \Hy@CatcodeWrapper{%
3437       \ReadBookmarks
3438     }%
3439   \fi
3440 }
3441 \ifHy@backref
3442   \RequirePackage{backref}%
3443 \else
3444   \let\Hy@backout\@gobble
3445 \fi
3446 \Hy@DisableOption{backref}
3447 \Hy@DisableOption{pagebackref}
3448 \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.

```

3449 \begingroup
3450 \endlinechar=-1 %
3451 \catcode'\^^A=14 %
3452 \catcode'\^^M\active
3453 \catcode'\%\active
3454 \catcode'\#\active
3455 \catcode'\_\active
3456 \catcode'\$\active
3457 \catcode'\&\active
3458 \gdef\hyper@normalise{^^A
3459   \begingroup
3460   \catcode'\^^M\active
3461   \def^^M{ }^^A
3462   \catcode'\%\active
3463   \let%\@percentchar
3464   \let%\@percentchar
3465   \catcode'\#\active
3466   \def#{\hyper@hash}^^A
3467   \def\#{\hyper@hash}^^A
3468   \@makeother\&^^A
3469   \edef&{\string&}^^A
3470   \edef\&{\string&}^^A
3471   \edef\textunderscore{\string_}^^A
3472   \let_\textunderscore
3473   \catcode'\_\active
3474   \let_\textunderscore
3475   \let~\hyper@tilde
3476   \let~\hyper@tilde
3477   \let\textasciitilde\hyper@tilde
3478   \let\\\@backslashchar
3479   \edef$\string$}^^A
3480   \Hy@safe@activetrue
3481   \hyper@@normalise
3482 }^^A
3483 \catcode'\#=6 ^^A
3484 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3485 \gdef\hyper@@normalise#1#2{^^A
3486   \def\Hy@tempa{#2}^^A
3487   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3488     \Hy@ReturnAfterElseFi{^^A
3489       \hyper@@normalise{#1}^^A
3490     }^^A
3491   \else
3492     \Hy@ReturnAfterFi{^^A
3493       \hyper@@normalise{#1}{#2}^^A
3494     }^^A
3495   \fi
3496 }^^A
3497 \gdef\hyper@@normalise#1#2{^^A
3498   \edef\Hy@tempa{^^A
3499     \endgroup
3500     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3501   }^^A
3502   \Hy@tempa

```

```

3503 }^^A
3504 \gdef\Hy@RemovePercentCr#1%^M#2\@nil{^^A
3505   #1^^A
3506   \ifx\limits#2\limits
3507   \else
3508     \Hy@ReturnAfterFi{^^A
3509     \Hy@RemovePercentCr #2\@nil
3510   }^^A
3511   \fi
3512 }^^A
3513 \endgroup
3514 \providecommand*{\hyper@chars{%
3515   \let\#\hyper@hash
3516   \let%\@percentchar
3517   \Hy@safe@activestrue
3518 }

3519 \def\hyperlink#1#2{%
3520   \hyper@@link{#1}{#2}%
3521 }

3522 \DeclareRobustCommand*\href{%
3523   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3524 }
3525 \def\Hy@href#1{%
3526   \hyper@normalise\href@
3527 }
3528 \begingroup
3529   \catcode'\$=6 %
3530   \catcode'\#=12 %
3531   \gdef\href@#1{\expandafter\href@split$1##\}%
3532   \gdef\href@split$1#$2#$3\{\%
3533     \hyper@@link{#1}{#2}%
3534   }%
3535 \endgroup

```

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

```

3536 \RequirePackage{url}
3537 \let\HyOrg@url\url
3538 \def\Hurl{\begingroup \Url}
3539 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3540 \def\nolinkurl@#1{\Hurl{#1}}
3541 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3542 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3543 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3544 \providecommand\hyper@image[2]{#2}

3545 \def\hypertarget#1#2{%
3546   \ifHy@nesting
3547     \hyper@@anchor{#1}{#2}%
3548   \else
3549     \hyper@@anchor{#1}{\relax}#2%
3550   \fi
3551 }

```

`\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  $\text{\LaTeX}$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3552 \DeclareRobustCommand*\hyperref{%
3553   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3554 }
3555 \def\Hy@babelnormalise#1[#2]{%
3556   \begingroup
3557     \Hy@safe@activestrue
3558     \edef\Hy@tempa{%
3559       \endgroup
3560       \noexpand#1[#2]}%
3561   }%
3562   \Hy@tempa
3563 }
3564 \def\@hyperref{\hyper@normalise\@hyperref}
3565 \def\@hyperref#1#2#3{%
3566   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
3567   \expandafter\tryhyper@link\ref@one\{#1}%
3568 }
3569 \def\tryhyper@link#1\#2{%
3570   \hyper@@link{#2}{#1}%
3571 }

3572 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3573 \def\@hyperdef#1#2#3{%, category, name, text
3574   \ifHy@nesting
3575     \hyper@@anchor{#1.#2}{#3}%
3576   \else
3577     \hyper@@anchor{#1.#2}{\relax}#3%
3578   \fi
3579 }

```

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

```

3580 \def\label@hyperref[#1]{%
3581   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3582 }%
3583 \def\label@@hyperref#1#2#3{%
3584   \ifx#1\relax
3585     \protect\G@refundefinedtrue
3586     \@latex@warning{%
3587       Hyper reference ‘#2’ on page \thepage \space undefined%
3588     }%
3589     \hyper@@link{}{??}{#3}%
3590   \else
3591     \hyper@@link{\expandafter\@fifthoffive#1}%
3592       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3593   \fi
3594 }
3595 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3596                               % anchor text
3597   \@bsphack
3598   \if@files@w
3599     \protected@write\@auxout{%
3600       {\string\newlabel{#1}{-}{-}\#2.#3}}%
3601   \fi
3602   \@esphack
3603   \ifHy@nesting

```

```

3604 \hyper@@anchor{#2.#3}{#4}%
3605 \else
3606 \hyper@@anchor{#2.#3}{\relax}#4%
3607 \fi
3608 }

```

## 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.

```

3609 \def\hyper@link{\let\Hy@reserved@a\relax
3610 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3611 }
3612 \def\hyper@link@[#1]#2#3#4{%
3613 \begingroup
3614 \protected@edef\Hy@tempa{#2}%
3615 \Hy@safe@activetrue
3616 \edef\x{#3}%
3617 \ifx\Hy@tempa\@empty
3618 \toks0{\hyper@link{#1}}%
3619 \else
3620 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3621 \fi
3622 \toks2{%
3623 \Hy@safe@activesfalse
3624 #4%
3625 }%
3626 \edef\Hy@tempa{\the\toks2}%
3627 \edef\x{\endgroup
3628 \ifx\Hy@tempa\@empty
3629 \noexpand\Hy@Warning{Suppressing empty link}%
3630 \else
3631 \the\toks0 \{ \x} {\the\toks2} %%
3632 \fi
3633 }%
3634 \x
3635 }

```

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.

```

3636 \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.

```
3637 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1:.\{#1}%
3638 }
```

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

```
3639 \def\@pdftempwordfile{file}%
3640 \def\@pdftempwordrun{run}%
3641 \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:

```
3642 \ifx\\#6\\%
3643 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3644 \else
3645 \ifx\\#4\\%
3646 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3647 \else
```

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

```
3648 \def\@pdftempa{#4}%
3649 \ifx\@pdftempa\@pdftempwordfile
3650 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3651 \else
```

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

```
3652 \ifx\@pdftempa\@pdftempwordrun
3653 \ifHy@pdfa
3654 \PackageError{hyperref}{%
3655 PDF/A: Launch action is prohibited%
3656 }\@ehc
3657 \begingroup
3658 \leavevmode
3659 #2%
3660 \endgroup
3661 \else
3662 \expandafter\@hyper@launch#7\\{#3}{#2}%
3663 \fi
3664 \else
```

otherwise its a URL

```
3665 \hyper@linkurl{#3}{#7\ifx\\#2\\%else\hyper@hash#2\fi}%
3666 \fi
3667 \fi
3668 \fi
3669 \fi
3670 }
```

By default, turn run: into file:

```
3671 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3672 \hyper@linkurl{#2}{%
3673 \Hy@linkfileprefix
3674 #1%
3675 \ifx\\#3\\%
3676 \else
```

```

3677     \hyper@hash
3678     #3%
3679     \fi
3680 }%
3681 }

```

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

```

3682 \def\@hyper@linkfile file:#1\|#2#3{%
3683     %file url,link string, name
3684     \filename@parse{#1}%
3685     \ifx\filename@ext\relax
3686         \edef\filename@ext{\XR@ext}%
3687     \fi
3688     \def\use@file{\filename@area\filename@base.\filename@ext}%
3689     \ifx\filename@ext\XR@ext
3690         \hyper@linkfile{#2}{\use@file}{#3}%
3691     \else
3692         \ifx\@baseurl\@empty
3693             \hyper@linkurl{#2}{%
3694                 \Hy@linkfileprefix\use@file\ifx\|#3\\\else\hyper@hash#3\fi
3695             }%
3696         \else
3697             \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
3698         \fi
3699     \fi
3700 }

```

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.

```

3701 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3702 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3703     \ifx\|#1\|
3704         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3705     \else
3706         \def\anchor@spot{#2#3}%
3707         \let\put@me@back\@empty
3708         \ifx\relax#2\relax
3709             \else
3710                 \ifHy@nesting
3711                     \else
3712                         \ifcat a\noexpand#2\relax
3713                             \else
3714                                 \ifcat O\noexpand#2 \relax
3715                                     \else
3716 %                     \typeout{Anchor start is not alphanumeric %
3717 %                         on input line\the\inputlineno%
3718 %                     }%
3719                     \let\anchor@spot\@empty
3720                     \def\put@me@back{#2#3}%
3721                 \fi
3722             \fi
3723         \fi

```

```

3724 \fi
3725 \ifHy@activeanchor
3726 \anchor@spot
3727 \else
3728 \hyper@anchor{#1}%
3729 \fi
3730 \expandafter\put@me@back
3731 \fi
3732 \let\anchor@spot\@empty
3733 }

```

## 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.

```

3734 \let\htmladding\hyperimage
3735 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3736 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3737 \def\htmlref#1#2{% anchor text, label
3738 \label@hyperref[{#2}]{#1}%
3739 }

```

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.

```

3740 \def\@latextohtmlX{%
3741 \let\hhyperref\hyperref
3742 \def\hyperref##1##2##3##4{% anchor text for HTML
3743 % text to print before label in print
3744 % label
3745 % post-label text in print
3746 ##2\ref{##4}##3%
3747 }%
3748 }

```

## 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.

```

3749 \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

```
3750 \def\HyField@NewFlag#1#2{%
3751   \lowercase{\HyField@NewOption{#2}}%
3752   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3753 }
```

`\HyField@NewFlagOnly`

```
3754 \def\HyField@NewFlagOnly#1#2{%
3755   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3756 }
```

`\HyField@NewOption` #1: option name

```
3757 \def\HyField@NewOption#1{%
3758   \expandafter\newif\csname ifFld@#1\endcsname
3759   \define@key{Field}{#1}[true]{%
3760     \lowercase{\Field@boolkey{##1}}{#1}%
3761   }%
3762 }
```

`\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

```
3763 \def\HyField@NewBitsetFlag#1#2#3#4{%
3764   \begingroup
3765     \count@=#4\relax
3766     \advance\count@\m@ne
3767     \def\x##1{%
3768       \endgroup
3769       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3770       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3771         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3772           (\number#4) #2%
3773         }%
3774       \else
3775         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3776           \csname HyField@#3@##1\endcsname
3777           /#2%
3778         }%
3779       \fi
3780     }%
3781     \expandafter\x\expandafter{\the\count@}%
3782 }
```

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

```
3783 \def\HyField@UseFlag#1#2{%
3784   \lowercase{\HyField@UseFlag{#2}}{#1}%
3785 }
```



\HyField@@UseFlag

```

3786 \def\HyField@@UseFlag#1#2{%
3787   \bitsetSetValue{HyField@#2}{%
3788     \csname HyField@#2@#1\endcsname
3789   }{%
3790     \csname ifFld@#1\endcsname 1\else 0\fi
3791   }%
3792 }

```

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

```

3793 \def\HyField@SetFlag#1#2{%
3794   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3795 }

```

\HyField@@SetFlag

```

3796 \def\HyField@@SetFlag#1#2{%
3797   \bitsetSetValue{HyField@#2}{%
3798     \csname HyField@#2@#1\endcsname
3799   }{1}%
3800 }

```

\HyField@PrintFlags

```

3801 \def\HyField@PrintFlags#1#2{%
3802   \ifHy@verbose
3803     \begingroup
3804       \let\Hy@temp\@empty
3805       \let\MessageBreak\relax
3806       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3807       \bitsetGetSetBitList{HyField@#1}\do{%
3808         \edef\Hy@temp{%
3809           \Hy@temp
3810           \csname HyField@#1@\x\endcsname\MessageBreak
3811         }%
3812       }%
3813     \edef\x{\endgroup
3814       \noexpand\Hy@Info{%
3815         Field flags: %
3816         \expandafter\ifx\@car#1\@nil S\else/\fi
3817         #1 %
3818         \bitsetGetDec{HyField@#1} %
3819         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3820         \Hy@temp
3821         for #2%
3822       }%
3823     }\x
3824   \fi
3825 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3826 \HyField@NewFlag{Ff}{ReadOnly}{1}
3827 \HyField@NewFlag{Ff}{Required}{2}
3828 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```
3829 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3830 \HyField@NewFlag{Ff}{Radio}{16}
3831 \HyField@NewFlag{Ff}{Pushbutton}{17}
3832 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
3833 \HyField@NewFlag{Ff}{Multiline}{13}
3834 \HyField@NewFlag{Ff}{Password}{14}
3835 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3836 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3837 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3838 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3839 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
3840 \HyField@NewFlag{Ff}{Combo}{18}
3841 \HyField@NewFlag{Ff}{Edit}{19}
3842 \HyField@NewFlag{Ff}{Sort}{20}
3843 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3844 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3845 \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.

```
3846 \newif\ifFld@popdown
3847 \define@key{Field}{popdown}[true]{%
3848   \lowercase{\Field@boolkey{#1}}{popdown}%
3849 }
```

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.

```
3850 \HyField@NewFlag{F}{Invisible}{1}
3851 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3852 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3853 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3854 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3855 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3856 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3857 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3858 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3859 \ifHy@pdfa
3860   \def\HyField@PDFAFldWarning#1#2{%
3861     \Hy@Warning{%
3862       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3863       be set to ‘#2’%
3864     }%
3865   }%
3866   \Fld@invisiblefalse
3867   \def\Fld@invisibletrue{%
3868     \HyField@PDFAFldWarning{invisible}{false}%
3869   }%
3870   \Fld@hiddenfalse
3871   \def\Fld@hiddentrue{%
```

```

3872 \HyField@PDFAFIWarning{hidden}{false}%
3873 }%
3874 \Fld@printtrue
3875 \def\Fld@printfalse{%
3876 \HyField@PDFAFIWarning{print}{true}%
3877 }%
3878 \Fld@nozoomtrue
3879 \def\Fld@nozoomfalse{%
3880 \HyField@PDFAFIWarning{nozoom}{true}%
3881 }%
3882 \Fld@norotatetrue
3883 \def\Fld@norotatefalse{%
3884 \HyField@PDFAFIWarning{norotate}{true}%
3885 }%
3886 \Fld@noviewfalse
3887 \def\Fld@noviewtrue{%
3888 \HyField@PDFAFIWarning{noview}{false}%
3889 }%
3890 \fi

```

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

```

3891 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3892 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3893 \HyField@NewFlag{Submit}{GetMethod}{4}
3894 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3895 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3896 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3897 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3898 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3899 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3900 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3901 \HyField@NewFlag{Submit}{ExclFKey}{12}
3902 \HyField@NewFlag{Submit}{EmbedForm}{14}

3903 \define@key{Field}{export}{%
3904 \lowercase{\def\Hy@temp{#1}}%
3905 \@ifundefined{Fld@export@Hy@temp}{%
3906 \onelevel@sanitize\Hy@temp
3907 \PackageError{hyperref}{%
3908 \Known export format '\Hy@temp'.\MessageBreak
3909 \Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3910 }{\@ehc
3911 }{%
3912 \let\Fld@export\Hy@temp
3913 }%
3914 }
3915 \def\Fld@export{fdf}
3916 \@namedef{Fld@export@fdf}{0}%
3917 \@namedef{Fld@export@html}{1}%
3918 \@namedef{Fld@export@xfdf}{2}%
3919 \@namedef{Fld@export@pdf}{3}%

```

## 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3920 \def\HyField@FlagsSubmit{%
3921 \bitsetReset{HyField@Submit}%
3922 \ifcase\@nameuse{Fld@export@Fld@export} %

```

```

3923 % FDF
3924 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3925 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3926 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3927 \HyField@UseFlag{Submit}{IncludeAnnotations}%
3928 \HyField@UseFlag{Submit}{CanonicalFormat}%
3929 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3930 \HyField@UseFlag{Submit}{ExclFKey}%
3931 \HyField@UseFlag{Submit}{EmbedForm}%
3932 \or % HTML
3933 \HyField@SetFlag{Submit}{ExportFormat}%
3934 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3935 \HyField@UseFlag{Submit}{GetMethod}%
3936 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3937 \HyField@UseFlag{Submit}{CanonicalFormat}%
3938 \or % XFDF
3939 \HyField@SetFlag{Submit}{XFDF}%
3940 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3941 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3942 \HyField@UseFlag{Submit}{CanonicalFormat}%
3943 \or % PDF
3944 \HyField@SetFlag{Submit}{SubmitPDF}%
3945 \HyField@UseFlag{Submit}{GetMethod}%
3946 \fi
3947 \HyField@PrintFlags{Submit}{submit button field}%
3948 \bitsetIsEmpty{HyField@Submit}{%
3949 \def\Fld@submitflags{%
3950 }{%
3951 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3952 }%
3953 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

3954 \def\HyField@FlagsAnnot#1{%
3955 \bitsetReset{HyField@F}%
3956 \HyField@UseFlag{F}{Invisible}%
3957 \HyField@UseFlag{F}{Hidden}%
3958 \HyField@UseFlag{F}{Print}%
3959 \HyField@UseFlag{F}{NoZoom}%
3960 \HyField@UseFlag{F}{NoRotate}%
3961 \HyField@UseFlag{F}{NoView}%
3962 \HyField@UseFlag{F}{Locked}%
3963 \HyField@UseFlag{F}{ToggleNoView}%
3964 \HyField@UseFlag{F}{LockedContents}%
3965 \HyField@PrintFlags{F}{#1}%
3966 \bitsetIsEmpty{HyField@F}{%
3967 \def\Fld@annotflags{%
3968 }{%
3969 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3970 }%
3971 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
3972 \def\HyField@FlagsPushButton{%
3973   \HyField@FlagsAnnot{push button field}%
3974   \bitsetReset{HyField@Ff}%
3975   \HyField@UseFlag{Ff}{ReadOnly}%
3976   \HyField@UseFlag{Ff}{Required}%
3977   \HyField@UseFlag{Ff}{NoExport}%
3978   \HyField@SetFlag{Ff}{Pushbutton}%
3979   \HyField@PrintFlags{Ff}{push button field}%
3980   \bitsetIsEmpty{HyField@Ff}{%
3981     \def\Fld@flags{%
3982     }{%
3983     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3984     }%
3985 }
```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```
3986 \def\HyField@FlagsCheckBox{%
3987   \HyField@FlagsAnnot{check box field}%
3988   \bitsetReset{HyField@Ff}%
3989   \HyField@UseFlag{Ff}{ReadOnly}%
3990   \HyField@UseFlag{Ff}{Required}%
3991   \HyField@UseFlag{Ff}{NoExport}%
3992   \HyField@PrintFlags{Ff}{check box field}%
3993   \bitsetIsEmpty{HyField@Ff}{%
3994     \def\Fld@flags{%
3995     }{%
3996     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3997     }%
3998 }
```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```
3999 \def\HyField@FlagsRadioButton{%
4000   \HyField@FlagsAnnot{radio button field}%
4001   \bitsetReset{HyField@Ff}%
4002   \HyField@UseFlag{Ff}{ReadOnly}%
4003   \HyField@UseFlag{Ff}{Required}%
4004   \HyField@UseFlag{Ff}{NoExport}%
4005   \HyField@UseFlag{Ff}{NoToggleToOff}%
4006   \HyField@SetFlag{Ff}{Radio}%
4007   \HyField@UseFlag{Ff}{RadiosInUnison}%
4008   \HyField@PrintFlags{Ff}{radio button field}%
4009   \bitsetIsEmpty{HyField@Ff}{%
4010     \def\Fld@flags{%
4011     }{%
4012     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4013     }%
4014 }
```

### 19.1.7 Text fields

\HyField@FlagsText

```
4015 \def\HyField@FlagsText{%
4016   \HyField@FlagsAnnot{text field}%
4017   \bitsetReset{HyField@Ff}%
4018   \HyField@UseFlag{Ff}{ReadOnly}%
4019   \HyField@UseFlag{Ff}{Required}%
4020   \HyField@UseFlag{Ff}{NoExport}%
4021   \HyField@UseFlag{Ff}{Multiline}%
4022   \HyField@UseFlag{Ff}{Password}%
4023   \HyField@UseFlag{Ff}{FileSelect}%
4024   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4025   \HyField@UseFlag{Ff}{DoNotScroll}%
4026   \ifFld@comb
4027     \ifcase0\ifFld@multiline
4028       \else\ifFld@password
4029       \else\ifFld@fileselect
4030       \else 1\fi\fi\fi\relax
4031     \PackageError{hyperref}{%
4032       Field option ‘comb’ cannot used together with\MessageBreak
4033       ‘multiline’, ‘password’, or ‘fileselect’%
4034     }\@ehc
4035   \else
4036     \HyField@UseFlag{Ff}{Comb}%
4037   \fi
4038 \fi
4039 \HyField@UseFlag{Ff}{RichText}%
4040 \HyField@PrintFlags{Ff}{text field}%
4041 \bitsetIsEmpty{HyField@Ff}{%
4042   \def\Fld@flags{%
4043   }{%
4044   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4045   }%
4046 }
```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```
4047 \def\HyField@FlagsChoice{%
4048   \HyField@FlagsAnnot{choice field}%
4049   \bitsetReset{HyField@Ff}%
4050   \HyField@UseFlag{Ff}{ReadOnly}%
4051   \HyField@UseFlag{Ff}{Required}%
4052   \HyField@UseFlag{Ff}{NoExport}%
4053   \HyField@UseFlag{Ff}{Combo}%
4054   \ifFld@combo
4055     \HyField@UseFlag{Ff}{Edit}%
4056   \fi
4057   \HyField@UseFlag{Ff}{Sort}%
4058   \HyField@UseFlag{Ff}{MultiSelect}%
4059   \ifFld@combo
4060     \ifFld@edit
4061       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4062     \fi
4063   \fi
4064   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```

```

4065 \HyField@PrintFlags{Ff}{choice field}%
4066 \bitsetIsEmpty{HyField@Ff}{%
4067   \def\Fld@flags{}%
4068 }{%
4069   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4070 }%
4071 }

```

## 19.2 Choice field

```
4072 \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`.

```

4073 \def\HyField@PDFChoices#1{%
4074   \begingroup
4075   \gdef\Fld@choices{}%
4076   \def\HyTmp@optlist{%
4077     \let\HyTmp@optitem\relax
4078     \count@=0 %
4079     \kv@parse{#1}{%
4080       \Hy@pdfstringdef\kv@key\kv@key
4081       \ifx\kv@value\relax
4082         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4083           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4084         \else
4085           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4086         \fi
4087       \else
4088         \Hy@pdfstringdef\kv@value\kv@value
4089         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4090       \fi
4091     \edef\HyTmp@optlist{%
4092       \HyTmp@optlist
4093       \HyTmp@optitem{the\count@}{\kv@key}0%
4094     }%
4095     \advance\count@ by 1 %
4096     \@gobbletwo
4097   }%
4098   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4099   \ifFld@multiselect
4100     \HyField@@PDFChoices{DV}\Fld@default
4101     \HyField@@PDFChoices{V}\Fld@value
4102   \else
4103     \ifx\Fld@default\relax
4104     \else
4105       \pdfstringdef\Hy@gtemp\Fld@default
4106       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4107     \fi
4108     \ifx\Fld@value\relax
4109     \else
4110       \pdfstringdef\Hy@gtemp\Fld@value
4111       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4112     \fi
4113   \fi
4114 \endgroup

```

4115 }

\HyField@@PDFChoices

```
4116 \def\HyField@@PDFChoices#1#2{%
4117   \ifx#2\relax
4118   \else
4119     \count@=0 %
4120     \def\HyTmp@optitem##1##2##3{%
4121       \def\HyTmp@key{##2}%
4122       \ifx\HyTmp@key\Hy@gtemp
4123         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4124           \HyTmp@optlist
4125           \HyTmp@optitem{##1}{##2}1%
4126         }%
4127         \let\HyTmp@found=Y%
4128       \else
4129         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4130           \HyTmp@optlist
4131           \HyTmp@optitem{##1}{##2}##3%
4132         }%
4133       \fi
4134     }%
4135     \expandafter\comma@parse\expandafter{#2}{%
4136       \pdfstringdef\Hy@gtemp\comma@entry
4137       \let\HyTmp@found=N %
4138       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4139       \HyTmp@optlist
4140       \ifx\HyTmp@found Y%
4141         \advance\count@ by 1 %
4142       \else
4143         \@onelevel@sanitize\comma@entry
4144         \PackageWarning{hyperref}{%
4145           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4146           \MessageBreak
4147           it cannot be found in the choices%
4148         }%
4149       \fi
4150       \@gobble
4151     }%
4152     \def\HyTmp@optitem##1##2##3{%
4153       \ifnum##3=1 %
4154         (##2)%
4155       \fi
4156     }%
4157     \ifcase\count@
4158     \or
4159       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4160     \else
4161       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4162       \ifx#1V%
4163         \def\HyTmp@optitem##1##2##3{%
4164           \ifnum##3=1 %
4165             \@firstofone{ ##1}%
4166           \fi
4167         }%
4168       \edef\HyTmp@optlist{\HyTmp@optlist}%
4169       \xdef\Fld@choices{%
```



```

4170          \Fld@choices
4171          /I[\expandafter\@firstofone\HyTmp@optlist]%
4172      }%
4173      \fi
4174  \fi
4175  \fi
4176 }

```

## 19.3 Forms

\HyField@SetKeys

```

4177 \def\HyField@SetKeys{%
4178   \setkeys{Field}%
4179 }

4180 \newif\ifFld@checked
4181 \newif\ifFld@disabled
4182 \Fld@checkedfalse
4183 \Fld@disabledfalse
4184 \newcount\Fld@menulength
4185 \newdimen\Fld@Width
4186 \newdimen\Fld@charsize
4187 \Fld@charsize=10\p@
4188 \def\Fld@maxlen{0}
4189 \def\Fld@align{0}
4190 \def\Fld@color{0 0 0 rg}
4191 \def\Fld@bcolor{1 1 1}
4192 \def\Fld@bordercolor{1 0 0}
4193 \def\Fld@bordersep{1\p@}
4194 \def\Fld@borderwidth{1}
4195 \def\Fld@borderstyle{S}
4196 \def\Fld@cbsymbol{4}
4197 \def\Fld@rotation{0}
4198 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4199 \def\endForm{\@endForm}
4200 \newif\ifForm@html
4201 \Form@htmlfalse
4202 \def\Form@boolkey#1#2{%
4203   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4204 }
4205 \define@key{Form}{action}{%
4206   \hyper@normalise\Hy@DefFormAction{#1}%
4207 }
4208 \def\Hy@DefFormAction{\def\Form@action}
4209 \def\enc@html{html}
4210 \define@key{Form}{encoding}{%
4211   \def\Hy@tempa{#1}%
4212   \ifx\Hy@tempa\enc@html
4213     \Form@htmltrue
4214     \def\Fld@export{html}%
4215   \else
4216     \typeout{hyperref: form 'encoding' key set to #1 %
4217       -- unknown type%
4218   }%
4219   \Form@htmlfalse
4220 \fi
4221 }

```

```

4222 \define@key{Form}{method}{%
4223   \lowercase{\def\Hy@temp{#1}}%
4224   \@ifundefined{Form@method@\Hy@temp}{%
4225     \@onelevel@sanitize\Hy@temp
4226     \PackageError{hyperref}{%
4227       Unknown method '\Hy@temp'.\MessageBreak
4228       Known values are 'post' and 'get'%
4229     }\@ehc
4230   }{%
4231     \let\Form@method\Hy@temp
4232     \ifcase\@nameuse{Form@method@\Hy@temp} %
4233       \Fld@getmethodfalse
4234     \else
4235       \Fld@getmethodtrue
4236     \fi
4237   }%
4238 }
4239 \def\Form@method{}
4240 \@namedef{Form@method@post}{0}
4241 \@namedef{Form@method@get}{1}
4242 \def\Fld@boolkey#1#2{%
4243   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4244 }
4245 \newtoks\Fld@toks
4246 \Fld@toks={ }%
4247 \def\Fld@addtoks#1#2{%
4248   \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
4249   \@processme
4250 }
4251 \def\Fld@checkequals#1=#2=#3\{\%
4252   \def\@currDisplay{#1}%
4253   \ifx\#2\%
4254     \def\@currValue{#1}%
4255   \else
4256     \def\@currValue{#2}%
4257   \fi
4258 }
4259 \define@key{Field}{loc}{%
4260   \def\Fld@loc{#1}%
4261 }
4262 \define@key{Field}{checked}[true]{%
4263   \lowercase{\Fld@boolkey{#1}}{checked}%
4264 }
4265 \define@key{Field}{disabled}[true]{%
4266   \lowercase{\Fld@boolkey{#1}}{disabled}%
4267 }
4268 \define@key{Field}{accesskey}{%
4269   \Fld@addtoks{accesskey}{#1}%
4270 }
4271 \define@key{Field}{tabkey}{%
4272   \Fld@addtoks{tabkey}{#1}%
4273 }
4274 \define@key{Field}{name}{%
4275   \def\Fld@name{#1}%
4276 }
4277 \define@key{Field}{width}{%
4278   \def\Fld@width{#1}%

```

```

4279 \Field@Width#1\setbox0=\hbox{m}%
4280 }
4281 \define@key{Field}{maxlen}{%
4282 \def\Fld@maxlen{#1}%
4283 }
4284 \define@key{Field}{menulength}{%
4285 \Fld@menulength=#1\relax
4286 }
4287 \define@key{Field}{height}{%
4288 \def\Fld@height{#1}%
4289 }
4290 \define@key{Field}{charsize}{%
4291 \Fld@charsize#1%
4292 }
4293 \define@key{Field}{borderwidth}{%
4294 \def\Fld@borderwidth{#1}%
4295 }
4296 \define@key{Field}{borderstyle}{%
4297 \def\Fld@borderstyle{#1}%
4298 }
4299 \define@key{Field}{bordersep}{%
4300 \def\Fld@bordersep{#1}%
4301 }
4302 \define@key{Field}{default}{%
4303 \def\Fld@default{#1}%
4304 }
4305 \define@key{Field}{align}{%
4306 \def\Fld@align{#1}%
4307 }
4308 \define@key{Field}{value}{%
4309 \def\Fld@value{#1}%
4310 }
4311 \define@key{Field}{checkboxsymbol}{%
4312 \def\Fld@cbsymbol{#1}%
4313 }
4314 \define@key{Field}{rotation}{%
4315 \def\Fld@rotation{#1}%
4316 }
4317 \define@key{Field}{backgroundcolor}{%
4318 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4319 }
4320 \define@key{Field}{bordercolor}{%
4321 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4322 }
4323 \define@key{Field}{color}{%
4324 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4325 }
4326 \def\Fld@format@code{}
4327 \def\Fld@validate@code{}
4328 \def\Fld@calculate@code{}
4329 \def\Fld@keystroke@code{}
4330 \def\Fld@onfocus@code{}
4331 \def\Fld@onblur@code{}
4332 \def\Fld@onmousedown@code{}
4333 \def\Fld@onmouseup@code{}
4334 \def\Fld@onenter@code{}

```

```

4335 \def\Fld@onexit@code{}
4336 \def\Hy@temp#1{%
4337   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4338 }
4339 \def\Hy@@temp#1#2{%
4340   \ifHy@pdfa
4341     \define@key{Field}{#2}{%
4342       \PackageError{hyperref}{%
4343         PDF/A: Additional action ‘#2’ is prohibited%
4344       }\@ehc
4345     }%
4346   \else
4347     \define@key{Field}{#2}{%
4348       \def#1{##1}%
4349     }%
4350   \fi
4351 }
4352 \Hy@temp{keystroke}
4353 \Hy@temp{format}
4354 \Hy@temp{validate}
4355 \Hy@temp{calculate}
4356 \Hy@temp{onfocus}
4357 \Hy@temp{onblur}
4358 \Hy@temp{onenter}
4359 \Hy@temp{onexit}
4360 \def\Hy@temp#1{%
4361   \define@key{Field}{#1}{%
4362     \Field@addtoks{#1}{##1}%
4363   }%
4364 }
4365 \Hy@temp{onselect}
4366 \Hy@temp{onchange}
4367 \Hy@temp{ondblclick}
4368 \Hy@temp{onmousedown}
4369 \Hy@temp{onmouseup}
4370 \Hy@temp{onmouseover}
4371 \Hy@temp{onmousemove}
4372 \Hy@temp{onmouseout}
4373 \Hy@temp{onkeypress}
4374 \Hy@temp{onkeydown}
4375 \Hy@temp{onkeyup}
4376 \ifHy@pdfa
4377   \define@key{Field}{onclick}{%
4378     \PackageError{hyperref}{%
4379       PDF/A: Action ‘onclick’ is prohibited%
4380     }\@ehc
4381   }%
4382 \else
4383   \define@key{Field}{onclick}{%
4384     \def\Fld@onclick{#1}%
4385     \Field@addtoks{onclick}{#1}%
4386   }%
4387 \fi
4388 \DeclareRobustCommand\TextField{%
4389   \@ifnextchar[{\@TextField}{\@TextField[]}%
4390 }
4391 \DeclareRobustCommand\ChoiceMenu{%

```

```

4392 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4393 }
4394 \DeclareRobustCommand\CheckBox{%
4395 \ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4396 }
4397 \DeclareRobustCommand\PushButton{%
4398 \ifnextchar[{\@PushButton}{\@PushButton[]}%
4399 }
4400 \DeclareRobustCommand\Gauge{%
4401 \ifnextchar[{\@Gauge}{\@Gauge[]}%
4402 }
4403 \DeclareRobustCommand\Submit{%
4404 \ifnextchar[{\@Submit}{\@Submit[]}%
4405 }
4406 \DeclareRobustCommand\Reset{%
4407 \ifnextchar[{\@Reset}{\@Reset[]}%
4408 }
4409 \def\LayoutTextField#1#2{% label, field
4410 #1 #2%
4411 }
4412 \def\LayoutChoiceField#1#2{% label, field
4413 #1 #2%
4414 }
4415 \def\LayoutCheckField#1#2{% label, field
4416 #1 #2%
4417 }
4418 \def\LayoutPushButtonField#1{% button
4419 #1%
4420 }
4421 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4422 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4423 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4424 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4425 \def\MakeButtonField#1{%
4426 \sbox0{%
4427 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4428 }%
4429 \@tempdima\ht0 %
4430 \advance\@tempdima by \Fld@borderwidth bp %
4431 \advance\@tempdima by \Fld@borderwidth bp %
4432 \ht0\@tempdima
4433 \@tempdima\dp0 %
4434 \advance\@tempdima by \Fld@borderwidth bp %
4435 \advance\@tempdima by \Fld@borderwidth bp %
4436 \dp0\@tempdima
4437 \box0\relax
4438 }
4439 \def\DefaultHeightofSubmit{14pt}
4440 \def\DefaultWidthofSubmit{2cm}
4441 \def\DefaultHeightofReset{14pt}
4442 \def\DefaultWidthofReset{2cm}
4443 \def\DefaultHeightofCheckBox{\baselineskip}
4444 \def\DefaultWidthofCheckBox{\baselineskip}
4445 \def\DefaultHeightofChoiceMenu{\baselineskip}
4446 \def\DefaultWidthofChoiceMenu{\baselineskip}
4447 \def\DefaultHeightofText{\baselineskip}
4448 \def\DefaultHeightofTextMultiline{4\baselineskip}

```

```

4449 \def\DefaultWidthofText{3cm}
4450 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4451 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4452 \def\DefaultOptionsofPushButton{print}
4453 \def\DefaultOptionsofCheckBox{print}
4454 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4455 \def\DefaultOptionsofListBox{print}
4456 \def\DefaultOptionsofComboBox{print,edit,sort}
4457 \def\DefaultOptionsofPopdownBox{print}
4458 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

4459 \ifHy@figures
4460   \Hy@Info{Hyper figures ON}%
4461 \else
4462   \Hy@Info{Hyper figures OFF}%
4463 \fi
4464 \ifHy@nesting
4465   \Hy@Info{Link nesting ON}%
4466 \else
4467   \Hy@Info{Link nesting OFF}%
4468 \fi
4469 \ifHy@hyperindex
4470   \Hy@Info{Hyper index ON}%
4471 \else
4472   \Hy@Info{Hyper index OFF}%
4473 \fi
4474 \ifHy@backref
4475   \Hy@Info{backreferencing ON}%
4476 \else
4477   \Hy@Info{backreferencing OFF}%
4478 \fi
4479 \ifHy@colorlinks
4480   \Hy@Info{Link coloring ON}%
4481 \else
4482   \Hy@Info{Link coloring OFF}%
4483 \fi
4484 \ifHy@ocgcolorlinks
4485   \Hy@Info{Link coloring with OCG ON}%
4486 \else
4487   \Hy@Info{Link coloring with OCG OFF}%
4488 \fi
4489 \ifHy@pdfa
4490   \Hy@Info{PDF/A mode ON}%
4491 \else
4492   \Hy@Info{PDF/A mode OFF}%
4493 \fi

```

## 21 Low-level utility macros

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

```

4494 \edef\hyper@hash{\string#}
4495 \edef\hyper@tilde{\string~}

```

```

4496 \edef\hyper@quote{\string"}
4497 \let\currentHref\@empty
4498 \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.

```

4499 \AfterBeginDocument{%
4500   \Hy@pdfstringtrue
4501   \PDF@SetupDoc
4502   \let\PDF@SetupDoc\@empty
4503   \Hy@DisableOption{pdfpagescrop}%
4504   \Hy@DisableOption{pdfpagemode}%
4505   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4506   \Hy@DisableOption{pdfdirection}%
4507   \Hy@DisableOption{pdfviewarea}%
4508   \Hy@DisableOption{pdfviewclip}%
4509   \Hy@DisableOption{pdfprintarea}%
4510   \Hy@DisableOption{pdfprintclip}%
4511   \Hy@DisableOption{pdfprintsclaling}%
4512   \Hy@DisableOption{pdfduplex}%
4513   \Hy@DisableOption{pdfpicktraybypdfsize}%
4514   \Hy@DisableOption{pdfprintpagerange}%
4515   \Hy@DisableOption{pdfnumcopies}%
4516   \Hy@DisableOption{pdfstartview}%
4517   \Hy@DisableOption{pdfstartpage}%
4518   \Hy@DisableOption{pdftoolbar}%
4519   \Hy@DisableOption{pdfmenubar}%
4520   \Hy@DisableOption{pdfwindowui}%
4521   \Hy@DisableOption{pdffitwindow}%
4522   \Hy@DisableOption{pdfcenterwindow}%
4523   \Hy@DisableOption{pdfdisplaydoctitle}%
4524   \Hy@DisableOption{pdfpagelayout}%
4525   \Hy@DisableOption{pdflang}%
4526   \Hy@DisableOption{baseurl}%
4527   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4528   \Hy@pdfstringfalse
4529 }

```

## 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.

```

4530 \def\NoHyper{%
4531   \def\hyper@link@{##1}##2##3##4{##4}%
4532   \def\hyper@@anchor##1{}%
4533   \global\let\hyper@livelink\hyper@link
4534   \gdef\hyper@link##1##2##3{##3}%
4535   \def\hyper@anchorstart##1{}%
4536   \let\hyper@anchorend\@empty
4537   \def\hyper@linkstart##1##2{}%
4538   \let\hyper@linkend\@empty
4539   \def\hyper@linkurl##1##2{##1}%
4540   \def\hyper@linkfile##1##2##3{##1}%
4541   \def\hyper@link@{##1}##2##3{}%

```

```

4542 \let\Hy@backout\@gobble
4543 }
4544 \def\stop@hyper{%
4545   \def\hyper@link@{##1}##2##3##4{##4}%
4546   \let\Hy@backout\@gobble
4547   \def\hyper@@anchor##1{%
4548     \def\hyper@link##1##2##3{##3}%
4549     \def\hyper@anchorstart##1{%
4550       \let\hyper@anchorend\@empty
4551       \def\hyper@linkstart##1##2{%
4552         \let\hyper@linkend\@empty
4553         \def\hyper@linkurl##1##2{##1}%
4554         \def\hyper@linkfile##1##2##3{##1}%
4555         \def\hyper@link@{##1}##2##3}%
4556       }
4557     \def\endNoHyper{%
4558       \global\let\hyper@link\hyper@livelink
4559     }
4560 } \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:

```

4561 \nohyperref
4562 \let\hyper@@anchor\@gobble
4563 \def\hyper@link#1#2#3{##3}%
4564 \let\hyper@anchorstart\@gobble
4565 \let\hyper@anchorend\@empty
4566 \let\hyper@linkstart\@gobbletwo
4567 \let\hyper@linkend\@empty
4568 \def\hyper@linkurl#1#2{##1}%
4569 \def\hyper@linkfile#1#2#3{##1}%
4570 \def\hyper@link@{##1}##2##3}%
4571 \let\PDF@SetupDoc\@empty
4572 \let\PDF@FinishDoc\@empty
4573 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

4574 \def\Acrobatmenu#1#2{\leavevmode#2}
4575 \let\pdfstringdefDisableCommands\@gobbletwo
4576 \let\texorpdfstring\@firstoftwo
4577 \let\pdfbookmark\@undefined
4578 \newcommand\pdfbookmark[3]{}
4579 \let\phantomsection\@empty
4580 \let\hypersetup\@gobble
4581 \let\hyperbaseurl\@gobble
4582 \let\href\@gobble
4583 \let\hyperdef\@gobbletwo
4584 \let\hyperlink\@gobble
4585 \let\hypertarget\@gobble
4586 \def\hyperref{%

```



```

4587 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4588 }
4589 \long\def\@gobbleopt[#1]{%
4590 \let\hyperpage\@empty
4591 \</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}`

```

4592 \*package
4593 \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.

```

4594 \if@filesw
4595 \ifHy@typexml
4596 \immediate\closeout\@mainaux
4597 \immediate\openout\@mainaux\jobname.aux\relax
4598 \immediate\write\@auxout{<relaxxml>\relax}%
4599 \fi
4600 \immediate\write\@auxout{%
4601 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4602 \global\let\string\oldcontentsline\string\contentsline^^J%
4603 \gdef\string\contentsline%
4604 \string#1\string#2\string#3\string#4{%
4605 \string\oldcontentsline%
4606 {\string#1}{\string#2}{\string#3}}^^J%
4607 \global\let\string\oldnewlabel\string\newlabel^^J%
4608 \gdef\string\newlabel\string#1\string#2{%
4609 \string\newlabelxx{\string#1}\string#2}^^J%
4610 \gdef\string\newlabelxx%
4611 \string#1\string#2\string#3\string#4\string#5\string#6{%
4612 \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.

```

4613 \string\AtEndDocument{%
4614 \let\string\contentsline\string\oldcontentsline^^J%
4615 \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.

```

4616 \string\else^^J%
4617 \global\let\string\hyper@last\relax^^J%
4618 \string\fi^^J%
4619 }%
4620 \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.

```

4621 \ifx\hyper@last\@undefined
4622   \def\@starttoc#1{%
4623     \begingroup
4624     \makeatletter
4625     \IfFileExists{\jobname.#1}{%
4626       \Hy@WarningNoLine{%
4627         old #1 file detected, not used; run LaTeX again%
4628       }%
4629     }{%
4630       \if@filesw
4631         \expandafter\newwrite\csname tf@#1\endcsname
4632         \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4633       \fi
4634       \@nobreakfalse
4635     \endgroup
4636   }%
4637   \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4638 \fi
4639 }

```

## 25 Title strings

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

```

4640 \ifHy@usetitle
4641   \let\HyOrg@title\title
4642   \let\HyOrg@author\author
4643   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4644   \def\Hy@scanopttitle[#1]{%
4645     \gdef\Hy@title{#1}%
4646     \HyOrg@title[{#1}]%
4647   }%
4648   \def\Hy@scantitle#1{%
4649     \gdef\Hy@title{#1}%
4650     \HyOrg@title{#1}%
4651   }%
4652   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4653   \def\Hy@scanoptauthor[#1]{%
4654     \gdef\Hy@author{#1}%
4655     \HyOrg@author[{#1}]%
4656   }%
4657   \def\Hy@scanauthor#1{%
4658     \gdef\Hy@author{#1}%
4659     \HyOrg@author{#1}%
4660   }%

```

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.

```

4661 \begingroup
4662   \def\process@me#1\@nil#2{%
4663     \expandafter\let\expandafter\x\csname @#2\endcsname
4664     \edef\y{\expandafter\strip@prefix\meaning\x}%
4665     \def\c##1##2\@nil{%
4666       \ifx\\##1\\%
4667       \else
4668         \expandafter\gdef\csname Hy@#2\endcsname

```

```

4669             \expandafter{\x}%
4670         \fi
4671     }%
4672     \expandafter\c\y\relax#1\@nil
4673 }%
4674 \expandafter\process@me\string\@latex@\@nil{title}%
4675 \expandafter\process@me\string\@latex@\@nil{author}%
4676 \endgroup
4677 \fi
4678 \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.

```

4679 \def\Hy@UseMaketitleString#1{%
4680   \@ifundefined{Hy@#1}{}{%
4681     \begingroup
4682       \let\Hy@saved@hook\pdfstringdefPreHook
4683       \pdfstringdefDisableCommands{%
4684         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4685         \let\newline\\%
4686       }%
4687       \expandafter\ifx\csname @pdf#1\endcsname\@empty
4688         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4689           \csname Hy@#1\endcsname\@empty
4690         }%
4691       \fi
4692       \global\let\pdfstringdefPreHook\Hy@saved@hook
4693     \endgroup
4694   }%
4695 }
4696 \def\Hy@newline@title#1{ #1}
4697 \def\Hy@newline@author#1{, #1}
4698 \def\Hy@UseMaketitleInfos{%
4699   \Hy@UseMaketitleString{title}%
4700   \Hy@UseMaketitleString{author}%
4701 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

4702 \RequirePackage{atbegshi}[2007/09/09]
4703 \def\Hy@EveryPageHook{}
4704 \def\Hy@EveryPageBoxHook{}
4705 \def\Hy@FirstPageHook{}
4706 \AtBeginShipout{%

```

```

4707 \Hy@EveryPageHook
4708 \ifx\Hy@EveryPageBoxHook\@empty
4709 \else
4710   \setbox\AtBeginShipoutBox=\vbox{%
4711     \offinterlineskip
4712     \Hy@EveryPageBoxHook
4713     \box\AtBeginShipoutBox
4714   }%
4715 \fi
4716 }
4717 \AtBeginShipoutFirst{%
4718   \Hy@FirstPageHook
4719 }
4720 \g@addto@macro\Hy@FirstPageHook{%
4721   \PDF@FinishDoc
4722   \gdef\PDF@FinishDoc{}}%
4723 }

```

## 27.1 PDF /PageLabels

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

```

4724 \ifHy@pagelabels
4725   \begingroup\expandafter\expandafter\expandafter\endgroup
4726   \expandafter\ifx\csname thepage\endcsname\relax
4727     \Hy@pagelabelsfalse
4728     \Hy@WarningNoLine{%
4729       Option ‘pdfpagelabels’ is turned off\MessageBreak
4730       because \string\thepage\space is undefined%
4731     }%
4732     \csname fi\endcsname
4733     \csname iffalse\expandafter\endcsname
4734   \fi

```

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

```

4735 \def\thispdfpagelabel#1{%
4736   \gdef\HyPL@thisLabel{#1}%
4737 }%
4738 \global\let\HyPL@thisLabel\relax

```

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

```

4739 \def\HyPL@Labels{}%

```

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

```

4740 \newcount\Hy@abspage
4741 \Hy@abspage=0 %

```

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

```

4742 \def\HyPL@LastType{init}%
4743 \def\HyPL@LastNumber{0}%
4744 \def\HyPL@LastPrefix{}%

```

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

```

4745 \def\HyPL@arabic{D}%
4746 \def\HyPL@Roman{R}%
4747 \def\HyPL@roman{r}%
4748 \def\HyPL@Alph{A}%
4749 \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.

```

4750 \def\HyPL@EveryPage{%
4751   \begingroup
4752   \ifx\HyPL@thisLabel\relax
4753     \let\HyPL@page\thepage
4754   \else
4755     \let\HyPL@page\HyPL@thisLabel
4756     \global\let\HyPL@thisLabel\relax
4757   \fi
4758   \let\HyPL@Type\relax
4759   \ifnum\the\c@page>0 %
4760     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4761   \fi
4762   \let\Hy@temp Y%
4763   \ifx\HyPL@Type\HyPL@LastType
4764   \else
4765     \let\Hy@temp N%
4766   \fi
4767   \ifx\HyPL@Type\relax
4768     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4769   \else
4770     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4771   \fi
4772   \ifx\HyPL@Prefix\HyPL@LastPrefix
4773   \else
4774     \let\Hy@temp N%
4775   \fi
4776   \if Y\Hy@temp
4777     \advance\c@page by -1 %
4778     \ifnum\HyPL@LastNumber=\the\c@page\relax
4779     \else
4780       \let\Hy@temp N%
4781     \fi
4782     \Hy@StepCount\c@page
4783   \fi
4784   \if N\Hy@temp
4785     \ifx\HyPL@Type\relax
4786       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4787     \else
4788       \HyPL@StorePageLabel{%
4789         \ifx\HyPL@Prefix\@empty
4790         \else
4791           /P(\HyPL@Prefix)%
4792         \fi
4793         /S/\csname HyPL\HyPL@Type\endcsname
4794         \ifnum\the\c@page=1 %
4795         \else
4796           \space/St \the\c@page
4797         \fi
4798       }%
4799     \fi
4800   \fi
4801   \xdef\HyPL@LastNumber{\the\c@page}%
4802   \global\let\HyPL@LastType\HyPL@Type
4803   \global\let\HyPL@LastPrefix\HyPL@Prefix
4804 \endgroup

```

```

4805 \Hy@GlobalStepCount\Hy@abspage
4806 }%

```

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

```

4807 \def\HyPL@CheckThePage#1\@nil{%
4808 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4809 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L<sup>A</sup>T<sub>E</sub>X, e. g.: `\csname @arabic\endcsname\c@page`. In the current implemenation the check fails, if there is another `\csname` before.

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

```

4810 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4811 \def\Hy@tempa{#4}%
4812 \def\Hy@tempb{\csname\endcsname\c@page}%
4813 \ifx\Hy@tempa\Hy@tempb
4814 \expandafter\ifx\csname HyPL#3\endcsname\relax
4815 \else
4816 \def\HyPL@Type{#3}%
4817 \def\HyPL@Prefix{#2}%
4818 \fi
4819 \else
4820 \begingroup
4821 \let\Hy@next\endgroup
4822 \let\HyPL@found\@undefined
4823 \def\arabic{\HyPL@Format{arabic}}%
4824 \def\Roman{\HyPL@Format{Roman}}%
4825 \def\roman{\HyPL@Format{roman}}%
4826 \def\Alph{\HyPL@Format{Alph}}%
4827 \def\alph{\HyPL@Format{alph}}%
4828 \protected@edef\Hy@temp{#1}%
4829 \ifx\HyPL@found\relax
4830 \toks@{\expandafter{\Hy@temp}}%
4831 \edef\Hy@next{\endgroup
4832 \noexpand\HyPL@@CheckThePage\the\toks@
4833 \noexpand\HyPL@found\relax\noexpand\@nil
4834 }%
4835 \fi
4836 \Hy@next
4837 \fi
4838 }%

```

`\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`.

```

4839 \def\HyPL@Format#1#2{%
4840 \ifx\HyPL@found\@undefined
4841 \expandafter\ifx\csname c@#2\endcsname\c@page
4842 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4843 \else
4844 \expandafter\noexpand\csname#1\endcsname{#2}%
4845 \fi
4846 \else
4847 \expandafter\noexpand\csname#1\endcsname{#2}%
4848 \fi
4849 }%

```

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

```
4850 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4851   \def\Hy@tempa{#3}%
4852   \def\Hy@tempb{\HyPL@found\relax}%
4853   \ifx\Hy@tempa\Hy@tempb
4854     \def\HyPL@Type{#2}%
4855     \def\HyPL@Prefix{#1}%
4856   \fi
4857 }%
```

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

```
4858 \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`.

```
4859 \def\HyPL@Useless{0<</S/D>>}%
4860 \@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.

```
4861 \def\HyPL@SetPageLabels{%
4862   \@onelevel@sanitize\HyPL@Labels
4863   \ifx\HyPL@Labels\@empty
4864   \else
4865     \ifx\HyPL@Labels\HyPL@Useless
4866     \else
4867       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4868     \fi
4869   \fi
4870 }%
```

```
4871 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4872 \fi
```

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

```
4873 \Hy@DisableOption{pdfpagelabels}
4874 </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`

```
4875 <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.

```
4876 <*vTeX>
4877 \providecommand*\XR@ext}{pdf}
4878 \edef\Hy@VTeXversion{%
4879   \ifx\VTeXversion\@undefined
4880     \z@
```

```

4881 \else
4882   \ifx\VTexVersion\relax
4883     \z@
4884   \else
4885     \VTexVersion
4886   \fi
4887 \fi
4888 }
4889 \begingroup
4890 \ifnum\Hy@VTexVersion<660 %
4891   \gdef\Hy@PutCatalog#1{%
4892     \Hy@WarningNoLine{%
4893       VTeX 6.59g or above required for pdfpagelabels%
4894     }%
4895   }%
4896 \else
4897   \gdef\Hy@PutCatalog#1{%
4898     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4899   }%
4900   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4901     \ifx\#2\%
4902     \else
4903       \immediate\special{!pdfpagelabels #2}%
4904     \fi
4905   }%
4906 \fi
4907 \endgroup
4908 </vtex>
4909 <*pdftex | vtex>

```

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

```

4910 \ifHy@pagelabels
4911   \def\HyPL@StorePageLabel#1{%
4912     \toks@ \expandafter{\HyPL@Labels}%
4913     \xdef\HyPL@Labels{%
4914       \the\toks@
4915       \the\Hy@abspage<<#1>>%
4916     }%
4917   }%

```

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

```

4918 \@ifclassloaded{revtex4}{%
4919   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4920 }{%
4921   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4922 }%
4923 \fi
4924 </pdftex | vtex>

```

### 27.1.2 pdfmarkbase, dvipdfm

```

4925 <*pdfmarkbase>
4926 \begingroup
4927 \toks@ \expandafter{\Hy@FirstPageHook}%
4928 \xdef\Hy@FirstPageHook{%

```



```

4929 \noexpand\headerps@out{%
4930   systemdict /pdfmark known%
4931   {%
4932     userdict /?pdfmark systemdict /exec get put%
4933   }{%
4934     userdict /?pdfmark systemdict /pop get put %
4935     userdict /pdfmark systemdict /cleartomark get put%
4936   }%
4937   ifelse%
4938 }%
4939 \the\toks@
4940 }%
4941 \endgroup
4942 \pdfmarkbase>

```

\Hy@PutCatalog

```

4943 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
4944 <*pdfmarkbase>
4945 \def\Hy@PutCatalog#1{%
4946   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4947 }
4948 \pdfmarkbase>

4949 <*pdfmarkbase | dvipdfm>
4950 \ifHy@pagelabels

```

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

```

4951 \def\HyPL@StorePageLabel#1{%
4952   \if@filesw
4953     \begingroup
4954     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4955     \immediate\write\@mainaux{%
4956       \string\HyPL@Entry{\Hy@tempa}%
4957     }%
4958     \endgroup
4959   \fi
4960 }%

```

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.

```

4961 \AfterBeginDocument{%
4962   \if@filesw
4963     \immediate\write\@mainaux{%
4964       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4965     }%
4966   \fi
4967   \ifx\HyPL@Labels\@empty
4968     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4969   \else
4970     \HyPL@SetPageLabels
4971   \fi
4972   \let\HyPL@Entry\@gobble
4973 }%

```

\HyPL@Entry

```

4974 \def\HyPL@Entry#1{%
4975   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%

```

```

4976      \HyPL@Labels
4977      #1%
4978    }%
4979  }%

4980 \fi
4981 \pdfmarkbase | dvipdfm)
4982 \*package)
4983 \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

```

4984 \def\Hy@CounterExists#1{%
4985   \begingroup\expandafter\expandafter\expandafter\endgroup
4986   \expandafter\ifx\csname c@#1\endcsname\relax
4987     \expandafter\@gobble
4988   \else
4989     \begingroup\expandafter\expandafter\expandafter\endgroup
4990     \expandafter\ifx\csname the#1\endcsname\relax
4991       \expandafter\expandafter\expandafter\@gobble
4992     \else
4993       \expandafter\expandafter\expandafter\@firstofone
4994     \fi
4995   \fi
4996 }
4997 \Hy@CounterExists{section}{%
4998   \newcommand\theHequation{\theHsection.\arabic{equation}}%
4999 }
5000 \Hy@CounterExists{part}{%
5001   \newcommand\theHpart{\arabic{part}}%
5002 }
5003 \@ifundefined{thechapter}{%
5004   \newcommand\theHsection    {\arabic{section}}%
5005   \newcommand\theHfigure     {\arabic{figure}}%
5006   \newcommand\theHtable      {\arabic{table}}%
5007 }{%
5008   \newcommand\theHchapter    {\arabic{chapter}}%
5009   \newcommand\theHfigure     {\theHchapter.\arabic{figure}}%

```

```

5010 \newcommand\theHtable      {\theHchapter.\arabic{table}}%
5011 \newcommand\theHsection    {\theHchapter.\arabic{section}}%
5012 }
5013 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5014 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5015 \newcommand\theHparagraph    {\theHsubsubsection.\arabic{paragraph}}
5016 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5017 \newcommand\theHtheorem      {\theHsection.\arabic{theorem}}
5018 \newcommand\theHthm          {\theHsection.\arabic{thm}}

```

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

```

5019 \let\H@item\item
5020 \newcounter{Item}
5021 \def\theHItem{\arabic{Item}}
5022 \def\item{%
5023   \@hyper@itemfalse
5024   \if@nmbrlist\@hyper@itemtrue\fi
5025   \H@item
5026 }
5027 \newcommand\theHenumi      {\theHItem}
5028 \newcommand\theHenumii     {\theHItem}
5029 \newcommand\theHenumiii    {\theHItem}
5030 \newcommand\theHenumiv     {\theHItem}
5031 \newcommand\theHHfootnote  {\arabic{Hfootnote}}
5032 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5033 \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.

```

5034 \let\H@refstepcounter\refstepcounter
5035 \edef\name@of@eq{equation}%
5036 \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.

```

5037 \newif\if@hyper@item
5038 \newif\if@skiphyperref
5039 \@hyper@itemfalse
5040 \@skiphyperreffalse
5041 \def\refstepcounter#1{%
5042   \ifHy@pdfstring
5043   \else
5044     \H@refstepcounter{#1}%
5045     \edef\This@name{#1}%
5046     \ifx\This@name\name@of@slide
5047     \else
5048       \if@skiphyperref
5049       \else
5050         \if@hyper@item
5051           \stepcounter{Item}%
5052           \hyper@refstepcounter{Item}%
5053         \@hyper@itemfalse
5054       \else
5055         \hyper@refstepcounter{#1}%

```

```

5056         \fi
5057     \fi
5058     \fi
5059 \fi
5060 }

```

AMSL<sup>A</sup>T<sub>E</sub>X 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.

```

5061 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

5062 \def\hyper@refstepcounter#1{%
5063     \edef\This@name{#1}%
5064     \ifx\This@name\name@of@eq
5065         \@ifundefined{theHequation}{%
5066             \make@stripped@name{\theequation}%
5067             \let\theHequation\newname
5068         }{}%
5069     \fi
5070     \@ifundefined{theH#1}{%
5071         \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5072     }{}%
5073     \hyper@makecurrent{#1}%
5074     \ifmeasuring@
5075     \else
5076         \Hy@raisedlink{%
5077             \hyper@anchorstart{\@currentHref}\hyper@anchorend
5078         }%
5079     \fi
5080 }

```

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`.

```

5081 \begingroup\expandafter\expandafter\expandafter\endgroup
5082 \expandafter\ifx\csname chapter\endcsname\relax
5083     \def\Hy@chapterstring{section}%
5084 \else
5085     \def\Hy@chapterstring{chapter}%
5086 \fi
5087 \def\Hy@appendixstring{appendix}
5088 \def\Hy@chapapp{\Hy@chapterstring}
5089 \let\HyOrg@appendix\appendix
5090 \def\appendix{%
5091     \@ifundefined{chapter}{%
5092         {\gdef\theHsection{\Alph{section}}}%
5093         {\gdef\theHchapter{\Alph{chapter}}}%
5094     }\xdef\Hy@chapapp{\Hy@appendixstring}%
5095     \HyOrg@appendix
5096 }

```

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

```

5097 \def\hyper@makecurrent#1{%
5098   \begingroup
5099     \edef\Hy@param{#1}%
5100     \ifx\Hy@param\Hy@chapterstring
5101       \let\Hy@param\Hy@chapapp
5102     \fi
5103     \ifHy@hypertextnames
5104       \let\@number\@firstofone
5105       \ifundefined{latin@Alph}{\{}{%
5106         \ifx\@Alph\greek@Alph
5107           \def\@Alph{Alph\@arabic}%
5108         \fi
5109       }%
5110       \ifx\@Alph\@Alph@bul
5111         \def\@Alph{Alph\@arabic}%
5112       \fi
5113       \ifx\@alph\@alph@bul
5114         \def\@alph{alph\@arabic}%
5115       \fi
5116       \ifHy@naturalnames
5117         \let\textlatin\@firstofone
5118         \xdef\@currentHlabel{\csname the#1\endcsname}%
5119       \else
5120         \xdef\@currentHlabel{\csname theH#1\endcsname}%
5121       \fi
5122       \xdef\@currentHref{%
5123         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5124       }%
5125     \else
5126       \Hy@GlobalStepCount\Hy@linkcounter
5127       \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
5128     \fi
5129   \endgroup
5130 }

5131 \ifpackageloaded{fancyvrb}{%
5132   \ifpackageafter{fancyvrb}{1998/05/20}{\{}{%
5133     \def\FV@StepLineNo{%
5134       \FV@SetLineNo
5135       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5136       \FV@StepLineNo
5137     }%
5138   }%
5139 }{}

```

## 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
```

```
5140 \AtBeginDocument{%
```

```

5141 \@ifclassloaded{revtex4}{%
5142   \@namedef{ver@lastpage.sty}{1994/06/25}%
5143 }{}%
5144 \@ifpackageloaded{lastpage}{%
5145   \ifHy@pageanchor
5146   \else
5147     \Hy@WarningNoLine{%
5148       The \string\pageref{LastPage} link doesn't work\MessageBreak
5149       with disabled option 'pageanchor'%
5150     }%
5151   \fi
5152   \def\lastpage@putlabel{%
5153     \addtocounter{page}{-1}%
5154     \if@filesw
5155       \begingroup
5156         \let\@number\@firstofone
5157         \ifHy@pageanchor
5158           \ifHy@hypertextnames
5159             \ifHy@plainpages
5160               \def\Hy@temp{\arabic{page}}%
5161             \else
5162               \Hy@unicodefalse
5163               \pdfstringdef\Hy@temp{\thepage}%
5164             \fi
5165           \else
5166             \def\Hy@temp{\the\Hy@pagecounter}%
5167           \fi
5168         \fi
5169         \immediate\write\@auxout{%
5170           \string\newlabel
5171           {LastPage}{\the\Hy@temp}{\thepage}{\the\Hy@temp}{\the\Hy@temp}{\the\Hy@temp}%
5172           \ifHy@pageanchor page.\Hy@temp\fi}}}%
5173     }%
5174   \endgroup
5175   \fi
5176   \addtocounter{page}{1}%
5177 }{}%
5178 \@ifclassloaded{revtex4}{%
5179   \begingroup
5180     \toks@\expandafter{\lastpage@putlabel}%
5181     \edef\x{\endgroup
5182       \def\noexpand\lastpage@putlabel{%
5183         \noexpand\stepcounter{page}%
5184         \the\toks@
5185         \noexpand\addtocounter{page}\noexpand\m@ne
5186       }%
5187     }%
5188     \x
5189   }{}%
5190 }{}%
5191 }
5192 \end{package}
5193 \checkpackage{lastpage}[1994/06/25]
5194 \checkcommand\def\lastpage@putlabel{%
5195   \addtocounter{page}{-1}%
5196   \immediate\write\@auxout{%

```

```

5198 \string\newlabel{LastPage}{\thepage}%
5199 }%
5200 \addtocounter{page}{1}%
5201 }
5202 </check>
5203 <*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.

```

5204 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}
5205 \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:

```

5206 \@ifpackageloaded{titlesec}{%
5207 \def\ttl@Hy@steplink#1{%
5208 \Hy@GlobalStepCount\Hy@linkcounter
5209 \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5210 \def\ttl@Hy@saveanchor{%
5211 \Hy@raisedlink{%
5212 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5213 }%
5214 }%
5215 }%
5216 \def\ttl@Hy@refstepcounter#1{%
5217 \let\ttl@b\Hy@raisedlink
5218 \def\Hy@raisedlink##1{%
5219 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5220 }%
5221 \refstepcounter{#1}%
5222 \let\Hy@raisedlink\ttl@b
5223 }%
5224 }{}

```

Package titletoc support:

```

5225 \@ifpackageloaded{titletoc}{%
5226 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5227 }{}

```

## 32 Package varioref support

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

```

5228 \def\Hy@varioref@undefined{???}{??}{-}{-}
5229 \@ifpackageloaded{varioref}{%
5230 \def\vref@pagenum#1#2{%
5231 \@ifundefined{r@#2}{%
5232 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined

```

```

5233 }{}%
5234 \edef#1{\getpagerefnumber{#2}}%
5235 }%
5236 }{}

```

### 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

```

5237 \@ifpackageloaded{longtable}{%
5238   \begingroup
5239   \def\y{\LT@array}%
5240   \@ifundefined{scr@LT@array}{\def\y{\scr@LT@array}}%
5241   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5242     \expandafter\endgroup
5243     \expandafter\def\y[##1]##2{%
5244       \H@refstepcounter{#1}%
5245       \hyper@makecurrent{table}%
5246       \let\Hy@LT@currentHlabel\@currentHlabel
5247       \let\Hy@LT@currentHref\@currentHref
5248       #2\@sharp####4%
5249     }%
5250   }%
5251   \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

5252   \begingroup
5253   \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5254     \endgroup
5255     \def\LT@start{%
5256       #1%
5257       \let\@currentHlabel\Hy@LT@currentHlabel
5258       \let\@currentHref\Hy@LT@currentHref
5259       \Hy@raisedlink{%
5260         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5261       }%
5262       \ifvoid\LT@firsthead\copy
5263       #2%
5264     }%
5265   }%
5266   \expandafter\x\LT@start\@nil
5267 }{}

```

### 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.

```

5268 \let\new@refstepcounter\refstepcounter

```



```

5269 \let\H@equation\equation
5270 \let\H@endequation\endequation

5271 \@ifpackageloaded{amsmath}{%
5272   \long\def\Hy@temp{%
5273     \incr@eqnum
5274     \mathdisplay@push
5275     \st@rredfalse \global\@eqnswtrue
5276     \mathdisplay{equation}%
5277   }%
5278   \ifx\Hy@temp\equation
5279     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5280       \csname iftrue\endcsname
5281   \else
5282     \long\def\equation{%
5283       \mathdisplay@push
5284       \st@rredfalse \global\@eqnswtrue
5285       \mathdisplay{equation}%
5286       \incr@eqnum
5287     }%
5288   \fi
5289 \fi
5290 }{%
5291 \def\equation{%
5292   \let\refstepcounter\H@refstepcounter
5293   \H@equation
5294   \@ifundefined{theHequation}{%
5295     \make@stripped@name{\theequation}%
5296     \let\theHequation\newname
5297   }{%
5298     \hyper@makecurrent{equation}%
5299     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
5300   \let\refstepcounter\new@refstepcounter
5301 }%
5302 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5303 }

```

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.

```

5304 \newif\if@eqnstar
5305 \@eqnstarfalse
5306 \let\H@eqnarray\eqnarray
5307 \let\H@endeqnarray\endeqnarray
5308 \def\eqnarray{%
5309   \let\Hy@reserved@a\relax
5310   \def\@currentHref{}%
5311   \H@eqnarray
5312   \if@eqnstar
5313   \else
5314     \ifx\\\@currentHref\\%
5315     \else
5316       \@ifundefined{theHequation}{%
5317         \make@stripped@name{\theequation}%
5318         \let\theHequation\newname
5319       }{%

```

```

5320     \hyper@makecurrent{equation}%
5321     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5322     \fi
5323   \fi
5324 }
5325 \def\endeqnarray{%
5326   \H@endeqnarray
5327 }

```

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.

```

5328 \@namedef{eqnarray*}{%
5329   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
5330 }
5331 \@namedef{endeqnarray*}{%
5332   \nonumber\endeqnarray\@eqnstarfalse
5333 }

```

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

```

5334 \@ifundefined{subeqnarray}{\fi}%
5335   \let\H@subeqnarray\subeqnarray
5336   \let\H@endsubeqnarray\endsubeqnarray
5337   \def\subeqnarray{%
5338     \let\Hy@reserved@a\relax
5339     \H@subeqnarray
5340     \@ifundefined{theHequation}{%
5341       \make@stripped@name{\theequation}%
5342       \let\theHequation\newname
5343     }{}%
5344     \hyper@makecurrent{equation}%
5345     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5346   }%
5347   \def\endsubeqnarray{%
5348     \H@endsubeqnarray
5349   }%
5350   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5351 }

```

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

```

5352 \def\make@stripped@name#1{%
5353   \begingroup
5354     \escapechar\m@ne
5355     \global\let\newname\@empty
5356     \protected@edef\Hy@tempa{#1}%
5357     \edef\@tempb{%
5358       \noexpand\@tfor\noexpand\Hy@tempa:=%
5359       \expandafter\strip@prefix\meaning\Hy@tempa
5360     }%
5361     \@tempb\do{%
5362       \if\Hy@tempa\else
5363         \if\Hy@tempa\else
5364           \xdef\newname{\newname\Hy@tempa}%
5365         \fi
5366       \fi
5367     }%
5368   \endgroup
5369 }

```

Support for amsmath's subequations:

```

5370 \begingroup\expandafter\expandafter\expandafter\endgroup
5371 \expandafter\ifx\cename subequations\endcsname\relax
5372 \else
5373   \let\HyOrg@subequations\subequations
5374   \def\subequations{%
5375     \stepcounter{equation}%
5376     \protected@edef\theHparentequation{%
5377       \ifundefined{theHequation}\theequation\theHequation
5378     }%
5379     \addtocounter{equation}{-1}%
5380     \HyOrg@subequations
5381     \def\theHequation{\theHparentequation\alph{equation}}%
5382     \ignorespaces
5383   }%
5384 \fi

```

Support for package amsthm (Daniel Müllner):

```

5385 \@ifpackageloaded{amsthm}{%
5386   \def\@thm#1#2#3{%
5387     \ifhmode
5388       \unskip\unskip\par
5389     \fi
5390     \normalfont
5391     \trivlist
5392     \let\thmheadnl\relax
5393     \let\thm@swap\@gobble
5394     \thm@notefont{\fontseries\mddefault\upshape}%
5395     \thm@headpunct{.}% add period after heading
5396     \thm@headsep 5\p@ plus\p@ minus\p@\relax
5397     \thm@space@setup
5398     #1% style overrides
5399     \@topsep \thm@preskip           % used by thm head
5400     \@topsepadd \thm@postskip      % used by \endparentv
5401     \def\dth@counter{#2}%
5402     \ifx\@empty\dth@counter
5403       \def\@tempa{%
5404         \@oparg{\@begintheorem{#3}{}}{}[]%
5405       }%
5406     \else
5407       \H@refstepcounter{#2}%
5408       \hyper@makecurrent{#2}%
5409       \def\@tempa{%
5410         \@oparg{\@begintheorem{#3}{\cename the#2\endcsname}}{}[]%
5411       }%
5412     \fi
5413     \@tempa
5414   }%
5415   \dth@everypar={%
5416     \@minipagefalse
5417     \global\@newlistfalse
5418     \@noparitemfalse
5419     \if@inlabel
5420       \global\@inlabelfalse
5421     \begingroup
5422       \setbox\z@\lastbox
5423       \ifvoid\z@
5424         \kern-\itemindent

```

```

5425         \fi
5426     \endgroup
5427     \ifx\@empty\dth@counter
5428     \else
5429         \Hy@raisedlink{%
5430             \hyper@anchorstart{\@currentHref}\hyper@anchorend
5431         }%
5432     \fi
5433     \unhbox\@labels
5434 \fi
5435 \if@nobreak
5436     \clubpenaltyfalse \clubpenalty\@M
5437 \else
5438     \clubpenalty\@clubpenalty \everypar{}%
5439 \fi
5440 }%
5441 }{}

```

## 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.

```

5442 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5443 \ifHy@hyperfootnotes
5444     \newcounter{Hfootnote}%
5445     \let\H@@footnotetext\@footnotetext
5446     \let\H@@footnotemark\@footnotemark
5447     \def\@xfootnotenext[#1]{%
5448         \begingroup
5449             \csname c@\@mpfn\endcsname #1\relax
5450             \unrestored@protected@xdef\@thefnmark{\thempfn}%
5451         \endgroup
5452         \ifx\@footnotetext\@mpfootnotetext
5453             \expandafter\H@@mpfootnotetext
5454         \else
5455             \expandafter\H@@footnotetext
5456         \fi
5457     }%
5458     \def\@xfootnotemark[#1]{%
5459         \begingroup
5460             \c@footnote #1\relax
5461             \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5462         \endgroup
5463         \H@@footnotemark
5464     }%
5465     \let\H@@mpfootnotetext\@mpfootnotetext
5466     \long\def\@mpfootnotetext#1{%
5467         \H@@mpfootnotetext{%
5468             \ifHy@nesting
5469                 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5470             \else
5471                 \Hy@raisedlink{%
5472                     \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%

```

```

5473     }#1%
5474     \fi
5475   }%
5476 }%
5477 \long\def\@footnotetext#1{%
5478   \H@footnotetext{%
5479     \ifHy@nesting
5480       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5481     \else
5482       \Hy@raisedlink{%
5483         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5484       }%
5485       \let\@currentHlabel\Hy@footnote@currentHlabel
5486       \let\@currentHref\Hy@footnote@currentHref
5487       \let\@currentlabelname\@empty
5488       #1%
5489     \fi
5490   }%
5491 }%

```

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.

```

5492 \def\@footnotemark{%
5493   \leavevmode
5494   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5495   \stepcounter{Hfootnote}%
5496   \global\let\Hy@saved@currentHlabel\@currentHlabel
5497   \global\let\Hy@saved@currentHref\@currentHref
5498   \hyper@makecurrent{Hfootnote}%
5499   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5500   \global\let\Hy@footnote@currentHref\@currentHref
5501   \global\let\@currentHlabel\Hy@saved@currentHlabel
5502   \global\let\@currentHref\Hy@saved@currentHref
5503   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5504   \@makefnmark
5505   \hyper@linkend
5506   \ifhmode\spacefactor\x@sf\fi
5507   \relax
5508 }%

```

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

```

5509 \@ifpackageloaded{longtable}{%
5510   \CheckCommand*\LT@p@ftntext}[1]{%
5511     \edef\@tempa{%
5512       \the\LT@p@ftn
5513       \noexpand\footnotetext[\the\c@footnote]%
5514     }%
5515     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5516   }%
5517   \long\def\LT@p@ftntext#1{%
5518     \edef\@tempa{%
5519       \the\LT@p@ftn
5520       \begingroup

```

```

5521         \noexpand\c@footnote=\the\c@footnote\relax
5522         \noexpand\protected@xdef
5523             \noexpand\@thefnmark{\noexpand\thempfn}%
5524         \noexpand\protected@xdef\noexpand\@thefnmark{%
5525             \noexpand\thempfn
5526         }%
5527         \expandafter\expandafter\expandafter\noexpand
5528         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5529         \expandafter\expandafter\expandafter{%
5530             \expandafter\Hy@footnote@currentHref\expandafter
5531             }\expandafter{\Hy@footnote@currentHlabel}%
5532     }%
5533     \global\LT@p@ftn\expandafter{%
5534         \@tempa{#1}%
5535     \endgroup
5536 }%
5537 }%
5538 \long\def\Hy@LT@footnotetext#1#2#3{%
5539     \H@@footnotetext{%
5540         \ifHy@nesting
5541             \hyper@@anchor{#1}{#3}%
5542         \else
5543             \Hy@raisedlink{%
5544                 \hyper@@anchor{#1}{\relax}%
5545             }%
5546             \def\@currentHlabel{#2}%
5547             \def\@currentHref{#1}%
5548             \let\@currentlabelname\@empty
5549             #3%
5550         \fi
5551     }%
5552 }%
5553 }{}%

```

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

```

5554 \ifpackageloaded{fancyvrb}{%
5555     \def\V@@footnotetext{%
5556         \insert\footins\bgroup
5557         \csname reset@font\endcsname
5558         \footnotesize
5559         \interlinepenalty\interfootnotelinepenalty
5560         \splittopskip\footnotesep
5561         \splitmaxdepth\dp\strutbox
5562         \floatingpenalty \@MM
5563         \hsize\columnwidth
5564         \@parboxrestore
5565         \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5566         \@makefntext{}%
5567         \rule{\z@}{\footnotesep}%
5568         \bgroup
5569         \aftergroup\V@@@footnotetext
5570         \Hy@raisedlink{%
5571             \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5572         }%
5573         \let\@currentHlabel\Hy@footnote@currentHlabel
5574         \let\@currentHref\Hy@footnote@currentHref
5575         \let\@currentlabelname\@empty
5576         \ignorespaces

```

```

5577 }%
5578 }{}%

```

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.

```

5579 \let\HyOrg@maketitle\maketitle
5580 \def\maketitle{%
5581   \let\Hy@saved@footnotemark\@footnotemark
5582   \let\Hy@saved@footnotetext\@footnotetext
5583   \let\@footnotemark\H@@footnotemark
5584   \let\@footnotetext\H@@footnotetext
5585   \@ifnextchar[\Hy@maketitle@optarg{% ]
5586     \HyOrg@maketitle
5587     \Hy@maketitle@end
5588   }%
5589 }%
5590 \def\Hy@maketitle@optarg[#1]{%
5591   \HyOrg@maketitle[#1]%
5592   \Hy@maketitle@end
5593 }%
5594 \def\Hy@maketitle@end{%
5595   \ifx\@footnotemark\H@@footnotemark
5596     \let\@footnotemark\Hy@saved@footnotemark
5597   \fi
5598   \ifx\@footnotetext\H@@footnotetext
5599     \let\@footnotetext\Hy@saved@footnotetext
5600   \fi
5601 }%

```

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

```

5602 \def\realfootnote{%
5603   \@ifnextchar[\@xfootnote{%
5604     \stepcounter{\@mpfn}%
5605     \protected@xdef\@thefnmark{\thempfn}%
5606     \H@@footnotemark\H@@footnotetext
5607   }%
5608 }%

5609 \fi
5610 \Hy@DisableOption{hyperfootnotes}

5611 </package>
5612 <*check>
5613 \checklatex
5614 \checkcommand\def\@xfootnotenext[#1]{%
5615   \begingroup
5616     \csname c@\@mpfn\endcsname #1\relax
5617     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5618   \endgroup
5619   \@footnotetext
5620 }
5621 \checkcommand\def\@xfootnotemark[#1]{%
5622   \begingroup
5623     \c@footnote #1\relax
5624     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5625   \endgroup
5626   \@footnotemark
5627 }

```

```

5628 \checkcommand\def\@footnotemark{%
5629   \leavevmode
5630   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5631   \@makefnmark
5632   \ifhmode\spacefactor\@x@sf\fi
5633   \relax
5634 }
5635 \end{check}
5636 \end{package}

```

## 36 Float captions

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

```

5637 \def\caption{%
5638   \ifx\@captype\@undefined
5639     \latexerror{\noexpand\caption outside float}\@ehd
5640     \expandafter\@gobble
5641   \else
5642     \H@refstepcounter\@captype
5643     \let\Hy@tempa\@caption
5644     \ifundefined{float@caption}{%
5645       {%
5646         \expandafter\ifx\csname @float@c@\@captype\endcsname
5647           \float@caption
5648         \let\Hy@tempa\Hy@float@caption
5649       \fi
5650     }%
5651     \expandafter\@firstofone
5652   \fi
5653   {\@dblarg{\Hy@tempa\@captype}}%
5654 }
5655 \long\def\@caption#1[#2]#3{%
5656   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5657     \csname iftrue\endcsname
5658     \global\let\@currentHref\hc@currentHref
5659   \else
5660     \hyper@makecurrent{\@captype}%
5661   \fi
5662   \def\@currentlabelname{#2}%
5663   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5664     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5665   }%
5666   \begingroup
5667     \@parboxrestore
5668     \if@minipage
5669       \setminipage
5670     \fi
5671     \normalsize
5672     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5673       \csname iftrue\endcsname
5674       \global\@capstartfalse
5675       \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5676     \else
5677       \makecaption{\csname fnum@#1\endcsname}{%
5678         \ignorespaces

```



If we cannot have nesting, the anchor is empty.

```

5679         \ifHy@nesting
5680         \hyper@@anchor{\@currentHref}{#3}%
5681         \else
5682         \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5683         \fi
5684     }%
5685 \fi
5686 \par
5687 \endgroup
5688 }

```

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.

```

5689 \let\Hy@float@caption\@caption
5690 \ifpackageloaded{float}{%
5691   \def\Hy@float@caption{%
5692     \ifx\Hy@float@currentHref\undefined
5693       \hyper@makecurrent{\@cuptype}%
5694       \global\let\Hy@float@currentHref\@currentHref
5695     \else
5696       \let\@currentHref\Hy@float@currentHref
5697     \fi
5698     \float@caption
5699   }%
5700   \let\HyOrg@float@makebox\float@makebox
5701   \renewcommand{\float@makebox}[1]{%
5702     \HyOrg@float@makebox{%
5703       #1\relax
5704       \ifx\Hy@float@currentHref\undefined
5705       \else
5706         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5707         \global\let\Hy@float@currentHref\undefined
5708       \fi
5709     }%
5710   }%
5711 }{}

5712 \</package>
5713 \<*check>
5714 \checklatex[1999/06/01 - 2000/06/01]
5715 \checkcommand\def\caption{%
5716   \ifx\@cuptype\undefined
5717     \@latex@error{noexpand\caption outside float}\@ehd
5718     \expandafter\@gobble
5719   \else
5720     \refstepcounter\@cuptype
5721     \expandafter\@firstofone
5722   \fi
5723   {\@dblarg{\@caption\@cuptype}}}%
5724 }

5725 \checkcommand\long\def\@caption#1[#2]#3{%
5726   \par
5727   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5728     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5729   \begingroup
5730     \@parboxrestore
5731     \if@minipage

```

```

5732     \@setminipage
5733     \fi
5734     \normalsize
5735     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5736 \endgroup
5737 }
5738 </check>
5739 <*package>

```

## 37 Bibliographic references

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

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

```

5740 \def\hyper@natlinkstart#1{%
5741   \Hy@backout{#1}%
5742   \hyper@linkstart{cite}{cite.#1}%
5743   \def\hyper@nat@current{#1}%
5744 }
5745 \def\hyper@natlinkend{%
5746   \hyper@linkend
5747 }
5748 \def\hyper@natlinkbreak#1#2{%
5749   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5750 }
5751 \def\hyper@natanchorstart#1{%
5752   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5753 }
5754 \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.

```

5755 \@ifundefined{NAT@parse}{%
5756   \providecommand*\@extra@binfo{}%
5757   \providecommand*\@extra@b@citeb{}%
5758   \def\bibcite#1#2{%
5759     \newlabel{b}{#1\@extra@binfo}%
5760     \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
5761   }%
5762 }%
5763 \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.”.

```

5764 \let\Hy@bibcite\bibcite
5765 \begingroup
5766   \@ifundefined{bbl@cite@choice}{}{%
5767     \g@addto@macro\bbl@cite@choice{%
5768       \let\bibcite\Hy@bibcite

```

```

5769     }%
5770 }%
5771 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
5772 \providecommand*\@BIBLABEL{\@biblabel}%
5773 \def\@lbibitem[#1]#2{%
5774     \skiphyperreftrue
5775     \H@item[%
5776         \ifx\Hy@raisedlink\@empty
5777             \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5778             \@BIBLABEL{#1}%
5779             \hyper@anchorend
5780         \else
5781             \Hy@raisedlink{%
5782                 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5783             }%
5784             \@BIBLABEL{#1}%
5785         \fi
5786         \hfill
5787     ]%
5788     \skiphyperreffalse
5789     \if@filesw
5790         \begingroup
5791         \let\protect\noexpand
5792         \immediate\write\@auxout{%
5793             \string\bibcite{#2}{#1}%
5794         }%
5795         \endgroup
5796     \fi
5797     \ignorespaces
5798 }%

```

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

```

5799 \def\@bibitem#1{%
5800     \skiphyperreftrue\H@item\skiphyperreffalse
5801     \Hy@raisedlink{%
5802         \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5803     }%
5804     \if@filesw
5805         \begingroup
5806         \let\protect\noexpand
5807         \immediate\write\@auxout{%
5808             \string\bibcite{#1}{\the\value{\@listctr}}%
5809         }%
5810         \endgroup
5811     \fi
5812     \ignorespaces
5813 }%
5814 }{}

5815 </package>
5816 <*check>
5817 \checklatex
5818 \checkcommand\def\@lbibitem[#1]#2{%
5819     \item[\@biblabel{#1}\hfill]%
5820     \if@filesw
5821         {%

```

```

5822     \let\protect\noexpand
5823     \immediate\write\@auxout{%
5824         \string\bibcite{#2}{#1}%
5825     }%
5826 }%
5827 \fi
5828 \ignorespaces
5829 }
5830 \checkcommand\def\@bibitem#1{%
5831     \item
5832     \if@filesw
5833         \immediate\write\@auxout{%
5834             \string\bibcite{#1}{\the\value{\@listctr}}%
5835         }%
5836     \fi
5837     \ignorespaces
5838 }
5839 \</check>
5840 \<package>

```

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

```

5841 \@ifclassloaded{revtext}{%
5842     \Hy@Info{*** compatibility with revtext **** }%
5843     \def\revtext@checking#1#2{%
5844         \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5845         \expandafter\def\csname b@#1\endcsname{#2}%
5846         \@SetMaxRnhefLabel{#1}%
5847         \expandafter\let\csname b@#1\endcsname\T@temp
5848     }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: extra@b@citeb

```

5849 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5850 \providecommand*\@extra@b@citeb{}%
5851 \def\CITE[#1]#2{%
5852     \let\@citea\@empty
5853     \leavevmode
5854     \unskip
5855     $^{}%
5856     \scriptstyle
5857     \CITE{%
5858         \@for\@citeb:=#2\do{%
5859             \@citea
5860             \def\@citea{\penalty\@m\ }%
5861             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5862             \if@filesw
5863                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5864             \fi
5865             \@ifundefined{b@\@citeb\extra@b@citeb}{%
5866                 \mbox{\reset@font\bfseries ?}%
5867                 \G@refundefinedtrue
5868                 \latex@warning{%
5869                     Citation ‘\@citeb’ on page \thepage \space undefined%
5870                 }%
5871             }{}%
5872             {\csname b@\@citeb\@extra@b@citeb\endcsname}%

```

```

5873         }%
5874     }%
5875     }{#1}%
5876     }$%
5877 }%

```

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.

```

5878 \def\@citex[#1]#2{%
5879     \let\@citea\@empty
5880     \@cite{%
5881         \@for\@citeb:=#2\do{%
5882             \@citea
5883             \def\@citea{\penalty\@m\ }%
5884             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5885             \if@filesw
5886                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5887             \fi
5888             \ifundefined{b@\@citeb\@extra@b@citeb}{%
5889                 \mbox{\reset@font\bfseries ?}%
5890                 \G@refundefinedtrue
5891                 \@latex@warning{%
5892                     Citation ‘\@citeb’ on page \thepage \space undefined%
5893                 }%
5894             }{%
5895                 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5896             }%
5897         }%
5898     }{#1}%
5899 }%
5900 }{}

```

### 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.

```

5901 \ifpackageloaded{harvard}{%
5902     \AtBeginDocument{%
5903         \Hy@Info{*** compatibility with harvard ***}%
5904         \Hy@raiselinksfalse
5905         \def\harvardcite#1#2#3#4{%
5906             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
5907             \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
5908             \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
5909             \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5910         }%
5911         \def\HAR@citetoaux#1{%
5912             \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5913             \ifHy@backref
5914                 \ifx\@empty\@currentlabel
5915                     \else
5916                         \@bsphack
5917                     \if@filesw

```

```

5918         \protected@write\@auxout{}\{%
5919         \string\@writefile{brf}\{%
5920         \string\backcite{#1}\{%
5921         {\thepage}\@currentlabel}\@currentHref}%
5922     }%
5923 }%
5924 }%
5925 \fi
5926 \@esphack
5927 \fi
5928 \fi
5929 }%
5930 \def\harvarditem{%
5931     \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
5932 }%
5933 \def\@harvarditem[#1]#2#3#4#5\par{%
5934     \item[]%
5935     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5936     \if@filesw
5937         \begingroup
5938             \def\protect##1{\string ##1\space}%
5939             \ifthenelse{\equal{#1}{\null}}%
5940                 {\def\next{{#4}{#2}{#3}}}%
5941                 {\def\next{{#4}{#2}{#1}{#3}}}%
5942             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5943         \endgroup
5944     \fi
5945     \protect\hspace*{-\labelwidth}%
5946     \protect\hspace*{-\labelsep}%
5947     \ignorespaces
5948     #5%
5949     \ifHy@backref
5950         \newblock
5951         \backref{\csname br@#4\endcsname}%
5952     \fi
5953     \par
5954 }%

```

\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:

```

5955 \long\def\HAR@checkcitations#1#2#3#4{%
5956     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5957     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5958     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
5959     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5960     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
5961     \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5962     \else
5963         \@tempswatrue
5964     \fi
5965     \else
5966         \@tempswatrue
5967     \fi
5968     \else
5969         \@tempswatrue
5970     \fi

```

```

5971 }%
5972 }%

5973 }{}

```

## 37.2 Package chicago

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

```

5974 \@ifpackageloaded{chicago}{%

```

```

\citeN

```

```

5975 \def\citeN{%
5976   \def\@citesep{--1000}%
5977   \def\@cite##1##2{##1}%
5978   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5979   \@citedata@opt
5980 }%

```

```

\shortciteN

```

```

5981 \def\shortciteN{%
5982   \def\@citesep{--1000}%
5983   \def\@cite##1##2{##1}%
5984   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5985   \@citedata@opt
5986 }%

```

```

\@citedata@opt

```

```

5987 \def\@citedata@opt{%
5988   \let\@cite@opt\@empty
5989   \@ifnextchar [{%
5990     \@tempwatrue
5991     \@citedatax@opt
5992   }{%
5993     \@tempwafalse
5994     \@citedatax[]%
5995   }%
5996 }%

```

```

\@citedatax@opt

```

```

5997 \def\@citedatax@opt[#1]{%
5998   \def\@cite@opt{, #1}%
5999   \@citedatax[#1]}%
6000 }%

6001 }{}

```

## 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.

```

6002 \def\Hy@EveryPageAnchor{%
6003   \Hy@DistillerDestFix
6004   \ifHy@pageanchor
6005     \ifHy@hypertextnames
6006     \ifHy@plainpages
6007       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6008     \else
6009       \begingroup
6010         \let\@number\@firstofone
6011         \Hy@unicodedefalse
6012         \pdfstringdef\@the@H@page{\thepage}%
6013       \endgroup
6014       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6015     \fi
6016   \else
6017     \Hy@GlobalStepCount\Hy@pagecounter
6018     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6019   \fi
6020   \vbox to 0pt{%
6021     \kern\voffset
6022     \kern\topmargin
6023     \kern-1bp\relax
6024     \hbox to 0pt{%
6025       \kern\hoffset
6026       \kern\ifodd\value{page}%
6027         \oddsidemargin
6028       \else
6029         \evensidemargin
6030       \fi
6031       \kern-1bp\relax
6032       \Hy@TempPageAnchor
6033     \hss
6034   }%
6035   \vss
6036 }%
6037 \fi
6038 }
6039 \g@addto@macro\Hy@EveryPageBoxHook{%
6040   \Hy@EveryPageAnchor
6041 }

```

## 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.

```

6042 \begingroup\expandafter\expandafter\expandafter\endgroup
6043 \expandafter\ifx\csname chapter\endcsname\relax
6044   \def\toclevel@part{0}%
6045 \else
6046   \def\toclevel@part{-1}%
6047 \fi
6048 \def\toclevel@chapter{0}
6049 \def\toclevel@section{1}
6050 \def\toclevel@subsection{2}
6051 \def\toclevel@subsubsection{3}

```



```

6052 \def\toclevel@paragraph{4}
6053 \def\toclevel@subparagraph{5}
6054 \def\toclevel@figure{0}
6055 \def\toclevel@table{0}
6056 \@ifpackageloaded{listings}{%
6057   \providecommand*\theHlstlisting{\thelstlisting}%
6058   \providecommand*\toclevel@lstlisting{0}%
6059 }{}
6060 \@ifpackageloaded{listing}{%
6061   \providecommand*\theHlisting{\thelisting}%
6062   \providecommand*\toclevel@listing{0}%
6063 }{}
6064 \def\addcontentsline#1#2#3{% toc extension, type, tag
6065   \begingroup
6066     \let\label\gobble
6067     \let\textlatin\@firstofone
6068     \ifx\@currentHref\@empty
6069       \Hy@Warning{%
6070         No destination for bookmark of \string\addcontentsline,%
6071         \MessageBreak destination is added%
6072       }%
6073     \phantomsection
6074   \fi
6075   \expandafter\ifx\csname toclevel@#2\endcsname\relax
6076     \begingroup
6077       \def\Hy@tempa{#1}%
6078       \ifx\Hy@tempa\Hy@bookmarkstype
6079         \Hy@WarningNoLine{%
6080           bookmark level for unknown #2 defaults to 0%
6081         }%
6082       \else
6083         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6084       \fi
6085     \endgroup
6086     \expandafter\gdef\csname toclevel@#2\endcsname{0}%
6087   \fi
6088   \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
6089   \Hy@writebookmark{\csname the#2\endcsname}%
6090     {#3}%
6091     {\@currentHref}%
6092     {\Hy@toclevel}%
6093     {#1}%
6094   \ifHy@verbose
6095     \def\Hy@tempa{#3}%
6096     \@onelevel@sanitize\Hy@tempa
6097     \typeout{pdftex: bookmark at \the\inputlineno: %
6098       {\csname the#2\endcsname}%
6099       {\Hy@tempa}%
6100       {\@currentHref}%
6101       {\Hy@toclevel}%
6102       {#1}%
6103     }%
6104   \fi
6105   \addtocontents{#1}{%
6106     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6107   }%
6108 \endgroup

```

```

6109 }
6110 \def\contentsline#1#2#3#4{%
6111   \ifx\#4\%
6112     \csname l@#1\endcsname{#2}{#3}%
6113   \else
6114     \ifcase\Hy@linktoc % none
6115       \csname l@#1\endcsname{#2}{#3}%
6116     \or % section
6117       \csname l@#1\endcsname{%
6118         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6119       }{#3}%
6120     \or % page
6121       \csname l@#1\endcsname{#2}{#3}%
6122       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6123     }%
6124   \else % all
6125     \csname l@#1\endcsname{%
6126       \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6127     }{#3}%
6128     \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6129   }%
6130   \fi
6131 \fi
6132 }

6133 \</package>
6134 \<*check>
6135 \checklatex
6136 \checkcommand\def\addcontentsline#1#2#3{%
6137   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6138 }
6139 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6140 \</check>
6141 \<*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.

```

6142 \let\H@definecounter\@definecounter
6143 \def\@definecounter#1{%
6144   \H@definecounter{#1}%
6145   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6146 }

```

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.

```

6147 \let\H@newctr\@newctr
6148 \def\@newctr#1[#2]{%
6149   \H@newctr#1[#2]%
6150   \expandafter\def\csname theH#1\endcsname{%
6151     \csname the\@ifundefined{theH#2}{H}{#2}\endcsname.\arabic{#1}}%
6152   }%
6153 }

```

## 41 AMS<sub>La</sub>T<sub>E</sub>X 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.

```

6154 \ifpackageloaded{amsmath}{%
6155   \def\Hy@make@anchor{%
6156     \Hy@GlobalStepCount\Hy@linkcounter
6157     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6158     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6159   }%
6160   \def\Hy@make@df@tag@#1{%
6161     \gdef\df@tag{%
6162       \maketag@@@{\Hy@make@anchor#1}%
6163       \def\@currentlabel{#1}%
6164     }%
6165   }%
6166   \def\Hy@make@df@tag@@#1{%
6167     \gdef\df@tag{%
6168       \tagform@{\Hy@make@anchor#1}%
6169       \toks@{\xp{\p@equation{#1}}}%
6170       \edef\@currentlabel{\the\toks@}%
6171     }%
6172   }%
6173   \let\HyOrg@make@df@tag@@\make@df@tag@@
6174   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6175   \let\make@df@tag@@\Hy@make@df@tag@@
6176   \let\make@df@tag@@@ \Hy@make@df@tag@@@
6177 }{}

```

Only play with `\seteqlebal` if we are using pdf<sub>te</sub>x. Other drivers cause problems; requested by Michael Downes (AMS).

```

6178 \ifpackagewith{hyperref}{pdftex}{%
6179   \let\H@seteqlabel\@seteqlabel
6180   \def\@seteqlabel#1{%
6181     \H@seteqlabel{#1}%
6182     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6183     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6184   }%
6185 }{}

```

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.

```

6186 \let\HyOrg@addtoreset\@addtoreset
6187 \def\@addtoreset#1#2{%
6188   \HyOrg@addtoreset{#1}{#2}%
6189   \expandafter\xdef\csname theH#1\endcsname{%
6190     \expandafter\noexpand
6191       \csname the\@ifundefined{theH#2}{}H#2\endcsname
6192     .\noexpand\the\noexpand\value{#1}%
6193   }%
6194 }
```

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

```

6195 \end{package}
6196 \check
6197 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6198 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6199   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6200     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6201       \@addtoreset{#2}{#3}%
6202       \@xp\xdef\csname the#2\endcsname{%
6203         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6204       }%
6205     }%
6206   }%
6207 }%
6208 \end{check}
6209 \end{package}
6210 \@ifpackageloaded{amsmath}{%
6211   \@ifpackagelater{amsmath}[1999/12/14]{%
6212     \renewcommand*\@numberwithin[3][\arabic]{%
6213       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6214         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6215           \HyOrg@addtoreset{#2}{#3}%
6216           \@xp\xdef\csname the#2\endcsname{%
6217             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6218           }%
6219           \@xp\xdef\csname theH#2\endcsname{%
6220             \@xp\@nx
6221             \csname the\@ifundefined{theH#3}{}H#3\endcsname
6222             .\@nx#1{#2}%
6223           }%
6224         }%
6225       }%
6226     }%
6227   }%
6228   \Hy@WarningNoLine{%
6229     \string\numberwithin\space of package 'amsmath' %
6230     only fixed\MessageBreak
6231     for version 2000/06/06 v2.12 or newer%
6232   }%
6233 }%
6234 }
```

## 42 Included figures

Simply intercept the low level graphics package macro.

```
6235 \ifHy@figures
6236   \let\Hy@Gin@setfile\Gin@setfile
6237   \def\Gin@setfile#1#2#3{%
6238     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6239   }%
6240 \fi
6241 \Hy@DisableOption{hyperfigures}
```

## 43 hyperindex entries

Internal command names are prefixed with \HyInd@.

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

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

```
6242 \ifHy@hyperindex
6243   \def\HyInd@ParenLeft{({}%
6244   \def\HyInd@ParenRight{)}}%
6245   \Hy@nextfalse
6246   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6247   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6248   \begingroup
6249     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6250   \lowercase{\endgroup
6251     \ifHy@next
6252       \let\HyInd@org@wrindex\@wrindex
6253       \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\}%
6254       \def\HyInd@@wrindex#1#2|#3|#4\{\%
6255         \ifx\|#3\%
6256           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6257         \else
6258           \def\Hy@temp@A{#3}%
6259           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6260             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6261             \relax
6262             \HyInd@org@wrindex{#1}{#2|#3}%
6263           \else
6264             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6265           \fi
6266         \fi
6267       }%
6268     \else
6269       \def\@wrindex#1{\@@wrindex#1||\}%
6270       \def\@@wrindex#1|#2|#3\{\%
6271         \if@filesw
6272           \ifx\|#2\%
6273             \protected@write\@indexfile{\%
6274               \string\indexentry{#1|hyperpage}{\thepage}%

```

```

6275         }%
6276     \else
6277         \def\Hy@temp@A{#2}%
6278         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6279             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6280             \relax
6281             \protected@write\@indexfile{}\{%
6282                 \string\indexentry{#1|#2}{\thepage}%
6283             }%
6284     \else
6285         \protected@write\@indexfile{}\{%
6286             \string\indexentry{#1|#2hyperpage}{\thepage}%
6287         }%
6288     \fi
6289 \fi
6290 \fi
6291 \endgroup
6292 \@esphack
6293 }%
6294 \fi
6295 }%
6296 \fi
6297 \Hy@DisableOption{hyperindex}
6298 \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.

```

6299 \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.

```

6300 \def\hyperpage#1{%
6301   \HyInd@hyperpage#1\nohyperpage{}\@nil
6302 }
6303 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6304   \HyInd@@hyperpage{#1}%
6305   #2%
6306   \def\Hy@temp{#3}%
6307   \ifx\Hy@temp\@empty
6308   \else
6309     \Hy@ReturnAfterFi{%
6310       \HyInd@hyperpage#3\@nil
6311     }%
6312   \fi
6313 }
6314 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6315 \def\@hyperpage#1--#2--#3\{\{%
6316   \ifx\#2\%
6317     \@commahyperpage{#1}%
6318   \else
6319     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6320   \fi
6321 }
6322 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6323 \def\@commahyperpage#1, #2,#3\{\{%
6324   \ifx\#2\%
6325     \HyInd@pagelink{#1}%

```

```

6326 \else
6327   \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6328 \fi
6329 }

```

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

```

6330 \def\HyInd@pagelink#1{%
6331   \begingroup
6332   \toks@={}%
6333   \HyInd@removespaces#1 \@nil
6334 \endgroup
6335 }
6336 \def\HyInd@removespaces#1 #2\@nil{%
6337   \toks@=\expandafter{\the\toks@#1}%
6338   \ifx\#2\%
6339     \edef\x{\the\toks@}%
6340     \ifx\x\@empty
6341       \else
6342         \hyperlink{page.\the\toks@}{\the\toks@}%
6343       \fi
6344     \else
6345       \Hy@ReturnAfterFi{%
6346         \HyInd@removespaces#2\@nil
6347       }%
6348     \fi
6349 }

```

## 44 Compatibility with foiltex

```

6350 \@ifclassloaded{foils}{%
6351   \providecommand*\ext@table{lot}%
6352   \providecommand*\ext@figure{lof}%
6353 }{}

```

## 45 Compatibility with seminar slide package

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

```

6354 \@ifclassloaded{seminar}{%
6355   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6356 }{%
6357   \Hy@seminarslidesfalse
6358 }
6359 \@ifpackageloaded{slidesec}{%
6360   \newcommand\theHslidesection {\arabic{slidesection}}%
6361   \newcommand\theHslidesubsection{%
6362     \theHslidesection.\arabic{slidesubsection}%
6363   }%
6364   \def\slide@heading[#1]#2{%
6365     \H@refstepcounter{slidesection}%
6366     \@addtoreset{slidesubsection}{slidesection}%
6367     \addtocontents{los}{%
6368       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6369       {\@SCTR}{slideheading.\theslidesection}%
6370     }%

```

```

6371 \def\Hy@tempa{#2}%
6372 \ifx\Hy@tempa\@empty
6373 \else
6374 {%
6375 \edef\@currentlabel{%
6376 \csname p@slidesection\endcsname\theslidesection
6377 }%
6378 \makeslideheading{#2}%
6379 }%
6380 \fi
6381 \gdef\theslideheading{#1}%
6382 \gdef\theslidesubheading{}%
6383 \ifHy@bookmarksnumbered
6384 \def\Hy@slidetitle{\theslidesection\space #1}%
6385 \else
6386 \def\Hy@slidetitle{#1}%
6387 \fi
6388 \ifHy@hypertextnames
6389 \ifHy@naturalnames
6390 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6391 \Hy@writebookmark
6392 {\theslidesection}%
6393 {\Hy@slidetitle}%
6394 {slideheading.\theslidesection}%
6395 {1}%
6396 {toc}%
6397 \else
6398 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6399 \Hy@writebookmark
6400 {\theslidesection}%
6401 {\Hy@slidetitle}%
6402 {slideheading.\theHslidesection}%
6403 {1}%
6404 {toc}%
6405 \fi
6406 \else
6407 \Hy@GlobalStepCount\Hy@linkcounter
6408 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6409 \Hy@writebookmark
6410 {\theslidesection}%
6411 {\Hy@slidetitle}%
6412 {slideheading.\the\Hy@linkcounter}%
6413 {1}%
6414 {toc}%
6415 \fi
6416 }%
6417 \def\slide@subheading[#1]#2{%
6418 \H@refstepcounter{slidesubsection}%
6419 \addtocontents{los}{%
6420 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6421 {\@SCTR}{slideheading.\theslidesubsection}%
6422 }%
6423 \def\Hy@tempa{#2}%
6424 \ifx\Hy@tempa\@empty
6425 \else
6426 {%
6427 \edef\@currentlabel{%

```



```

6428         \csname p@slidessubsection\endcsname\theslidessubsection
6429     }%
6430     \makeslidesubheading{#2}%
6431 }%
6432 \fi
6433 \gdef\theslidesubheading{#1}%
6434 \ifHy@bookmarksnumbered
6435     \def\Hy@slidetitle{\theslidessubsection\space #1}%
6436 \else
6437     \def\Hy@slidetitle{#1}%
6438 \fi
6439 \ifHy@hypertextnames
6440     \ifHy@naturalnames
6441         \hyper@@anchor{slideheading.\theslidessubsection}{\relax}%
6442         \Hy@writebookmark
6443             {\theslidessubsection}%
6444             {\Hy@slidetitle}%
6445             {slideheading.\theslidessubsection}%
6446             {2}%
6447             {toc}%
6448     \else
6449         \hyper@@anchor{slideheading.\theHslidessubsection}{\relax}%
6450         \Hy@writebookmark
6451             {\theslidessubsection}%
6452             {\Hy@slidetitle}%
6453             {slideheading.\theHslidessubsection}%
6454             {2}%
6455             {toc}%
6456     \fi
6457 \else
6458     \Hy@GlobalStepCount\Hy@linkcounter
6459     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6460     \Hy@writebookmark
6461         {\theslidessubsection}%
6462         {\Hy@slidetitle}%
6463         {slideheading.\the\Hy@linkcounter}%
6464         {1}%
6465         {toc}%
6466 \fi
6467 }%
6468 \providecommand*\{listslicename}{List of Slides}%
6469 \def\listofslides{%
6470     \section*{%
6471         \listslicename
6472         \@mkboth{%
6473             \expandafter\MakeUppercase\listslicename
6474             }{%
6475                 \expandafter\MakeUppercase\listslicename
6476             }%
6477     }%
6478     \def\l@slide##1##2##3##4{%
6479         \slide@undottedcline{%
6480             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6481         }{%
6482         }%
6483     \let\l@subslide\l@slide
6484     \@startlos

```

```

6485 }%
6486 \def\slide@contents{%
6487   \def\l@slide##1##2##3##4{%
6488     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6489   }%
6490   \let\l@subslide\@gobblefour
6491   \@startlos
6492 }%
6493 \def\Slide@contents{%
6494   \def\l@slide##1##2##3##4{%
6495     \ifcase\lslide@flag
6496       \message{##1 ** \the\c@slide@section}%
6497       \ifnum##1>\c@slide@section
6498         \def\lslide@flag{1}%
6499         {%
6500           \large
6501           \slide@ccline{%
6502             \slidenumberline{$\Rightarrow\bullet$}%
6503             {\hyperlink{##4}{##2}}%
6504           }{##3}%
6505         }%
6506       \else
6507         {%
6508           \large
6509           \slide@ccline{%
6510             \slidenumberline{$\surd\;\bullet$}%
6511             {\hyperlink{##4}{##2}}%
6512           }{##3}%
6513         }%
6514       \fi
6515     \or
6516       \def\lslide@flag{2}%
6517       {%
6518         \large
6519         \slide@ccline{%
6520           \slidenumberline{$\bullet$}%
6521           {\hyperlink{##4}{##2}}%
6522         }{##3}%
6523       }%
6524     \or
6525       {%
6526         \large
6527         \slide@ccline{%
6528           \slidenumberline{$\bullet$}%
6529           {\hyperlink{##4}{##2}}%
6530         }{##3}%
6531       }%
6532     \fi
6533   }%
6534   \def\l@subslide##1##2##3##4{%
6535     \ifnum\lslide@flag=1 %
6536       \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6537     \fi
6538   }%
6539   \def\lslide@flag{0}%
6540   \@startlos
6541 }%

```

```
6542 }{}
```

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.)

```
6543 \ifHy@texht
6544   \expandafter\endinput
6545 \fi
6546 \let\real@setref\@setref
6547 \def\@setref#1#2#3{% csname, extract group, refname
6548   \ifx#1\relax
6549     \protect\G@refundefinedtrue
6550     \nfss@text{\reset@font\bfseries ??}%
6551     \@latex@warning{%
6552       Reference ‘#3’ on page \thepage \space undefined%
6553     }%
6554   \else
6555     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6556   \fi
6557 }
```

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

```
6558 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6559   \begingroup
6560   \toks0={\hyper@@link{#5}{#4}}%
6561   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6562   \edef\x{\endgroup
6563     \the\toks0 {\the\toks1 }%
6564   }%
6565   \x
6566 }
6567 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6568   \ifx#1\relax
6569     \protect\G@refundefinedtrue
6570     \nfss@text{\reset@font\bfseries ??}%
6571     \@latex@warning{%
6572       Reference ‘#3’ on page \thepage \space undefined%
6573     }%
6574   \else
6575     \protect\hyper@@link
6576     {\expandafter\@fifthoffive#1}%
6577     {page.\expandafter\@secondoffive#1}%
6578     {\expandafter\@secondoffive#1}%
6579   \fi
6580 }
6581 </package>
6582 <*check>
6583 \checklatex
6584 \checkcommand\def\@setref#1#2#3{%
6585   \ifx#1\relax
6586     \protect\G@refundefinedtrue
6587     \nfss@text{\reset@font\bfseries ??}%
6588     \@latex@warning{%
6589       Reference ‘#3’ on page \thepage\space undefined%
6590     }%
6591   \else
6592     \expandafter#2#1\@null
```

```

6593 \fi
6594 }
6595 \</check>
6596 <*package>

```

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

```

6597 \def\HyRef@StarSetRef#1{%
6598   \begingroup
6599   \Hy@safe@activetrue
6600   \edef\x{#1}%
6601   \@onelevel@sanitize\x
6602   \edef\x{\endgroup
6603     \noexpand\HyRef@@StarSetRef
6604     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6605   }%
6606   \x
6607 }
6608 \def\HyRef@@StarSetRef#1#2#3{%
6609   \ifx#1\@undefined
6610     \let#1\relax
6611   \fi
6612   \real@setref#1#3{#2}%
6613 }
6614 \def\@refstar#1{%
6615   \HyRef@StarSetRef{#1}\@firstoffive
6616 }
6617 \def\@pagerefstar#1{%
6618   \HyRef@StarSetRef{#1}\@secondoffive
6619 }
6620 \AtBeginDocument{%
6621   \@ifpackageloaded{varioref}{%
6622     \def\@Refstar#1{%
6623       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6624     }%
6625     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6626       \MakeUppercase#1%
6627     }%
6628     \DeclareRobustCommand*\Ref*{%
6629       \@ifstar\@Refstar\HyRef@Ref
6630     }%
6631     \def\HyRef@Ref#1{%
6632       \hyperref[#{1}]{\Ref*{#1}}%
6633     }%
6634     \def\Vr@f#1{%
6635       \leavevmode\unskip\vref@space
6636       \hyperref[#{1}]{%
6637         \Ref*{#1}%
6638         \let\vref@space\nobreakspace
6639         \@vpageref[\unskip]{#1}%
6640       }%
6641     }%
6642     \def\vr@f#1{%
6643       \leavevmode\unskip\vref@space
6644       \begingroup
6645       \let\T@pageref\@pagerefstar
6646       \hyperref[#{1}]{%
6647         \ref*{#1}%

```

```

6648         \vpageref[\unskip]{#1}%
6649     }%
6650 \endgroup
6651 }%
6652 }{}%
6653 }
6654 \DeclareRobustCommand*\autopageref{%
6655     \@ifstar{%
6656         \HyRef@autopagerefname\pageref*%
6657     }\HyRef@autopageref
6658 }
6659 \def\HyRef@autopageref#1{%
6660     \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6661 }
6662 \def\HyRef@autopagerefname{%
6663     \@ifundefined{pageautorefname}{%
6664         \@ifundefined{pagename}{%
6665             \Hy@Warning{No autoref name for 'page'}%
6666         }{%
6667             \pagename\nobreakspace
6668         }%
6669     }{%
6670         \pageautorefname\nobreakspace
6671     }%
6672 }
6673 \DeclareRobustCommand*\autoref{%
6674     \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
6675 }
6676 \def\HyRef@autoref#1#2{%
6677     \begingroup
6678         \Hy@safe@activetrue
6679         \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6680     \endgroup
6681 }
6682 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6683     \HyRef@ShowKeysRef{#2}%
6684     \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6685         \edef\HyRef@thisref{%
6686             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6687         }%
6688         \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6689         \Hy@safe@activesfalse
6690         #3{%
6691             \expandafter\@fifthoffive#1\@empty\@empty\@empty
6692         }{%
6693             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6694         }{%
6695             \HyRef@currentHtag
6696             \expandafter\@firstoffive#1\@empty\@empty\@empty
6697             \null
6698         }%
6699     \else
6700         \protect\G@refundefinedtrue
6701         \nfss@text{\reset@font\bfseries ??}%
6702         \@latex@warning{%
6703             Reference '#2' on page \thepage\space undefined%
6704         }%

```

```

6705 \fi
6706 }
6707 \def\HyRef@testreftype#1.#2\{%
6708 \@ifundefined{#1autorefname}{%
6709 \@ifundefined{#1name}{%
6710 \HyRef@StripStar#1\*\@nil{#1}%
6711 \@ifundefined{\HyRef@name autorefname}{%
6712 \@ifundefined{\HyRef@name name}{%
6713 \def\HyRef@currentHtag{%
6714 \Hy@Warning{No autoref name for '#1'}%
6715 }{%
6716 \edef\HyRef@currentHtag{%
6717 \expandafter\noexpand\csname\HyRef@name name\endcsname
6718 \noexpand~%
6719 }%
6720 }%
6721 }{%
6722 \edef\HyRef@currentHtag{%
6723 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6724 \noexpand~%
6725 }%
6726 }%
6727 }{%
6728 \edef\HyRef@currentHtag{%
6729 \expandafter\noexpand\csname#1name\endcsname
6730 \noexpand~%
6731 }%
6732 }%
6733 }{%
6734 \edef\HyRef@currentHtag{%
6735 \expandafter\noexpand\csname#1autorefname\endcsname
6736 \noexpand~%
6737 }%
6738 }%
6739 }
6740 \def\HyRef@StripStar#1*\#2\@nil#3{%
6741 \def\HyRef@name{#2}%
6742 \ifx\HyRef@name\HyRef@CaseStar
6743 \def\HyRef@name{#1}%
6744 \else
6745 \def\HyRef@name{#3}%
6746 \fi
6747 }
6748 \def\HyRef@CaseStar{*\\}
6749 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6750 \let\HyRef@ShowKeysRef\@gobble
6751 \def\HyRef@ShowKeysInit{%
6752 \begingroup\expandafter\expandafter\expandafter\endgroup
6753 \expandafter\ifx\csname SK@@label\endcsname\relax
6754 \else
6755 \ifx\SK@ref\@empty
6756 \else
6757 \def\HyRef@ShowKeysRef{%
6758 \SK@\SK@\ref

```

```

6759     }%
6760     \fi
6761     \fi
6762 }
6763 \@ifpackageloaded{showkeys}{%
6764     \HyRef@ShowKeysInit
6765 }{%
6766     \AtBeginDocument{%
6767         \@ifpackageloaded{showkeys}{%
6768             \HyRef@ShowKeysInit
6769         }{}%
6770     }%
6771 }

```

Defaults for the names that `\autoref` uses.

```

6772 \providecommand*{\AMSautorefname}{\equationautorefname}
6773 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6774 \providecommand*{\Itemautorefname}{\itemautorefname}
6775 \providecommand*{\itemautorefname}{item}
6776 \providecommand*{\equationautorefname}{Equation}
6777 \providecommand*{\footnoteautorefname}{footnote}
6778 \providecommand*{\itemautorefname}{item}
6779 \providecommand*{\figureautorefname}{Figure}
6780 \providecommand*{\tableautorefname}{Table}
6781 \providecommand*{\partautorefname}{Part}
6782 \providecommand*{\appendixautorefname}{Appendix}
6783 \providecommand*{\chapterautorefname}{chapter}
6784 \providecommand*{\sectionautorefname}{section}
6785 \providecommand*{\subsectionautorefname}{subsection}
6786 \providecommand*{\subsubsectionautorefname}{subsubsection}
6787 \providecommand*{\paragraphautorefname}{paragraph}
6788 \providecommand*{\subparagraphautorefname}{subparagraph}
6789 \providecommand*{\FancyVerbLineautorefname}{line}
6790 \providecommand*{\theoremautorefname}{Theorem}
6791 \providecommand*{\pageautorefname}{page}
6792 \end{package}

```

## 46 Configuration files

### 46.1 PS/PDF strings

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

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

6793 < *pdftex | dvipdfm | vtex | pdfmarkbase | dviwindo >
6794 \RequirePackage{pdftexcmds}[2007/11/11]
6795 \begingroup\expandafter\expandafter\expandafter\endgroup
6796 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6797     \begingroup
6798         \catcode'\|0 %
6799         \@makeother\%
6800     |@firstofone{|endgroup

```

```

6801 |def|Hy@pstringdef#1#2{%
6802 |begingroup
6803 |edef~{|string~}%
6804 |xdef|Hy@gtemp{#2}%
6805 |endgroup
6806 |let#1|Hy@gtemp
6807 |@onelevel@sanitize#1%
6808 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
6809 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6810 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6811 }%
6812 |def|Hy@ExchangeBackslash#1\#2|@nil{%
6813 #1%
6814 |ifx|\#2|\%%
6815 |else
6816 \\\%
6817 |Hy@ReturnAfterFi{%
6818 |Hy@ExchangeBackslash#2|@nil
6819 }%
6820 |fi
6821 }%
6822 }%
6823 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6824 #1%
6825 \ifx\\#2\\%
6826 \else
6827 \@backslashchar(%
6828 \Hy@ReturnAfterFi{%
6829 \Hy@ExchangeLeftParenthesis#2\@nil
6830 }%
6831 \fi
6832 }%
6833 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6834 #1%
6835 \ifx\\#2\\%
6836 \else
6837 \@backslashchar)%
6838 \Hy@ReturnAfterFi{%
6839 \Hy@ExchangeRightParenthesis#2\@nil
6840 }%
6841 \fi
6842 }%
6843 \else
6844 \def\Hy@pstringdef#1#2{%
6845 \begingroup
6846 \edef~{\string~}%
6847 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6848 \endgroup
6849 \let#1\Hy@gtemp
6850 }%
6851 \fi
6852 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

6853 <*pdfTeX>
6854 \providecommand*{\XR@ext}{pdf}

```



```
6855 \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

```
6856 \let\Hy@pdfminorversion\relax
6857 \begingroup\expandafter\expandafter\expandafter\endgroup
6858 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6859 \begingroup\expandafter\expandafter\expandafter\endgroup
6860 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6861 \else
6862 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6863 \fi
6864 \else
6865 \def\Hy@pdfminorversion{\pdfminorversion}%
6866 \fi
6867 \@ifundefined{Hy@pdfminorversion}{%
6868 \PackageInfo{hyperref}{%
6869 PDF version is not set, because pdfTeX is too old (<1.10a)%
6870 }%
6871 }{%
6872 \ifHy@ocgcolorlinks
6873 \ifnum\Hy@pdfminorversion<5 %
6874 \setkeys{Hyp}{pdfversion=1.5}%
6875 \fi
6876 \fi
6877 \ifHy@setpdfversion
6878 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6879 \else
6880 \Hy@pdfminorversion=\Hy@pdfversion\relax
6881 \fi
6882 \PackageInfo{hyperref}{%
6883 \expandafter\string\Hy@pdfminorversion
6884 :=\number\Hy@pdfversion\space
6885 }%
6886 \fi
6887 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6888 }
6889 \Hy@DisableOption{pdfversion}%

6890 \ifHy@ocgcolorlinks
6891 \immediate\pdfobj{%
6892 <<%
6893 /Type/OCG%
6894 /Name(View)%
6895 /Usage<<%
6896 /Print<<%
6897 /PrintState/OFF%
6898 >>%
6899 /View<<%
6900 /ViewState/ON%
6901 >>%
6902 >>%
6903 >>%
```

```

6904 }%
6905 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6906 \immediate\pdfobj{%
6907   <<%
6908     /Type/OCG%
6909     /Name(Print)%
6910     /Usage<<%
6911       /Print<<%
6912         /PrintState/ON%
6913       >>%
6914     /View<<%
6915       /ViewState/OFF%
6916     >>%
6917   >>%
6918 }%
6919 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6920 \immediate\pdfobj{%
6921   [%
6922     \OBJ@OCG@view\space\OBJ@OCG@print
6923   ]%
6924 }%
6925 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6926 \pdfcatalog{%
6927   /OCProperties<<%
6928     /OCGs \OBJ@OCGs
6929   /D<<%
6930     /OFF[\OBJ@OCG@print]%
6931     /AS[%
6932       <<%
6933         /Event/View%
6934         /OCGs \OBJ@OCGs
6935         /Category[/View]%
6936       >>%
6937       <<%
6938         /Event/Print%
6939         /OCGs \OBJ@OCGs
6940         /Category[/Print]%
6941       >>%
6942       <<%
6943         /Event/Export%
6944         /OCGs \OBJ@OCGs
6945         /Category[/Print]%
6946       >>%
6947     ]%
6948   >>%
6949 }%
6950 \beginingroup
6951 \edef\x{\endgroup
6952   \pdfpageresources{%
6953     /Properties<<%
6954       /OCView \OBJ@OCG@view
6955       /OCPrint \OBJ@OCG@print
6956     >>%
6957   }%
6958 }%
6959 }%
6960 }%

```

```

6961 \x
6962 \AtBeginDocument{%
6963   \def\Hy@colorlink#1{%
6964     \begingroup
6965     \ifHy@ocgcolorlinks
6966       \def\Hy@ocgcolor{#1}%
6967       \setbox0=\color@hbox
6968     \else
6969       \HyColor@UseColor#1%
6970     \fi
6971   }%
6972   \def\Hy@endcolorlink{%
6973     \ifHy@ocgcolorlinks
6974       \color@endbox
6975     \mbox{%
6976       \pdfliteral page{/OC/OCPrint BDC}%
6977       \rlap{\copy0}%
6978       \pdfliteral page{EMC/OC/OCView BDC}%
6979     \begingroup
6980       \expandafter\HyColor@UseColor\Hy@ocgcolor
6981     \box0 %
6982     \endgroup
6983     \pdfliteral page{EMC}%
6984   }%
6985   \fi
6986 \endgroup
6987 }%
6988 }%
6989 \else
6990 \Hy@DisableOption{ocgcolorlinks}%
6991 \fi

```

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

```

6992 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6993 \ifx\pdfstartlink\@undefined% less than version 14
6994   \let\pdfstartlink\pdfannotlink
6995   \let\pdflinkmargin\@tempdima
6996   \let\pdfxform\pdfform
6997   \let\pdflastxform\pdfastform
6998   \let\pdfrefxform\pdfreform
6999 \else
7000   \pdflinkmargin1pt %
7001 \fi

```

First set up the default linking

```
7002 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

7003 \def\new@pdflink#1{%
7004   \ifHy@verbose
7005     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7006   \fi
7007   \Hy@SaveLastskip
7008   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7009   \Hy@DestName\Hy@pstringDest\@pdfview
7010   \Hy@RestoreLastskip
7011 }
7012 \let\pdf@endanchor\@empty

```

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

```
7013 \def\Hy@DestName#1#2{%
7014   \pdfdest name{#1}#2\relax
7015 }
```

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.

```
7016 \providecommand*\pdfborder{0 0 1}
7017 \providecommand*\pdfborderstyle{}
7018 \def\Hy@undefinedname{UNDEFINED}
7019 \def\find@pdflink#1#2{%
7020   \leavevmode
7021   \protected@edef\Hy@testname{#2}%
7022   \ifx\Hy@testname\@empty
7023     \let\Hy@testname\Hy@undefinedname
7024   \else
7025     \Hy@pstringdef\Hy@testname{%
7026       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7027     }%
7028   \fi
7029   \Hy@StartlinkName{%
7030     \ifHy@pdfa /F 4\fi
7031     \Hy@setpdfborder
7032     \ifx\@pdfhighlight\@empty
7033       \else
7034         /H\@pdfhighlight
7035       \fi
7036       \ifx\CurrentBorderColor\relax
7037       \else
7038         /C[\CurrentBorderColor]%
7039       \fi
7040   }\Hy@testname
7041   \expandafter\Hy@colorlink\csname @#1color\endcsname
7042 }
7043 \def\Hy@StartlinkName#1#2{%
7044   \pdfstartlink attr{#1}goto name{#2}\relax
7045 }
7046 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7047 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7048 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7049 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7050 \def\hyper@linkstart#1#2{%
7051   \@ifundefined{@#1bordercolor}{%
7052     \let\CurrentBorderColor\relax
7053   }{%
7054     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7055   }%
7056   \find@pdflink{#1}{#2}%
7057 }
7058 \def\hyper@linkend{\close@pdflink}
7059 \def\hyper@link#1#2#3{%
7060   \@ifundefined{@#1bordercolor}{%
7061     \let\CurrentBorderColor\relax
7062   }{%
```

```

7063 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7064 }%
7065 \find@pdflink{#1}{#2}#3%
7066 \close@pdflink
7067 }
7068 \let\CurrentBorderColor\@linkbordercolor
7069 \def\hyper@linkurl#1#2{%
7070 \begingroup
7071 \Hy@pstringdef\Hy@pstringURI{#2}%
7072 \hyper@chars
7073 \leavevmode
7074 \pdfstartlink
7075 attr{%
7076 \Hy@setpdfborder
7077 \ifx\@pdfhighlight\@empty
7078 \else
7079 /H\@pdfhighlight
7080 \fi
7081 \ifx\@urlbordercolor\relax
7082 \else
7083 /C[\@urlbordercolor]%
7084 \fi
7085 }%
7086 user{%
7087 /Subtype/Link%
7088 \ifHy@pdfa /F 4\fi
7089 /A<<%
7090 /Type/Action%
7091 /S/URI%
7092 /URI(\Hy@pstringURI)%
7093 >>%
7094 }%
7095 \relax
7096 \Hy@colorlink\@urlcolor#1%
7097 \close@pdflink
7098 \endgroup
7099 }
7100 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7101 \begingroup
7102 \Hy@pstringdef\Hy@pstringF{#2}%
7103 \Hy@pstringdef\Hy@pstringD{#3}%
7104 \leavevmode
7105 \pdfstartlink
7106 attr{%
7107 \Hy@setpdfborder
7108 \ifx\@pdfhighlight\@empty
7109 \else
7110 /H\@pdfhighlight
7111 \fi
7112 \ifx\@filebordercolor\relax
7113 \else
7114 /C[\@filebordercolor]%
7115 \fi
7116 }%
7117 user {%
7118 /Subtype/Link%
7119 \ifHy@pdfa /F 4\fi

```

```

7120      /A<<%
7121      /F(\Hy@pstringF)%
7122      /S/GoToR%
7123      \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}

```

```

7124      \ifx\#3\%
7125      /D[0 \@pdfstartview]%
7126      \else
7127      /D(\Hy@pstringD)%
7128      \fi
7129      >>%
7130    }%
7131    \relax
7132    \Hy@colorlink\@filecolor#1%
7133    \close@pdflink
7134  \endgroup
7135 }
7136 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7137  \begingroup
7138    \Hy@pstringdef\Hy@pstringF{#1}%
7139    \Hy@pstringdef\Hy@pstringP{#3}%
7140    \leavevmode
7141    \pdfstartlink
7142    attr{%
7143      \Hy@setpdfborder
7144      \ifx\@pdfhighlight\@empty
7145      \else
7146      /H\@pdfhighlight
7147      \fi
7148      \ifx\@runbordercolor\relax
7149      \else
7150      /C[\@runbordercolor]%
7151      \fi
7152    }%
7153    user {%
7154      /Subtype/Link%
7155      \ifHy@pdfa /F 4\fi
7156      /A<<%
7157      /F(\Hy@pstringF)%
7158      /S/Launch%
7159      \Hy@SetNewWindow
7160      \ifx\#3\%
7161      \else
7162      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7163      \fi
7164      >>%
7165    }%

```

```

7166     \relax
7167     \Hy@colorlink\@gruncolor#2%
7168     \close@pdflink
7169 \endgroup
7170 }

```

\@pdfproducer

```

7171 \ifx\@pdfproducer\relax
7172 \begingroup\expandafter\expandafter\expandafter\endgroup
7173 \expandafter\ifx\csname luatexversion\endcsname\relax
7174   \def\@pdfproducer{pdfTeX}%
7175   \ifx\@eTeXversion\@undefined
7176   \else
7177     \ifx\@eTeXversion\relax
7178     \else
7179       \ifnum\@eTeXversion>0 %
7180         \def\@pdfproducer{pdfTeX}%
7181       \fi
7182     \fi
7183   \fi
7184   \ifx\pdftexversion\@undefined
7185   \else
7186     \ifnum\pdftexversion<100 %
7187       \edef\@pdfproducer{%
7188         \@pdfproducer
7189         \the\pdftexversion.\pdftexrevision
7190       }%
7191     \else
7192       \ifnum\pdftexversion<130 %
7193         \edef\@pdfproducer{%
7194           \@pdfproducer-
7195           \expandafter\@car\the\pdftexversion\@empty\@nil.%
7196           \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
7197           \pdftexrevision
7198         }%
7199       \else
7200         \ifnum\pdftexversion<140 %
7201         \else
7202           \def\@pdfproducer{pdfTeX}%
7203         \fi
7204         \edef\@pdfproducer{%
7205           \@pdfproducer-
7206           \expandafter\@car\the\pdftexversion\@empty\@nil.%
7207           \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
7208           \pdftexrevision
7209         }%
7210       \fi
7211     \fi
7212   \fi
7213 \else
7214   \begingroup
7215   \count@=\luatexversion
7216   \divide\count@ by 100 %
7217   \edef\x{\the\count@}%
7218   \count@=-\x\relax
7219   \multiply\count@ by 100 %
7220   \advance\count@ by \luatexversion

```

```

7221     \edef\x{\endgroup
7222         \def\noexpand\@pdfproducer{%
7223             LuaTeX-x.\the\count@.\luatexrevision
7224         }%
7225     }%
7226     \x
7227 \fi
7228 \fi

```

\PDF@SetupDox

```

7229 \def\PDF@SetupDoc{%
7230     \ifx\@pdfpagescrop\@empty
7231     \else
7232         \edef\process@me{%
7233             \pdfpagesattr={%
7234                 /CropBox[\@pdfpagescrop]%
7235                 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7236                 \else
7237                     ^^J\the\pdfpagesattr
7238                 \fi
7239             }%
7240         }%
7241         \process@me
7242     \fi
7243     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7244     \pdfcatalog{%
7245         /PageMode/\@pdfpagemode
7246         \ifx\@baseurl\@empty
7247         \else
7248             /URI<</Base(\Hy@pstringB)>>%
7249         \fi
7250     }%
7251     \ifx\@pdfstartpage\@empty
7252     \else
7253         \ifx\@pdfstartview\@empty
7254         \else
7255             openaction goto page\@pdfstartpage{\@pdfstartview}%
7256         \fi
7257     \fi
7258     \edef\Hy@temp{%
7259         \ifHy@toolbar\else /HideToolbar true\fi
7260         \ifHy@menubar\else /HideMenubar true\fi
7261         \ifHy>windowui\else /HideWindowUI true\fi
7262         \ifHy@fitwindow /FitWindow true\fi
7263         \ifHy@centerwindow /CenterWindow true\fi
7264         \ifHy@displaydoctitle /DisplayDocTitle true\fi
7265         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7266         \Hy@UseNameKey{Direction}\@pdfdirection
7267         \Hy@UseNameKey{ViewArea}\@pdfviewarea
7268         \Hy@UseNameKey{ViewClip}\@pdfviewclip
7269         \Hy@UseNameKey{PrintArea}\@pdfprintarea
7270         \Hy@UseNameKey{PrintClip}\@pdfprintclip
7271         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7272         \Hy@UseNameKey{Duplex}\@pdfduplex
7273         \ifx\@pdfpicktraybypdfsize\@empty
7274         \else
7275             /PickTrayByPDFSize \@pdfpicktraybypdfsize

```



```

7276 \fi
7277 \ifx\@pdfprintpagerange\@empty
7278 \else
7279 /PrintPageRange[\@pdfprintpagerange]%
7280 \fi
7281 \ifx\@pdfnumcopies\@empty
7282 \else
7283 /NumCopies \@pdfnumcopies
7284 \fi
7285 }%
7286 \pdfcatalog{%
7287 \ifx\Hy@temp\@empty
7288 \else
7289 /ViewerPreferences<<\Hy@temp>>%
7290 \fi
7291 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7292 \ifx\@pdflang\@empty
7293 \else
7294 /Lang(\@pdflang)%
7295 \fi
7296 }%
7297 }

```

#### \PDF@FinishDoc

```

7298 \def\PDF@FinishDoc{%
7299 \Hy@UseMaketitleInfos
7300 \pdfinfo{%
7301 /Author(\@pdfauthor)%
7302 /Title(\@pdftitle)%
7303 /Subject(\@pdfsubject)%
7304 /Creator(\@pdfcreator)%
7305 \ifx\@pdfcreationdate\@empty
7306 \else
7307 /CreationDate(\@pdfcreationdate)%
7308 \fi
7309 \ifx\@pdfmoddate\@empty
7310 \else
7311 /ModDate(\@pdfmoddate)%
7312 \fi
7313 \ifx\@pdfproducer\relax
7314 \else
7315 /Producer(\@pdfproducer)%
7316 \fi
7317 /Keywords(\@pdfkeywords)%
7318 }%
7319 \Hy@DisableOption{pdfauthor}%
7320 \Hy@DisableOption{pdftitle}%
7321 \Hy@DisableOption{pdfsubject}%
7322 \Hy@DisableOption{pdfcreator}%
7323 \Hy@DisableOption{pdfcreationdate}%
7324 \Hy@DisableOption{pdfmoddate}%
7325 \Hy@DisableOption{pdfproducer}%
7326 \Hy@DisableOption{pdfkeywords}%
7327 }

```

\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.

```

7328 \def\hyper@pagetransition{%
7329   \ifx\@pdfpagetransition\relax
7330   \else
7331     \expandafter\Hy@RemoveTransPageAttr
7332     \the\pdfpageattr^^J/Trans{>>\END
7333     \ifx\@pdfpagetransition\empty
7334     \else
7335       \edef\@processme{%
7336         \global\pdfpageattr{%
7337           \the\pdfpageattr
7338             ^^J/Trans << /S /\@pdfpagetransition\space >>%
7339         }%
7340       }%
7341       \@processme
7342     \fi
7343   \fi
7344 }
```

**\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.

```

7345 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7346   \ifx\#2\%
7347     \global\pdfpageattr{#1}%
7348   \else
7349     \Hy@RemoveTransPageAttr#1#4\END
7350   \fi
7351 }
```

**\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.

```

7352 \def\hyper@pageduration{%
7353   \ifx\@pdfpageduration\relax
7354   \else
7355     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7356     \ifx\@pdfpageduration\empty
7357     \else
7358       \edef\@processme{%
7359         \global\pdfpageattr{%
7360           \the\pdfpageattr
7361             ^^J/Dur \@pdfpageduration\space
7362         }%
7363       }%
7364       \@processme
7365     \fi
7366   \fi
7367 }
```

**\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.

```

7368 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
```

```

7369 \ifx\#2\%
7370 \global\pdfpageattr{#1}%
7371 \else
7372 \Hy@RemoveDurPageAttr#1#4\END
7373 \fi
7374 }

```

`\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).

```

7375 \def\hyper@pagehidden{%
7376 \ifHy@useHidKey
7377 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7378 \ifHy@pdfpagehidden
7379 \edef\@processme{%
7380 \global\pdfpageattr{%
7381 \the\pdfpageattr
7382 ^^J/Hid true % SPACE
7383 }%
7384 }%
7385 \@processme
7386 \fi
7387 \fi
7388 }

```

`\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.

```

7389 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7390 \ifx\#2\%
7391 \global\pdfpageattr{#1}%
7392 \else
7393 \Hy@RemoveHidPageAttr#1#4\END
7394 \fi
7395 }

```

```

7396 \g@addto@macro\Hy@EveryPageHook{%
7397 \hyper@pagetransition
7398 \hyper@pageduration
7399 \hyper@pagehidden
7400 }

```

```

7401 \AtBeginDocument{%
7402 \ifHy@setpagesize
7403 \expandafter\@firstofone
7404 \else
7405 \expandafter\@gobble
7406 \fi
7407 {%
7408 \@ifclassloaded{seminar}{%
7409 \setlength{\pdfhorigin}{1truein}%
7410 \setlength{\pdfvorigin}{1truein}%
7411 \ifportrait
7412 \ifdim\paperwidth=\z@
7413 \else
7414 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7415 \fi

```

```

7416     \ifdim\paperheight=\z@
7417     \else
7418         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7419     \fi
7420 \else
7421     \ifdim\paperheight=\z@
7422     \else
7423         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7424     \fi
7425     \ifdim\paperwidth=\z@
7426     \else
7427         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7428     \fi
7429 \fi
7430 }{%
7431 \@ifundefined{stockwidth}{%
7432     \ifdim\paperwidth=\z@
7433     \else
7434         \setlength{\pdfpagewidth}{\paperwidth}%
7435     \fi
7436     \ifdim\paperheight=\z@
7437     \else
7438         \setlength{\pdfpageheight}{\paperheight}%
7439     \fi
7440 }{%
7441     \ifdim\stockwidth=\z@
7442     \else
7443         \setlength{\pdfpagewidth}{\stockwidth}%
7444     \fi
7445     \ifdim\stockheight=\z@
7446     \else
7447         \setlength{\pdfpageheight}{\stockheight}%
7448     \fi
7449 }%
7450 }%
7451 }%
7452 \Hy@DisableOption{setpagesize}%
7453 }
7454 \def\Acrobatmenu#1#2{%
7455     \Hy@Acrobatmenu{#1}{#2}{%
7456         \pdfstartlink
7457         attr{%
7458             \Hy@setpdfborder
7459             \ifx\@pdfhighlight\@empty
7460             \else
7461                 /H\@pdfhighlight
7462             \fi
7463             \ifx\@menubordercolor\relax
7464             \else
7465                 /C[\@menubordercolor]%
7466             \fi
7467         }%
7468         user{%
7469             /Subtype/Link%
7470             \ifHy@pdfa /F 4\fi
7471             /A<<%
7472             /S/Named/N/#1%

```

```

7473      >>%
7474      }%
7475      \relax
7476      \Hy@colorlink\@menucolor#2%
7477      \close@pdflink
7478      }%
7479      }
7480      \pdfTeX
7481      \hypertex

```

### 46.3 hypertex

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

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

```

7482 \providecommand*\XR@ext}{dvi}
7483 \def\PDF@FinishDoc{}
7484 \def\PDF@SetupDoc{%
7485   \ifx\@baseurl\@empty
7486   \else
7487     \special{html:<base href="\@baseurl">}%
7488   \fi
7489 }
7490 \def\hyper@anchor#1{%
7491   \Hy@SaveLastskip
7492   \begingroup
7493     \let\protect=\string
7494     \hyper@chars

```

```

7495 \special{html:<a name=%
7496 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7497 \endgroup
7498 \Hy@activeanchortrue
7499 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7500 \special{html:</a>}%
7501 \Hy@activeanchorfalse
7502 \Hy@RestoreLastskip
7503 }
7504 \def\hyper@anchorstart#1{%
7505 \Hy@SaveLastskip
7506 \begingroup
7507 \hyper@chars
7508 \special{html:<a name=%
7509 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7510 \endgroup
7511 \Hy@activeanchortrue
7512 }
7513 \def\hyper@anchorend{%
7514 \special{html:</a>}%
7515 \Hy@activeanchorfalse
7516 \Hy@RestoreLastskip
7517 }
7518 \def\@urltype{url}
7519 \def\hyper@linkstart#1#2{%
7520 \expandafter\Hy@colorlink\csname @#1color\endcsname
7521 \def\Hy@tempa{#1}%
7522 \ifx\Hy@tempa\@urltype
7523 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7524 \else
7525 \begingroup
7526 \hyper@chars
7527 \special{html:<a href=%
7528 \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
7529 \endgroup
7530 \fi
7531 }
7532 \def\hyper@linkend{%
7533 \special{html:</a>}%
7534 \Hy@endcolorlink
7535 }
7536 \def\hyper@linkfile#1#2#3{%
7537 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7538 }
7539 \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.

```

7540 \leavevmode
7541 \ifHy@raiselinks
7542 \setbox\@tempboxa=\color@hbox #1\color@endbox
7543 \@linkdim\dp\@tempboxa
7544 \lower\@linkdim\hbox{%
7545 \hyper@chars
7546 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7547 }%
7548 \Hy@colorlink\@urlcolor#1%

```

```
7549 \@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).

```
7550 \advance\@linkdim by -6.5\p@
7551 \raise\@linkdim\hbox{\special{html:</a>}}%
7552 \Hy@endcolorlink
7553 \else
7554 \begingroup
7555 \hyper@chars
7556 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7557 \Hy@colorlink\@urlcolor#1%
7558 \special{html:</a>}%
7559 \Hy@endcolorlink
7560 \endgroup
7561 \fi
7562 }
```

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

```
7563 \def\hyper@link#1#2#3{%
7564 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
7565 }

7566 \def\hyper@image#1#2{%
7567 \begingroup
7568 \hyper@chars
7569 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7570 \endgroup
7571 }
7572 </hypertext>
7573 <*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 hypertext cfg. For dviwindo,  $\LaTeX$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 1000000sp wide by \baselineskip high is used.

```
7574 \providecommand*\XR@ext{dvi}
7575 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7576 \def\hyper@anchor#1{%
7577 \Hy@SaveLastskip
7578 \begingroup
7579 \let\protect=\string
7580 \special{mark: #1}%
7581 \endgroup
7582 \Hy@activeanchortrue
7583 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7584 \Hy@activeanchorfalse
7585 \Hy@RestoreLastskip
```

```

7586 }
7587 \def\hyper@anchorstart#1{%
7588   \Hy@SaveLastskip
7589   \special{mark: #1}%
7590   \Hy@activeanchortrue
7591 }
7592 \def\hyper@anchorend{%
7593   \Hy@activeanchorfalse
7594   \Hy@RestoreLastskip
7595 }
7596 \def\hyper@linkstart#1#2{%
7597   \expandafter\Hy@colorlink\csname @#1color\endcsname
7598   \special{button: %
7599     10000000 %
7600     \number\baselineskip\space
7601     #2%
7602   }%
7603 }
7604 \def\hyper@linkend{%
7605   \Hy@endcolorlink
7606 }
7607 \def\hyper@link#1#2#3{%
7608   \setbox\@tempboxa=\color@hbox #3\color@endbox
7609   \leavevmode
7610   \ifHy@raiselinks
7611     \@linkdim\dp\@tempboxa
7612     \lower\@linkdim\hbox{%
7613       \special{button: %
7614         \number\wd\@tempboxa\space
7615         \number\ht\@tempboxa\space
7616         #2%
7617       }%
7618       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7619       \Hy@endcolorlink
7620     }%
7621     \@linkdim\ht\@tempboxa
7622     \advance\@linkdim by -6.5\p@
7623     \raise\@linkdim\hbox{}%
7624   \else
7625     \special{button: %
7626       \number\wd\@tempboxa\space
7627       \number\ht\@tempboxa\space
7628       #2%
7629     }%
7630     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7631     \Hy@endcolorlink
7632   \fi
7633 }
7634 \def\hyper@linkurl#1#2{%
7635   \begingroup
7636   \hyper@chars
7637   \leavevmode
7638   \setbox\@tempboxa=\color@hbox #1\color@endbox
7639   \ifHy@raiselinks
7640     \@linkdim\dp\@tempboxa
7641     \lower\@linkdim\hbox{%
7642       \special{button: %

```



```

7643         \number\wd\@tempboxa\space
7644         \number\ht\@tempboxa\space
7645         launch: \wwwbrowser\space
7646         #2%
7647     }%
7648     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7649 }%
7650 \@linkdim\ht\@tempboxa
7651 \advance\@linkdim by -6.5\p@
7652 \raise\@linkdim\hbox{}%
7653 \else
7654 \special{button: %
7655     \number\wd\@tempboxa\space
7656     \number\ht\@tempboxa\space
7657     launch: \wwwbrowser\space
7658     #2%
7659 }%
7660 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7661 \fi
7662 \endgroup
7663 }
7664 \def\hyper@linkfile#1#2#3{%
7665 \begingroup
7666 \hyper@chars
7667 \leavevmode
7668 \setbox\@tempboxa=\color@hbox #1\color@endbox
7669 \ifHy@raiselinks
7670 \@linkdim\dp\@tempboxa
7671 \lower\@linkdim\hbox{%
7672     \special{button: %
7673         \number\wd\@tempboxa\space
7674         \number\ht\@tempboxa\space
7675         #3,%
7676         file: #2%
7677     }%
7678     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7679 }%
7680 \@linkdim\ht\@tempboxa
7681 \advance\@linkdim by -6.5\p@
7682 \raise\@linkdim\hbox{}%
7683 \else
7684 \special{button: %
7685     \number\wd\@tempboxa\space
7686     \number\ht\@tempboxa\space
7687     #3,%
7688     file: #2%
7689 }%
7690 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7691 \fi
7692 \endgroup
7693 }
7694 \ifx\@pdfproducer\relax
7695 \def\@pdfproducer{dviwindo + Distiller}%
7696 \fi
7697 \def\PDF@FinishDoc{%
7698     \Hy@UseMaketitleInfos
7699     \special{PDF: Keywords \@pdfkeywords}%

```

```

7700 \special{PDF: Title \@pdftitle}%
7701 \special{PDF: Creator \@pdfcreator}%
7702 \ifx\@pdfcreationdate\@empty
7703 \else
7704   \special{PDF: CreationDate \@pdfcreationdate}%
7705 \fi
7706 \ifx\@pdfmoddate\@empty
7707 \else
7708   \special{PDF: ModDate \@pdfmoddate}%
7709 \fi
7710 \special{PDF: Author \@pdfauthor}%
7711 \ifx\@pdfproducer\relax
7712 \else
7713   \special{PDF: Producer \@pdfproducer}%
7714 \fi
7715 \special{PDF: Subject \@pdfsubject}%
7716 \Hy@DisableOption{pdfauthor}%
7717 \Hy@DisableOption{pdftitle}%
7718 \Hy@DisableOption{pdfsubject}%
7719 \Hy@DisableOption{pdfcreator}%
7720 \Hy@DisableOption{pdfcreationdate}%
7721 \Hy@DisableOption{pdfmoddate}%
7722 \Hy@DisableOption{pdfproducer}%
7723 \Hy@DisableOption{pdfkeywords}%
7724 }
7725 \def\PDF@SetupDoc{%
7726   \ifx\@baseurl\@empty
7727   \else
7728     \special{PDF: Base \@baseurl}%
7729   \fi
7730   \ifx\@pdfpagescrop\@empty\else
7731     \special{PDF: BBox \@pdfpagescrop}%
7732   \fi
7733   \def\Hy@temp{%
7734     \ifx\@pdfstartpage\@empty
7735     \else
7736       \ifx\@pdfstartview\@empty
7737       \else
7738         \edef\Hy@temp{%
7739           ,Page=\@pdfstartpage
7740           ,View=\@pdfstartview
7741         }%
7742       \fi
7743     \fi
7744     \edef\Hy@temp{%
7745       \noexpand\pdfmark{%
7746         pdfmark=/DOCVIEW,%
7747         PageMode=/\@pdfpagemode
7748       }\Hy@temp
7749     }%
7750   }%
7751   \Hy@temp
7752   \ifx\@pdfpagescrop\@empty
7753   \else
7754     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7755   \fi
7756   \edef\Hy@temp{%

```

```

7757 \ifHy@toolbar\else /HideToolbar true\fi
7758 \ifHy@menubar\else /HideMenubar true\fi
7759 \ifHy@windowui\else /HideWindowUI true\fi
7760 \ifHy@fitwindow /FitWindow true\fi
7761 \ifHy@centerwindow /CenterWindow true\fi
7762 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7763 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7764 \Hy@UseNameKey{Direction}\@pdfdirection
7765 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7766 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7767 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7768 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7769 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7770 \Hy@UseNameKey{Duplex}\@pdfduplex
7771 \ifx\@pdfpicktraybypdfsize\@empty
7772 \else
7773 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7774 \fi
7775 \ifx\@pdfprintpagerange\@empty
7776 \else
7777 /PrintPageRange[\@pdfprintpagerange]%
7778 \fi
7779 \ifx\@pdfnumcopies\@empty
7780 \else
7781 /NumCopies \@pdfnumcopies
7782 \fi
7783 }%
7784 \pdfmark{pdfmark=/PUT,%
7785 Raw={%
7786 \string{Catalog\string}<<%
7787 \ifx\Hy@temp\@empty
7788 \else
7789 /ViewerPreferences<<\Hy@temp>>%
7790 \fi
7791 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7792 \ifx\@pdflang\@empty
7793 \else
7794 /Lang(\@pdflang)%
7795 \fi
7796 >>%
7797 }%
7798 }%
7799 }
7800 </dviwindo>
7801 <*dvipdfm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7802 \providecommand*\XR@ext}{pdf}
7803 \Hy@setbreaklinks{true}
7804 \newsavebox{\pdfm@box}
7805 \def\@pdfm@mark#1{\special{pdf:#1}}
7806 \def\@pdfm@dest#1{%
7807 \Hy@SaveLastskip
7808 \beginingroup
7809 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

7810 \def\x{XYZ}%
7811 \ifx\x\@pdfview
7812 \def\x{XYZ @xpos @ypos null}%
7813 \else
7814 \def\x{FitH}%
7815 \ifx\x\@pdfview
7816 \def\x{FitH @ypos}%
7817 \else
7818 \def\x{FitBH}%
7819 \ifx\x\@pdfview
7820 \def\x{FitBH @ypos}%
7821 \else
7822 \def\x{FitV}%
7823 \ifx\x\@pdfview
7824 \def\x{FitV @xpos}%
7825 \else
7826 \def\x{FitBV}%
7827 \ifx\x\@pdfview
7828 \def\x{FitBV @xpos}%
7829 \else
7830 \def\x{Fit}%
7831 \ifx\x\@pdfview
7832 \let\x\@pdfview
7833 \else
7834 \def\x{FitB}%
7835 \ifx\x\@pdfview
7836 \let\x\@pdfview
7837 \else
7838 \def\x{FitR}%
7839 \ifx\x\@pdfview
7840 \Hy@Warning{'pdfview=FitR' is not supported}%
7841 \def\x{XYZ @xpos @ypos null}%
7842 \else
7843 \@onelevel@sanitize\@pdfview
7844 \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7845 \def\x{XYZ @xpos @ypos null}%
7846 \fi
7847 \fi
7848 \fi
7849 \fi
7850 \fi
7851 \fi
7852 \fi
7853 \fi
7854 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7855 \endgroup
7856 \Hy@RestoreLastskip
7857 }
7858 \providecommand*\@pdfview{XYZ}
7859 \providecommand*\@pdfborder{0 0 1}
7860 \providecommand*\@pdfborderstyle{}
7861 \def\hyper@anchor#1{%
7862 \@pdfm@dest{#1}%
7863 }
7864 \def\hyper@anchorstart#1{%
7865 \Hy@activeanchortrue
7866 \@pdfm@dest{#1}%

```

```

7867 }
7868 \def\hyper@anchorend{%
7869   \Hy@activeanchorfalse
7870 }

7871 \ifHy@ocgcolorlinks
7872 \def\OBJ@OCG@view{@OCG@view}%
7873 \@pdfm@mark{%
7874   obj \OBJ@OCG@view <<%
7875     /Type/OCG%
7876     /Name(View)%
7877     /Usage<<%
7878     /Print<<%
7879     /PrintState/OFF%
7880     >>%
7881     /View<<%
7882     /ViewState/ON%
7883     >>%
7884   >>%
7885 >>%
7886 }%
7887 \@pdfm@mark{close \OBJ@OCG@view}%
7888 \def\OBJ@OCG@print{@OCG@print}%
7889 \@pdfm@mark{%
7890   obj \OBJ@OCG@print <<%
7891     /Type/OCG%
7892     /Name(Print)%
7893     /Usage<<%
7894     /Print<<%
7895     /PrintState/ON%
7896     >>%
7897     /View<<%
7898     /ViewState/OFF%
7899     >>%
7900   >>%
7901 >>%
7902 }%
7903 \@pdfm@mark{close \OBJ@OCG@print}%
7904 \def\OBJ@OCGs{@OCGs}%
7905 \@pdfm@mark{%
7906   obj \OBJ@OCGs [%
7907     \OBJ@OCG@view\space\OBJ@OCG@print
7908   ]%
7909 }%
7910 \@pdfm@mark{close \OBJ@OCGs}%
7911 \@pdfm@mark{%
7912   put @catalog <<%
7913     /OCProperties<<%
7914     /OCGs \OBJ@OCGs
7915     /D<<%
7916     /OFF[\OBJ@OCG@print]%
7917     /AS[%
7918       <<%
7919         /Event/View%
7920         /OCGs \OBJ@OCGs
7921         /Category[/View]%
7922       >>%
7923     <<%

```

```

7924         /Event/Print%
7925         /OCGs \OBJ@OCGs
7926         /Category[/Print]%
7927     >>%
7928     <<%
7929         /Event/Export%
7930         /OCGs \OBJ@OCGs
7931         /Category[/Print]%
7932     >>%
7933     ]%
7934     >>%
7935     >>%
7936     >>%
7937 }%
7938 \AtBeginShipout{%
7939     \setbox\AtBeginShipoutBox=\hbox{%
7940         \copy\AtBeginShipoutBox
7941         \@pdfm@mark{%
7942             put @resources <<%
7943             /Properties<<%
7944             /OCView \OBJ@OCG@view
7945             /OCPrint \OBJ@OCG@print
7946             >>%
7947             >>%
7948         }%
7949     }%
7950 }%
7951 \AtBeginDocument{%
7952     \def\Hy@colorlink#1{%
7953         \begingroup
7954         \ifHy@ocgcolorlinks
7955             \def\Hy@ocgcolor{#1}%
7956             \setbox0=\color@hbox
7957         \else
7958             \HyColor@UseColor#1%
7959         \fi
7960     }%
7961     \def\Hy@endcolorlink{%
7962         \ifHy@ocgcolorlinks
7963             \color@endbox
7964             \mbox{%
7965                 \@pdfm@mark{content /OC/OCPrint BDC}%
7966                 \rlap{\copy0}%
7967                 \@pdfm@mark{content EMC/OC/OCView BDC}%
7968                 \begingroup
7969                 \expandafter\HyColor@UseColor\Hy@ocgcolor
7970                 \box0 %
7971                 \endgroup
7972                 \@pdfm@mark{content EMC}%
7973             }%
7974         \fi
7975     \endgroup
7976 }%
7977 }%
7978 \else
7979     \Hy@DisableOption{ocgcolorlinks}%
7980 \fi

```

```

7981 \def\Hy@undefinedname{UNDEFINED}
7982 \def\hyper@linkstart#1#2{%
7983   \protected@edef\Hy@testname{#2}%
7984   \ifx\Hy@testname\@empty
7985     \let\Hy@testname\Hy@undefinedname
7986   \else
7987     \Hy@pstringdef\Hy@testname{%
7988       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7989     }%
7990   \fi
7991   \@pdfm@mark{%
7992     bann<<%
7993     /Type/Annot%
7994     /Subtype/Link%
7995     \ifHy@pdfa /F 4\fi
7996     \Hy@setpdfborder
7997     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7998     \else
7999       /C[\csname @#1bordercolor\endcsname]%
8000     \fi
8001     /A<<%
8002     /S/GoTo%
8003     /D(\Hy@testname)%
8004     >>%
8005   >>%
8006 }%
8007 \expandafter\Hy@colorlink\csname @#1color\endcsname
8008 }
8009 \def\hyper@linkend{%
8010   \Hy@endcolorlink
8011   \@pdfm@mark{eann}%
8012 }
8013 \def\hyper@link#1#2#3{%
8014   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8015 }
8016 \def\hyper@linkfile#1#2#3{%
8017   \Hy@pstringdef\Hy@pstringF{#2}%
8018   \Hy@pstringdef\Hy@pstringD{#3}%
8019   \leavevmode
8020   \@pdfm@mark{%
8021     bann<<%
8022     /Type/Annot%
8023     /Subtype/Link%
8024     \ifHy@pdfa /F 4\fi
8025     \Hy@setpdfborder
8026     \ifx\@filebordercolor\relax
8027     \else
8028       /C[\@filebordercolor]%
8029     \fi
8030     /A<<%
8031     /S/GoToR%
8032     /F(\Hy@pstringF)%
8033     /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
8034     \Hy@SetNewWindow
8035     >>%
8036   >>%
8037 }%

```

```

8038 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8039 \@pdfmark{eann}%
8040 }
8041 \def\hyper@linkurl#1#2{%
8042 \Hy@pstringdef\Hy@pstringURI{#2}%
8043 \leavevmode
8044 \@pdfmark{%
8045   bann<<%
8046     /Type/Annot%
8047     /Subtype/Link%
8048     \ifHy@pdfa /F 4\fi
8049     \Hy@setpdfborder
8050     \ifx\@urlbordercolor\relax
8051     \else
8052       /C[\@urlbordercolor]%
8053     \fi
8054     /A<<%
8055     /S/URI%
8056     /URI(\Hy@pstringURI)%
8057     >>%
8058   >>%
8059 }%
8060 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8061 \@pdfmark{eann}%
8062 }
8063 \def\Acrobatmenu#1#2{%
8064 \Hy@Acrobatmenu{#1}{#2}{%
8065   \@pdfmark{%
8066     bann<<%
8067       /Type/Annot%
8068       /Subtype/Link%
8069       \ifHy@pdfa /F 4\fi
8070       /A<<%
8071       /S/Named%
8072       /N/#1%
8073     >>%
8074     \Hy@setpdfborder
8075     \ifx\@menubordercolor\relax
8076     \relax
8077     /C[\@menubordercolor]%
8078     \fi
8079   >>%
8080 }%
8081 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8082 \@pdfmark{eann}%
8083 }%
8084 }
8085 \ifx\@pdfproducer\relax
8086 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>TeX</sub>. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8087 \begingroup\expandafter\expandafter\expandafter\endgroup
8088 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8089 \else
8090 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8091 \fi
8092 \fi
8093 \def\PDF@FinishDoc{%

```



```

8094 \Hy@UseMaketitleInfos
8095 \@pdfmark{%
8096   docinfo<<%
8097     /Title(\@pdftitle)%
8098     /Subject(\@pdfsubject)%
8099     /Creator(\@pdfcreator)%
8100     \ifx\@pdfcreationdate\@empty
8101     \else
8102       /CreationDate(\@pdfcreationdate)%
8103     \fi
8104     \ifx\@pdfmoddate\@empty
8105     \else
8106       /ModDate(\@pdfmoddate)%
8107     \fi
8108     /Author(\@pdfauthor)%
8109     \ifx\@pdfproducer\relax
8110     \else
8111       /Producer(\@pdfproducer)%
8112     \fi
8113     /Keywords(\@pdfkeywords)%
8114   >>%
8115 }%
8116 \Hy@DisableOption{pdfauthor}%
8117 \Hy@DisableOption{pdftitle}%
8118 \Hy@DisableOption{pdfsubject}%
8119 \Hy@DisableOption{pdfcreator}%
8120 \Hy@DisableOption{pdfcreationdate}%
8121 \Hy@DisableOption{pdfmoddate}%
8122 \Hy@DisableOption{pdfproducer}%
8123 \Hy@DisableOption{pdfkeywords}%
8124 }

8125 \def\PDF@SetupDoc{%
8126   \edef\Hy@temp{%
8127     \ifHy@toolbar\else /HideToolbar true\fi
8128     \ifHy@menubar\else /HideMenubar true\fi
8129     \ifHy>windowui\else /HideWindowUI true\fi
8130     \ifHy@fitwindow /FitWindow true\fi
8131     \ifHy@centerwindow /CenterWindow true\fi
8132     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8133     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8134     \Hy@UseNameKey{Direction}\@pdfdirection
8135     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8136     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8137     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8138     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8139     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8140     \Hy@UseNameKey{Duplex}\@pdfduplex
8141     \ifx\@pdfpicktraybypdfsize\@empty
8142     \else
8143       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8144     \fi
8145     \ifx\@pdfprintpagerange\@empty
8146     \else
8147       /PrintPageRange[\@pdfprintpagerange]%
8148     \fi
8149     \ifx\@pdfnumcopies\@empty
8150     \else

```

```

8151      /NumCopies \@pdfnumcopies
8152      \fi
8153    }%
8154    \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8155    \@pdfm@mark{%
8156      docview<<%
8157        \ifx\@pdfstartpage\@empty
8158        \else
8159          \ifx\@pdfstartview\@empty
8160          \else
8161            /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8162          \fi
8163        \fi
8164        \ifx\@baseurl\@empty
8165        \else
8166          /URI<</Base(\Hy@pstringB)>>%
8167        \fi
8168        /PageMode/\@pdfpagemode
8169        \ifx\Hy@temp\@empty
8170        \else
8171          /ViewerPreferences<<\Hy@temp>>%
8172        \fi
8173        \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8174        \ifx\@pdflang\@empty
8175        \else
8176          /Lang(\@pdflang)%
8177        \fi
8178      >>%
8179    }%
8180    \ifx\@pdfpagescrop\@empty
8181    \else
8182      \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8183    \fi
8184  }

8185 \AtBeginShipoutFirst{%
8186   \ifx\special@paper\@empty\else
8187     \ifHy@setpagesize
8188       \special{papersize=\special@paper}%
8189     \fi
8190   \fi
8191   \Hy@DisableOption{setpagesize}%
8192 }
8193 </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.

```

8194 < *vtexhtml>
8195 \providecommand*{\XR@ext}{htm}
8196 \RequirePackage{vtexhtml}
8197 \newif\if@Localurl
8198 \def\PDF@FinishDoc{}
8199 \def\PDF@SetupDoc{%
8200   \ifx\@baseurl\@empty
8201   \else

```

```

8202 \special{!direct <base href="\@baseurl">}%
8203 \fi
8204 }
8205 \def\@urltype{url}
8206 \def\hyper@link#1#2#3{%
8207 \leavevmode
8208 \special{!direct <a href=%
8209 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8210 #3%
8211 \special{!direct </a>}%
8212 }
8213 \def\hyper@linkurl#1#2{%
8214 \begingroup
8215 \hyper@chars
8216 \leavevmode
8217 \MathBSuppress=1\relax
8218 \special{!direct <a href=%
8219 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8220 #1%
8221 \MathBSuppress=0\relax
8222 \special{!direct </a>}%
8223 \endgroup
8224 }
8225 \def\hyper@linkfile#1#2#3{%
8226 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
8227 }
8228 \def\hyper@linkstart#1#2{%
8229 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8230 \@Localurltrue
8231 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8232 \else
8233 \@Localurlfalse
8234 \begingroup
8235 \hyper@chars
8236 \special{!aref \HyperDestNameFilter{#2}}%
8237 \endgroup
8238 \fi
8239 }
8240 \def\hyper@linkend{%
8241 \if@Localurl
8242 \special{!endaref}%
8243 \else
8244 \special{!direct </a>}%
8245 \fi
8246 }
8247 \def\hyper@anchorstart#1{%
8248 \Hy@SaveLastskip
8249 \begingroup
8250 \hyper@chars
8251 \special{!aname #1}%
8252 \special{!direct <a name=%
8253 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8254 \endgroup
8255 \Hy@activeanchortrue
8256 }
8257 \def\hyper@anchorend{%
8258 \special{!direct </a>}%

```

```

8259 \Hy@activeanchorfalse
8260 \Hy@RestoreLastskip
8261 }
8262 \def\hyper@anchor#1{%
8263 \Hy@SaveLastskip
8264 \begingroup
8265 \let\protect=\string
8266 \hyper@chars
8267 \leavevmode
8268 \special{!aname #1}%
8269 \special{!direct <a name=%
8270 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8271 \endgroup
8272 \Hy@activeanchortrue
8273 \bgroup\anchor@spot\egroup
8274 \special{!direct </a>}%
8275 \Hy@activeanchorfalse
8276 \Hy@RestoreLastskip
8277 }
8278 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8279 \def\@endForm{}
8280 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8281 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8282 }
8283 \def\@TextField[#1]#2{% parameters, label
8284 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8285 }
8286 \def\@CheckBox[#1]#2{% parameters, label
8287 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8288 }
8289 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8290 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8291 }
8292 \def\@PushButton[#1]#2{% parameters, label
8293 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8294 }
8295 \def\@Reset[#1]#2{%
8296 \typeout{Sorry, TeXpider does not yet support FORMs}%
8297 }
8298 \def\@Submit[#1]#2{%
8299 \typeout{Sorry, TeXpider does not yet support FORMs}%
8300 }
8301 \</vtexhtml>
8302 \<vtex>

```

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct is better than a \csname, because it avoids the definition and the hash table entry of a previous undefined macro.

```

8303 \ifx\mediaheight\@undefined
8304 \else
8305 \ifx\mediaheight\relax
8306 \else
8307 \ifHy@setpagesize
8308 \providecommand*{\VTeXInitMediaSize}{%
8309 \@ifundefined{stockwidth}{%
8310 \ifdim\paperheight>0pt %
8311 \setlength\mediaheight\paperheight

```

```

8312         \fi
8313         \ifdim\paperheight>0pt %
8314             \setlength\mediawidth\paperwidth
8315         \fi
8316     }{%
8317         \ifdim\stockheight>0pt %
8318             \setlength\mediaheight\stockheight
8319         \fi
8320         \ifdim\stockwidth>0pt %
8321             \setlength\mediawidth\stockwidth
8322         \fi
8323     }%
8324 }%
8325 \AtBeginDocument{\VTeXInitMediaSize}%
8326 \fi
8327 \Hy@DisableOption{setpagesize}%
8328 \fi
8329 \fi

```

Older versions of VTeX require xyz in lower case.

```

8330 \providecommand*\@pdfview{xyz}
8331 \providecommand*\@pdfborder{0 0 1}
8332 \providecommand*\@pdfborderstyle{}
8333 \let\CurrentBorderColor\@linkbordercolor
8334 \def\hyper@anchor#1{%
8335     \Hy@SaveLastskip
8336     \begingroup
8337         \let\protect=\string
8338         \hyper@chars
8339         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8340     \endgroup
8341     \Hy@activeanchortrue
8342     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8343     \Hy@activeanchorfalse
8344     \Hy@RestoreLastskip
8345 }
8346 \def\hyper@anchorstart#1{%
8347     \Hy@SaveLastskip
8348     \begingroup
8349         \hyper@chars
8350         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8351     \endgroup
8352     \Hy@activeanchortrue
8353 }
8354 \def\hyper@anchorend{%
8355     \Hy@activeanchorfalse
8356     \Hy@RestoreLastskip
8357 }
8358 \def\@urltype{url}
8359 \def\Hy@undefinedname{UNDEFINED}
8360 \def\hyper@linkstart#1#2{%
8361     \Hy@pstringdef\Hy@pstringURI{#2}%
8362     \expandafter\Hy@colorlink\csname @#1color\endcsname
8363     \@ifundefined{@#1bordercolor}{%
8364         \let\CurrentBorderColor\relax
8365     }{%
8366         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8367     }%

```

```

8368 \def\Hy@tempa{#1}%
8369 \ifx\Hy@tempa \@urltype
8370   \special{!%
8371     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8372     a=<%
8373       \ifHy@pdfa /F 4\fi
8374       \Hy@setpdfborder
8375       \ifx\CurrentBorderColor\relax
8376       \else
8377         /C [\CurrentBorderColor]%
8378       \fi
8379     >%
8380   }%
8381 \else
8382   \protected@edef\Hy@testname{#2}%
8383   \ifx\Hy@testname \@empty
8384     \let\Hy@testname\Hy@undefinedname
8385   \fi
8386   \special{!%
8387     aref \expandafter\HyperDestNameFilter
8388     \expandafter{\Hy@testname};%
8389     a=<%
8390       \ifHy@pdfa /F 4\fi
8391       \Hy@setpdfborder
8392       \ifx\CurrentBorderColor\relax
8393       \else
8394         /C [\CurrentBorderColor]%
8395       \fi
8396     >%
8397   }%
8398 \fi
8399 }
8400 \def\hyper@linkend{%
8401   \special{!endaref}%
8402   \Hy@endcolorlink
8403 }
8404 \def\hyper@linkfile#1#2#3{%
8405   \leavevmode
8406   \special{!%
8407     aref <%
8408     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8409     f=#2>#3;%
8410     a=<%
8411       \ifHy@pdfa /F 4\fi
8412       \Hy@setpdfborder
8413       \ifx\@filebordercolor\relax
8414       \else
8415         /C [\@filebordercolor]%
8416       \fi
8417     >%
8418   }%
8419   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8420   \special{!endaref}%
8421 }
8422 \def\hyper@linkurl#1#2{%
8423   \begingroup
8424     \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

8425 \hyper@chars
8426 \leavevmode
8427 \special{!%
8428   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8429   a=<%
8430     \ifHy@pdfa /F 4\fi
8431     \Hy@setpdfborder
8432     \ifx\@urlbordercolor\relax
8433     \else
8434       /C [\@urlbordercolor]%
8435     \fi
8436   >%
8437 }%
8438 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8439 \special{!endaref}%
8440 \endgroup
8441 }
8442 \def\hyper@link#1#2#3{%
8443   \@ifundefined{@#1bordercolor}{%
8444     \let\CurrentBorderColor\relax
8445   }{%
8446     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8447   }%
8448   \leavevmode
8449   \protected@edef\Hy@testname{#2}%
8450   \ifx\Hy@testname\@empty
8451     \let\Hy@testname\Hy@undefinedname
8452   \fi
8453   \special{!%
8454     aref \expandafter\HyperDestNameFilter
8455         \expandafter{\Hy@testname};%
8456     a=<%
8457       \ifHy@pdfa /F 4\fi
8458       \Hy@setpdfborder
8459       \ifx\CurrentBorderColor\relax
8460       \else
8461         /C [\CurrentBorderColor]%
8462       \fi
8463     >%
8464   }%
8465   \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8466   \special{!endaref}%
8467 }
8468 \def\hyper@image#1#2{%
8469   \hyper@linkurl{#2}{#1}%
8470 }
8471 \def\@hyper@launch run:#1\#2#3{%
8472   \Hy@pstringdef\Hy@pstringF{#1}%
8473   \Hy@pstringdef\Hy@pstringP{#3}%
8474   \leavevmode
8475   \special{!aref %
8476     <u=%
8477       /Type/Action%
8478       /S/Launch%
8479       /F(\Hy@pstringF)%
8480       \Hy@SetNewWindow
8481       \ifx\#3\\\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%

```

```

8482 >;%
8483 a=<%
8484 \ifHy@pdfa /F 4\fi
8485 \Hy@setpdfborder
8486 \ifx\@runbordercolor\relax
8487 \else
8488 /C[\@runbordercolor]%
8489 \fi
8490 >%
8491 }%
8492 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8493 \special{!endaref}%
8494 }
8495 \def\Acrobatmenu#1#2{%
8496 \Hy@Acrobatmenu{#1}{#2}{%
8497 \special{!%
8498 aref <u=/S /Named /N /#1>;%
8499 a=<%
8500 \ifHy@pdfa /F 4\fi
8501 \Hy@setpdfborder
8502 \ifx\@menubordercolor\relax
8503 \else
8504 /C[\@menubordercolor]%
8505 \fi
8506 >%
8507 }%
8508 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8509 \special{!endaref}%
8510 }%
8511 }

```

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

The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.

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

```

8512 \ifnum\Hy@VTeXversion<702 %
8513 \else
8514 \def\hyper@pagetransition{%
8515 \ifx\@pdfpagetransition\relax
8516 \else
8517 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8518 \else
8519 \hvtex@parse@trans\@pdfpagetransition
8520 \fi
8521 \fi
8522 }%

```

I have to write an “honest” parser to convert raw PDF code into V<sub>T</sub>E<sub>X</sub> `\special`.  
(AVK)

Syntax of V<sub>T</sub>E<sub>X</sub> `\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:

```

8523 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8524 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8525 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8526 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8527 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8528 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8529 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8530 \def\hvtex@par@dimension{/Dm}%
8531 \def\hvtex@par@direction{/Di}%
8532 \def\hvtex@par@duration{/D}%
8533 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8534 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8535 \def\hvtex@gettoken@#1 #2\@nil{%
8536   \edef\hvtex@token{#1}%
8537   \edef\hvtex@buffer{#2}%
8538 }%
8539 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8540 \let\hvtex@trans@code\@empty
8541 \let\hvtex@param@dimension\@empty
8542 \let\hvtex@param@direction\@empty
8543 \let\hvtex@param@duration\@empty
8544 \let\hvtex@param@motion\@empty
8545 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8546 \hvtex@gettoken
8547 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8548 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8549 \else
8550 \hvtex@gettoken
8551 \fi
8552 \fi
8553 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8554 \hvtex@trans@params
8555 }%

```

Reentrant macro to parse optional parameters.

```

8556 \def\hvtex@trans@params{%
8557   \ifx\hvtex@buffer\@empty
8558   \else
8559     \hvtex@gettoken
8560     \let\hvtex@trans@par\hvtex@token
8561     \ifx\hvtex@buffer\@empty
8562     \else
8563       \hvtex@gettoken
8564       \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.

```

8565       \let\hvtex@param@duration\hvtex@token
8566       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8567       \expandafter\edef\expandafter\hvtex@param@motion
8568       \expandafter{\expandafter\@gobble\hvtex@token}%
8569       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8570       \expandafter\edef\expandafter\hvtex@param@dimension
8571       \expandafter{\expandafter\@gobble\hvtex@token}%
8572       \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).

```

8573       \let\hvtex@param@direction\hvtex@token
8574       \fi\fi\fi\fi
8575       \fi
8576       \fi
8577       \ifx\hvtex@buffer\@empty
8578       \let\next\hvtex@produce@trans
8579       \else
8580       \let\next\hvtex@trans@params
8581       \fi
8582       \next
8583   }%

```

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

```

8584 \def\hvtex@produce@trans{%
8585   \let\vtex@trans@special\@empty
8586   \if S\hvtex@trans@code
8587     \edef\vtex@trans@special{\hvtex@trans@code
8588       \hvtex@param@dimension\hvtex@param@motion}%
8589   \else\if B\hvtex@trans@code
8590     \edef\vtex@trans@special{%
8591       \hvtex@trans@code\hvtex@param@dimension
8592     }%
8593   \else\if X\hvtex@trans@code
8594     \edef\vtex@trans@special{%
8595       \hvtex@trans@code\hvtex@param@motion
8596     }%
8597   \else\if W\hvtex@trans@code
8598     \edef\vtex@trans@special{%
8599       \hvtex@trans@code\hvtex@param@direction
8600     }%
8601   \else\if D\hvtex@trans@code

```

```

8602     \let\vtex@trans@special\hvtex@trans@code
8603     \else\if R\hvtex@trans@code
8604         \let\vtex@trans@special\hvtex@trans@code
8605     \else\if G\hvtex@trans@code
8606         \edef\vtex@trans@special{%
8607             \hvtex@trans@code\hvtex@param@direction
8608         }%
8609     \fi\fi\fi\fi\fi\fi\fi
8610     \ifx\vtex@trans@special\@empty
8611     \else
8612         \ifx\hvtex@param@duration\@empty
8613         \else
8614             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8615         \multiply\dimen@\@m
8616         \edef\vtex@trans@special{%
8617             \vtex@trans@special,\strip@pt\dimen@
8618         }%
8619     \fi

```

And all the mess is just for this.

```

8620     \special{!trans \vtex@trans@special}%
8621     \fi
8622 }%

8623 \def\hyper@pageduration{%
8624     \ifx\@pdfpageduration\relax
8625     \else
8626         \ifx\@pdfpageduration\@empty
8627             \special{!duration-}%
8628         \else
8629             \special{!duration \@pdfpageduration}%
8630         \fi
8631     \fi
8632 }%

8633 \def\hyper@pagehidden{%
8634     \ifHy@useHidKey
8635         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8636     \fi
8637 }%

8638 \g@addto@macro\Hy@EveryPageBoxHook{%
8639     \hyper@pagetransition
8640     \hyper@pageduration
8641     \hyper@pagehidden
8642 }%
8643 \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

```

8644 \ifx\@pdfproducer\relax
8645   \def\@pdfproducer{VTeX}%
8646   \ifnum\Hy@VTeXversion>\z@
8647     \count@\VTeXversion
8648     \divide\count@ 100 %
8649     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8650     \multiply\count@ -100 %
8651     \advance\count@\VTeXversion
8652     \edef\@pdfproducer{%
8653       \@pdfproducer
8654       .\ifnum\count@<10 0\fi\the\count@
8655       \ifx\VTeXOS\undefined\else
8656         \ifnum\VTeXOS>0 %
8657           \ifnum\VTeXOS<6 %
8658             \space{%
8659               \ifcase\VTeXOS
8660                 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8661               \fi
8662             )%
8663           \fi
8664         \fi
8665       \fi
8666       ,\space
8667       \ifnum\OpMode=\@ne PDF\else PS\fi
8668       \space backend%
8669       \ifx\gexmode\undefined\else
8670         \ifnum\gexmode>\z@\space with GeX\fi
8671       \fi
8672     }%
8673   \fi
8674 \fi

```

Current !pdfinfo key syntax:

Key	Field	Type
a	<b>Author</b>	String
b	<b>CropBox</b>	String
c	<b>Creator</b>	String
k	<b>Keywords</b>	String
l	<b>PageLayout</b>	PS
p	<b>PageMode</b>	PS
r	<b>Producer</b>	String
s	<b>Subject</b>	String
t	<b>Title</b>	String
u	<b>URI</b>	PS
v	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<< . . >>> (yuck; no choice).

```

8675 \def\PDF@SetupDoc{%
8676   \ifx\@pdfpagescrop\@empty
8677   \else
8678     \special{!pdfinfo b=<\@pdfpagescrop>}%
8679   \fi
8680   \ifx\@pdfstartpage\@empty
8681   \else
8682     \ifx\@pdfstartview\@empty
8683     \else
8684       \special{!onopen Page\@pdfstartpage}%
8685     \fi

```

```

8686 \fi
8687 \special{!pdfinfo p=<\/\@pdfpagemode>}%
8688 \ifx\@baseurl\@empty
8689 \else
8690 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8691 \fi
8692 \special{!pdfinfo v=<<<%
8693 \ifHy@toolbar\else /HideToolbar true\fi
8694 \ifHy@menubar\else /HideMenubar true\fi
8695 \ifHy@windowui\else /HideWindowUI true\fi
8696 \ifHy@fitwindow /FitWindow true\fi
8697 \ifHy@centerwindow /CenterWindow true\fi
8698 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8699 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8700 \Hy@UseNameKey{Direction}\@pdfdirection
8701 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8702 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8703 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8704 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8705 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8706 \Hy@UseNameKey{Duplex}\@pdfduplex
8707 \ifx\@pdfpicktraybypdfsize\@empty
8708 \else
8709 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8710 \fi
8711 \ifx\@pdfprintpagerange\@empty
8712 \else
8713 /PrintPageRange[\@pdfprintpagerange]%
8714 \fi
8715 \ifx\@pdfnumcopies\@empty
8716 \else
8717 /NumCopies \@pdfnumcopies
8718 \fi
8719 >>>}%
8720 \ifx\@pdfpagelayout\@empty
8721 \else
8722 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
8723 \fi
8724 }%
8725 \def\PDF@FinishDoc{%
8726 \Hy@UseMaketitleInfos
8727 \special{!pdfinfo a=<\/\@pdfauthor>}%
8728 \special{!pdfinfo t=<\/\@pdftitle>}%
8729 \special{!pdfinfo s=<\/\@pdfsubject>}%
8730 \special{!pdfinfo c=<\/\@pdfcreator>}%
8731 \ifx\@pdfproducer\relax
8732 \else
8733 \special{!pdfinfo r=<\/\@pdfproducer>}%
8734 \fi
8735 \special{!pdfinfo k=<\/\@pdfkeywords>}%
8736 \Hy@DisableOption{pdfauthor}%
8737 \Hy@DisableOption{pdftitle}%
8738 \Hy@DisableOption{pdfsubject}%
8739 \Hy@DisableOption{pdfcreator}%
8740 \Hy@DisableOption{pdfcreationdate}%
8741 \Hy@DisableOption{pdfmoddate}%
8742 \Hy@DisableOption{pdfproducer}%

```

```

8743 \Hy@DisableOption{pdfkeywords}%
8744 }
8745 </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.

```

8746 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8747 <package>\providecommand*\Hy@DistillerDestFix{}
8748 <*pdfmark | dviwindo>
8749 \def\Hy@DistillerDestFix{%
8750   \begingroup
8751     \let\x\literalps@out

```

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

```

8752   \ifnum \@ifundefined{OpMode}{0}{%
8753     \@ifundefined{gexmode}{0}{%
8754       \ifnum\gexmode>0 \OpMode\else 0\fi
8755     }>1 %
8756   \def\x##1{%
8757     \immediate\special{!=##1}%
8758   }%
8759   \fi
8760   \x{%
8761     /product where{%
8762       pop %
8763       product(Distiller)search{%
8764         pop pop pop %
8765         version(.)search{%
8766           exch pop exch pop%
8767           (3011)eq{%
8768             gsave %
8769             newpath 0 0 moveto closepath clip%
8770             /Courier findfont 10 scalefont setfont %
8771             72 72 moveto(.)show %
8772             grestore%
8773           }if%
8774         }{pop}ifelse%
8775       }{pop}ifelse%
8776     }if%
8777   }%
8778   \endgroup
8779 }
8780 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

\@pdfproducer	for document information
\literalps@out	PostScript output
\headerps@out	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S	start of anchor, link or rect
#1 H.A	end of anchor, argument=baselineskip in pt
#1 H.L	end of link, argument=baselineskip in pt
H.R	end of rect
H.B	raw rect code

```

8781 {*pdfmark}
8782 \Hy@breaklinks@unsupported
8783 \def\hyper@anchor#1{%
8784   \Hy@SaveLastskip
8785   \beginngroup
8786     \pdfmark[\anchor@spot]{%
8787       pdfmark=/DEST,%
8788       linktype=anchor,%
8789       View=/\@pdfview \@pdfviewparams,%
8790       DestAnchor={#1}%
8791     }%
8792   \endgroup
8793   \Hy@RestoreLastskip
8794 }
8795 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8796 \def\hyper@anchorstart#1{%
8797   \Hy@SaveLastskip
8798   \literalps@out{H.S}%
8799   \xdef\hyper@currentanchor{#1}%
8800   \Hy@activeanchortrue
8801 }
8802 \def\hyper@anchorend{%
8803   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8804   \pdfmark{%
8805     pdfmark=/DEST,%
8806     linktype=anchor,%
8807     View=/\@pdfview \@pdfviewparams,%
8808     DestAnchor=\hyper@currentanchor,%
8809   }%
8810   \Hy@activeanchorfalse
8811   \Hy@RestoreLastskip
8812 }
8813 \def\hyper@linkstart#1#2{%
8814   \ifHy@breaklinks
8815   \else
8816     \leavevmode\hbox\bgroup
8817     \fi
8818     \expandafter\Hy@colorlink\csname @#1color\endcsname
8819     \literalps@out{H.S}%
8820     \xdef\hyper@currentanchor{#2}%
8821     \gdef\hyper@currentlinktype{#1}%
8822 }
8823 \def\hyper@linkend{%
8824   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8825   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8826     \let\Hy@tempcolor\relax

```

```

8827 }{%
8828   \edef\Hy@tempcolor{%
8829     \csname @\hyper@currentlinktype bordercolor\endcsname
8830   }%
8831 }%
8832 \pdfmark{%
8833   pdfmark=/ANN,%
8834   linktype=link,%
8835   Subtype=/Link,%
8836   PDFAFlags=4,%
8837   Dest=\hyper@currentanchor,%
8838   AcroHighlight=\@pdfhighlight,%
8839   Border=\@pdfborder,%
8840   BorderStyle=\@pdfborderstyle,%
8841   Color=\Hy@tempcolor,%
8842   Raw=H.B%
8843 }%
8844 \Hy@endcolorlink
8845 \ifHy@breaklinks
8846 \else
8847   \egroup
8848 \fi
8849 }

```

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.

```

8850 \begingroup
8851   \catcode'P=12 %
8852   \catcode'T=12 %
8853   \lowercase{\endgroup
8854   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8855 }
8856 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8857 \def\hyper@pagetransition{%
8858   \ifx\@pdfpagetransition\relax
8859   \else
8860     \ifx\@pdfpagetransition\@empty
8861       % 1. Does an old entry have to be deleted?
8862       % 2. If 1=yes, how to delete?
8863     \else
8864       \pdfmark{%
8865         pdfmark=/PUT,%
8866         Raw={%
8867           \string{ThisPage\string}%
8868           <</Trans << /S /\@pdfpagetransition\space >> >>%
8869         }%
8870       }%
8871     \fi
8872   \fi
8873 }

```

\hyper@pageduration

```

8874 \def\hyper@pageduration{%
8875   \ifx\@pdfpageduration\relax

```



```

8876 \else
8877   \ifx\@pdfpageduration\@empty
8878     % 1. Does an old entry have to be deleted?
8879     % 2. If 1=yes, how to delete?
8880   \else
8881     \pdfmark{%
8882       pdfmark=/PUT,%
8883       Raw={%
8884         \string{ThisPage\string}%
8885         <</Dur \@pdfpageduration>>%
8886       }%
8887     }%
8888   \fi
8889 \fi
8890 }

```

\hyper@pagehidden

```

8891 \def\hyper@pagehidden{%
8892   \ifHy@useHidKey
8893     \pdfmark{%
8894       pdfmark=/PUT,%
8895       Raw={%
8896         \string{ThisPage\string}%
8897         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8898       }%
8899     }%
8900   \fi
8901 }

8902 \g@addto@macro\Hy@EveryPageBoxHook{%
8903   \hyper@pagetransition
8904   \hyper@pageduration
8905   \hyper@pagehidden
8906 }

8907 \def\hyper@image#1#2{%
8908   \hyper@linkurl{#2}{#1}%
8909 }

8910 \def\Hy@undefinedname{UNDEFINED}
8911 \def\hyper@link#1#2#3{%
8912   \@ifundefined{#1bordercolor}{%
8913     \let\Hy@tempcolor\relax
8914   }{%
8915     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
8916   }%
8917   \begin{group}
8918     \protected@edef\Hy@testname{#2}%
8919     \ifx\Hy@testname\@empty
8920       \let\Hy@testname\Hy@undefinedname
8921     \fi
8922     \pdfmark[#{3}]{%
8923       Color=\Hy@tempcolor,%
8924       linktype={#1},%
8925       AcroHighlight=\@pdfhighlight,%
8926       Border=\@pdfborder,%
8927       BorderStyle=\@pdfborderstyle,%
8928       pdfmark=/ANN,%
8929       Subtype=/Link,%

```

```

8930         PDFAFlags=4,%
8931         Dest=\Hy@testname
8932     }%
8933 \endgroup
8934 }
8935 \newtoks\pdf@docset
8936 \def\PDF@FinishDoc{%
8937     \Hy@UseMaketitleInfos
8938     \let\Hy@temp\@empty
8939     \ifx\@pdfcreationdate\@empty
8940     \else
8941         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8942     \fi
8943     \ifx\@pdfmoddate\@empty
8944     \else
8945         \expandafter\def\expandafter\Hy@temp\expandafter{%
8946             \Hy@temp
8947             ModDate=\@pdfmoddate,%
8948         }%
8949     \fi
8950     \ifx\@pdfproducer\relax
8951     \else
8952         \expandafter\def\expandafter\Hy@temp\expandafter{%
8953             \Hy@temp
8954             Producer=\@pdfproducer,%
8955         }%
8956     \fi
8957     \expandafter
8958     \pdfmark\expandafter{%
8959         \Hy@temp
8960         pdfmark=/DOCINFO,%
8961         Title=\@pdftitle,%
8962         Subject=\@pdfsubject,%
8963         Creator=\@pdfcreator,%
8964         Author=\@pdfauthor,%
8965         Keywords=\@pdfkeywords
8966     }%
8967     \Hy@DisableOption{pdfauthor}%
8968     \Hy@DisableOption{pdftitle}%
8969     \Hy@DisableOption{pdfsubject}%
8970     \Hy@DisableOption{pdfcreator}%
8971     \Hy@DisableOption{pdfcreationdate}%
8972     \Hy@DisableOption{pdfmoddate}%
8973     \Hy@DisableOption{pdfproducer}%
8974     \Hy@DisableOption{pdfkeywords}%
8975 }
8976 \def\PDF@SetupDoc{%
8977     \def\Hy@temp{}%
8978     \ifx\@pdfstartpage\@empty
8979     \else
8980         \ifx\@pdfstartview\@empty
8981         \else
8982             \edef\Hy@temp{%
8983                 ,Page=\@pdfstartpage
8984                 ,View=\@pdfstartview
8985             }%
8986         \fi

```

```

8987 \fi
8988 \edef\Hy@temp{%
8989     \noexpand\pdfmark{%
8990         pdfmark=/DOCVIEW,%
8991         PageMode=/\@pdfpagemode
8992     \Hy@temp
8993 }%
8994 }%
8995 \Hy@temp
8996 \ifx\@pdfpagescrop\@empty
8997 \else
8998     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8999 \fi
9000 \edef\Hy@temp{%
9001     \ifHy@toolbar\else /HideToolbar true\fi
9002     \ifHy@menubar\else /HideMenubar true\fi
9003     \ifHy>windowui\else /HideWindowUI true\fi
9004     \ifHy@fitwindow /FitWindow true\fi
9005     \ifHy@centerwindow /CenterWindow true\fi
9006     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9007     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9008     \Hy@UseNameKey{Direction}\@pdfdirection
9009     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9010     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9011     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9012     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9013     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9014     \Hy@UseNameKey{Duplex}\@pdfduplex
9015     \ifx\@pdfpicktraybypdfsize\@empty
9016     \else
9017         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9018     \fi
9019     \ifx\@pdfprintpagerange\@empty
9020     \else
9021         /PrintPageRange[\@pdfprintpagerange]%
9022     \fi
9023     \ifx\@pdfnumcopies\@empty
9024     \else
9025         /NumCopies \@pdfnumcopies
9026     \fi
9027 }%
9028 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9029 \pdfmark{%
9030     pdfmark=/PUT,%
9031     Raw={%
9032         \string{Catalog\string}<<%
9033         \ifx\Hy@temp\@empty
9034         \else
9035             /ViewerPreferences<<\Hy@temp>>%
9036         \fi
9037         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9038         \ifx\@pdflang\@empty
9039         \else
9040             /Lang(\@pdflang)%
9041         \fi
9042         \ifx\@baseurl\@empty
9043         \else

```

```

9044      /URI<</Base(\Hy@pstringB)>>%
9045      \fi
9046      >>%
9047      }%
9048      }%
9049      }
9050      </pdfmark>
9051      <*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.

```

9052 \newif\ifHy@pdfmarkerror
9053 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
9054 \def\pdfmark@[#1]#2{%
9055   \Hy@pdfmarkerrorfalse
9056   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9057   \@processme
9058   \let\pdf@type\relax
9059   \setkeys{PDF}{#2}%
9060   \ifHy@pdfmarkerror
9061   \else
9062     \ifx\pdf@type\relax
9063       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9064       \ifx\#1\%
9065         \else
9066           \pdf@rect{#1}%
9067         \fi
9068       \else
9069         \ifx\#1\%
9070           \literalps@out{%
9071             [\the\pdf@toks\space\pdf@type\space pdfmark%
9072             ]%
9073           \else
9074             \@ifundefined{@\pdf@linktype color}{%
9075               \Hy@colorlink\@linkcolor
9076             }{%
9077               \expandafter\Hy@colorlink
9078                 \csname @\pdf@linktype color\endcsname
9079             }%
9080             \pdf@rect{#1}%
9081             \literalps@out{%
9082               [\the\pdf@toks\space\pdf@type\space pdfmark%
9083               ]%
9084             \Hy@endcolorlink
9085           \fi
9086         \fi
9087       \fi
9088     }

```

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}

9089 \newsavebox{\pdf@box}
9090 \providecommand*\Hy@setouterhbox{\sbox}
9091 \providecommand*\Hy@breaklinksunhbox{\unhbox}
9092 \def\Hy@DEST{/DEST}
9093 \def\pdf@rect#1{%
9094   \leavevmode
9095   \ifHy@breaklinks
9096     \Hy@setouterhbox\pdf@box{#1}%
9097   \else
9098     \sbox\pdf@box{#1}%
9099   \fi
9100   \dimen@ht\pdf@box
9101   \ifdim\dp\pdf@box=\z@
9102     \literalps@out{H.S}%
9103   \else
9104     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9105   \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...).

```

9106 \ifHy@breaklinks
9107   \expandafter\Hy@breaklinksunhbox
9108 \else
9109   \expandafter\box
9110 \fi
9111 \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

9112 \ifdim\dimen@=\z@
9113   \literalps@out{H.R}%
9114 \else
9115   \raise\dimen@\hbox{\literalps@out{H.R}}%
9116 \fi
9117 \ifx\pdf@type\Hy@DEST
9118 \else
9119   \pdf@addtoksx{H.B}%
9120 \fi
9121 }

```

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.

```

9122 \newtoks\pdf@toks
9123 \newtoks\pdf@defaulttoks
9124 \pdf@defaulttoks={}
9125 \def\pdf@addtoks#1#2{%
9126   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9127   \@processme
9128 }
9129 \def\pdf@addtoksx#1{%

```

```

9130 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9131 \@processme
9132 }
9133 \def\PDFdefaults#1{%
9134 \pdf@defaulttoks={#1}%
9135 }

```

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

```

9136 % what is the type of pdfmark?
9137 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9138 % what is the link type?
9139 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9140 \def\pdf@linktype{link}
9141 % parameter is a stream of PDF
9142 \define@key{PDF}{Raw}{\pdf@addtoks{x{#1}}
9143 % parameter is a name
9144 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9145 % parameter is a array
9146 \define@key{PDF}{Border}{%
9147 \edef\Hy@temp{#1}%
9148 \ifx\Hy@temp\@empty
9149 \else
9150 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9151 \fi
9152 }
9153 \let\Hy@BorderArrayPatch\@empty
9154 % parameter is a dictionary
9155 \define@key{PDF}{BorderStyle}{%
9156 \edef\Hy@temp{#1}%
9157 \ifx\Hy@temp\@empty
9158 \else
9159 \pdf@addtoks{<<#1>>}{BS}%
9160 \fi
9161 }
9162 % parameter is a array
9163 \define@key{PDF}{Color}{%
9164 \ifx\relax#1\relax
9165 \else
9166 \pdf@addtoks{[#1]}{Color}% hash-ok
9167 \fi
9168 }
9169 % parameter is a string
9170 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9171 % parameter is a integer
9172 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9173 % parameter is a array
9174 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9175 % parameter is a string
9176 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9177 % parameter is a string or file
9178 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9179 % parameter is a destination
9180 \define@key{PDF}{Dest}{%
9181 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9182 \ifx\Hy@pstringDest\@empty
9183 \Hy@pdfmarkerrortrue
9184 \Hy@Warning{Destination with empty name ignored}%
9185 \else

```

```

9186 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9187 \fi
9188 }
9189 \define@key{PDF}{DestAnchor}{%
9190 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9191 \ifx\Hy@pstringDest\empty
9192 \Hy@pdfmarkerrortrue
9193 \Hy@Warning{Destination with empty name ignored}%
9194 \else
9195 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9196 \fi
9197 }
9198 % parameter is a string
9199 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9200 % parameter is a string
9201 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9202 % parameter is a int
9203 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9204 \define@key{PDF}{PDFAFlags}{%
9205 \ifHy@pdfa
9206 \pdf@addtoks{#1}{F}%
9207 \fi
9208 }
9209 % parameter is a name
9210 \define@key{PDF}{AcroHighlight}{%
9211 \begingroup
9212 \edef\x{#1}%
9213 \expandafter\endgroup\ifx\x\empty
9214 \else
9215 \pdf@addtoks{#1}{H}%
9216 \fi
9217 }
9218 % parameter is a string
9219 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9220 % parameter is a string
9221 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9222 % parameter is a string
9223 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9224 % parameter is a string
9225 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9226 % parameter is a Boolean
9227 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9228 % parameter is a integer or name
9229 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9230 % parameter is a name
9231 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9232 % parameter is a string
9233 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9234 % parameter is a array
9235 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9236 % parameter is a integer
9237 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9238 % parameter is a name
9239 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9240 % parameter is a string
9241 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9242 % parameter is a string

```

```

9243 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9244 % parameter is a string
9245 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9246 % parameter is an array
9247 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9248 % parameter is a string
9249 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9250 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9251 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9252 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9253 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9254 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9255 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9256 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9257 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9258 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9259 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9260 \pdfmarkbase>
9261 <*pdfmark>
9262 \def\Acrobatmenu#1#2{%
9263   \Hy@Acrobatmenu{#1}{#2}{%
9264     \pdfmark[{#2}]{%
9265       linktype=menu,%
9266       pdfmark=/ANN,%
9267       AcroHighlight=\@pdfhighlight,%
9268       Border=\@pdfborder,%
9269       BorderStyle=\@pdfborderstyle,%
9270       Action={<< /Subtype /Named /N /#1 >>},%
9271       Subtype=/Link,%
9272       PDFAFlags=4%
9273     }%
9274   }%
9275 }

```

And now for some useful examples:

```

9276 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9277 \def\PDFNextPage@[#1]#2{%
9278   \pdfmark[{#2}]{%
9279     #1,%
9280     Border=\@pdfborder,%
9281     BorderStyle=\@pdfborderstyle,%
9282     Color=.2 .1 .5,%
9283     pdfmark=/ANN,%
9284     Subtype=/Link,%
9285     PDFAFlags=4,%
9286     Page=/Next%
9287   }%
9288 }
9289 \def\PDFPreviousPage{%
9290   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9291 }
9292 \def\PDFPreviousPage@[#1]#2{%
9293   \pdfmark[{#2}]{%
9294     #1,%
9295     Border=\@pdfborder,%
9296     BorderStyle=\@pdfborderstyle,%

```



```

9297     Color=.4 .4 .1,%
9298     pdfmark=/ANN,%
9299     Subtype=/Link,%
9300     PDFAFlags=4,%
9301     Page=/Prev%
9302 }%
9303 }
9304 \def\PDFOpen#1{%
9305   \pdfmark{#1,pdfmark=/DOCVIEW}%
9306 }

```

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

```

9307 \def\hyper@linkurl#1#2{%
9308   \begingroup
9309     \Hy@pstringdef\Hy@pstringURI{#2}%
9310     \hyper@chars
9311     \leavevmode
9312     \pdfmark[{#1}]{%
9313       pdfmark=/ANN,%
9314       linktype=url,%
9315       AcroHighlight=\@pdfhighlight,%
9316       Border=\@pdfborder,%
9317       BorderStyle=\@pdfborderstyle,%
9318       Color=\@urlbordercolor,%
9319       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9320       Subtype=/Link,%
9321       PDFAFlags=4%
9322     }%
9323   \endgroup
9324 }
9325 \def\hyper@linkfile#1#2#3{%
9326   \begingroup
9327     \Hy@pstringdef\Hy@pstringF{#2}%
9328     \Hy@pstringdef\Hy@pstringD{#3}%
9329     \leavevmode
9330     \pdfmark[{#1}]{%
9331       pdfmark=/ANN,%
9332       Subtype=/Link,%
9333       PDFAFlags=4,%
9334       AcroHighlight=\@pdfhighlight,%
9335       Border=\@pdfborder,%
9336       BorderStyle=\@pdfborderstyle,%
9337       linktype=file,%
9338       Color=\@filebordercolor,%
9339       Action={%
9340         <<%
9341           /S/GoToR%
9342           \Hy@SetNewWindow
9343           /F(\Hy@pstringF)%
9344           /D\ifx\#3\[\[0 \@pdfstartview\]\else(\Hy@pstringD)cvn\fi
9345         >>%
9346       }%
9347     }%
9348   \endgroup
9349 }
9350 \def\@hyper@launch run:#1\#2#3{%
9351   \begingroup
9352     \Hy@pstringdef\Hy@pstringF{#1}%

```

```

9353 \Hy@pstringdef\Hy@pstringP{#3}%
9354 \leavevmode
9355 \pdfmark[#{#2}]{%
9356   pdfmark=/ANN,%
9357   Subtype=/Link,%
9358   PDFAFlags=4,%
9359   AcroHighlight=\@pdfhighlight,%
9360   Border=\@pdfborder,%
9361   BorderStyle=\@pdfborderstyle,%
9362   linktype=run,%
9363   Color=\@runbordercolor,%
9364   Action={%
9365     <<%
9366       /S/Launch%
9367       \Hy@SetNewWindow
9368       /F(\Hy@pstringF)%
9369       \ifx\#3\%
9370       \else
9371         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9372       \fi
9373     >>%
9374   }%
9375 }%
9376 \endgroup
9377 }
9378 </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.

```

9379 <*dvips>
9380 \providecommand*{\XR@ext}{pdf}
9381 \def\Hy@raisedlink{}
9382 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9383 \def\headerps@out#1{\special{! #1}}%
9384 \input{pdfmark.def}%
9385 \ifx\@pdfproducer\relax
9386   \def\@pdfproducer{dvips + Distiller}%
9387 \fi
9388 \providecommand*\@pdfborder{0 0 1}
9389 \providecommand*\@pdfborderstyle{}
9390 \providecommand*\@pdfview{XYZ}
9391 \providecommand*\@pdfviewparams{ H.V}
9392 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9393 \g@addto@macro\Hy@FirstPageHook{%
9394   \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.

```
9395 /DvipsToPDF{72.27 mul Resolution div} def%
9396 /PDFToDvips{72.27 div Resolution mul} def%
9397 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
9398 /BorderArrayPatch{%
9399   [exch{%
9400     dup dup type/integertype eq exch type/realtype eq or%
9401     {BPToDvips}if%
9402   }forall]%
9403 }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.

```
9404 /HyperBorder {1 PDFToDvips} def%
9405 /H.V {pdf@hoff pdf@voff null} def%
9406 /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

```
9407 /H.S {%
9408   currentpoint %
9409   HyperBorder add /pdf@lly exch def %
9410   dup DvipsToPDF 72 add /pdf@hoff exch def %
9411   HyperBorder sub /pdf@llx exch def%
9412 } def%
```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The  $x$  and  $y$  coordinates of the current point, minus the `baselineskip`

```
9413 /H.L {%
9414   2 sub dup%
9415   /HyperBasePt exch def %
9416   PDFToDvips /HyperBaseDvips exch def %
9417   currentpoint %
9418   HyperBaseDvips sub /pdf@ury exch def%
9419   /pdf@urx exch def%
9420 } def%
9421 /H.A {%
9422   H.L %
9423 % |pdf@voff| = the distance from the top of the page to a point
9424 % |\baselineskip| above the current point in PDF coordinates
9425   currentpoint exch pop %
9426   vsize 72 sub exch DvipsToPDF %
9427   HyperBasePt sub % baseline skip
```

```

9428     sub /pdf@voff exch def%
9429   } def%
9430   /H.R {%
9431     currentpoint %
9432     HyperBorder sub /pdf@ury exch def %
9433     HyperBorder add /pdf@urx exch def %
9434 % | /pdf@voff| = the distance from the top of the page to the current point, in
9435 % PDF coordinates
9436     currentpoint exch pop vsize 72 sub %
9437     exch DvipsToPDF sub /pdf@voff exch def%
9438   } def%
9439 }%
9440 }
9441 \AfterBeginDocument{%
9442   \ifx\special@paper\@empty\else
9443     \ifHy@setpagesize
9444       \special{papersize=\special@paper}%
9445     \fi
9446   \fi
9447   \Hy@DisableOption{setpagesize}%
9448 }
9449 </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.

```

9450 < *vtexpdfmark>
9451 \providecommand*{\XR@ext}{pdf}
9452 \def\Hy@raisedlink{}
9453 \def\literalps@out#1{\special{pS:#1}}%
9454 \def\headerps@out#1{\immediate\special{pS:#1}}%
9455 \input{pdfmark.def}%
9456 \ifx\@pdfproducer\relax
9457   \ifnum\OpMode=\@ne
9458     \def\@pdfproducer{VTeX}%
9459   \else
9460     \def\@pdfproducer{VTeX + Distiller}%
9461   \fi
9462 \fi
9463 \providecommand*\@pdfborder{0 0 1}
9464 \providecommand*\@pdfborderstyle{}
9465 \providecommand*\@pdfview{XYZ}
9466 \providecommand*\@pdfviewparams{ H.V}
9467 \g@addto@macro\Hy@FirstPageHook{%
9468   \headerps@out{%
9469     /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.

```

9470   /HyperBorder {1} def%
9471   /H.V {pdf@hoff pdf@voff null} def%
9472   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9473    /H.S {%
9474        currentpoint %
9475        HyperBorder sub%
9476        /pdf@lly exch def %
9477        dup 72 add /pdf@hoff exch def %
9478        HyperBorder sub%
9479        /pdf@llx exch def%
9480    } def%
```

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

```

9481    /H.L {%
9482        2 sub%
9483        /HyperBasePt exch def %
9484        currentpoint %
9485        HyperBasePt add HyperBorder add%
9486        /pdf@ury exch def %
9487        HyperBorder add%
9488        /pdf@urx exch def%
9489    } def%
9490    /H.A {%
9491        H.L %
9492        currentpoint exch pop %
9493        vsize 72 sub exch %
9494        HyperBasePt add add%
9495        /pdf@voff exch def%
9496    } def%
```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9497    /H.R {%
9498        currentpoint %
9499        HyperBorder add%
9500        /pdf@ury exch def %
9501        HyperBorder add%
9502        /pdf@urx exch def %
9503        currentpoint exch pop vsize 72 sub add%
9504        /pdf@voff exch def%
9505    } def%
9506    }%
9507 }
9508 </vtxpdfmark>
```

## 46.11 Textures

```

9509 <*textures>
9510 \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.

```
9511 \begingroup
9512   \obeylines %
9513   \gdef\Hy@ps@CR{\noexpand
9514     }%
9515 \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`.

```
9516 \def\literalps@out#1{%
9517   \special{postscript 0 0 transform}%
9518   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9519 }%
9520 %
```

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.

```
9521 \def\headerps@out#1{%
9522   \special{%
9523     prepostscript TeXdict begin\Hy@ps@CR
9524       #1\Hy@ps@CR
9525     end%
9526   }%
9527 }%
9528 %
```

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.

```
9529 \g@addto@macro\Hy@FirstPageHook{%
9530   \headerps@out{%
9531     /betterpdfmark {%
9532       systemdict begin %
9533         dup /BP eq%
9534         {cleartomark gsave nulldevice []}%
9535         {dup /EP eq%
9536           {cleartomark cleartomark grestore}%
9537           {cleartomark}%
9538         }ifelse%
9539       }ifelse %
9540     end%
9541   }def\Hy@ps@CR
9542   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9543 }% end of \headerps@out
9544 }% end of \AtBeginShipoutFirst
9545 %
9546 \input{pdfmark.def}%
9547 %
9548 \ifx\@pdfproducer\relax
```

```

9549 \def\@pdfproducer{Textures + Distiller}%
9550 \fi
9551 \providecommand*\@pdfborder{0 0 1}
9552 \providecommand*\@pdfborderstyle{}
9553 \providecommand*\@pdfview{XYZ}
9554 \providecommand*\@pdfviewparams{ H.V}
9555 %

```

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  $\TeX$ .

```

9556 \headerps@out{%

```

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

```

9557 /vsize {\Hy@pageheight} def%
9558 /DvipsToPDF {} def%
9559 /PDFToDvips {} def%
9560 /BPToDvips {} def%
9561 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9562 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9563 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9564 /H.S {%
9565     currentpoint %
9566     HyperBorder add /pdf@lly exch def %
9567     dup DvipsToPDF 72 add /pdf@hoff exch def %
9568     HyperBorder sub /pdf@llx exch def%
9569 } def\Hy@ps@CR
9570 /H.L {%
9571     2 sub %
9572     PDFToDvips /HyperBase exch def %
9573     currentpoint %
9574     HyperBase sub /pdf@ury exch def%
9575     /pdf@urx exch def%
9576 } def\Hy@ps@CR
9577 /H.A {%
9578     H.L %
9579     currentpoint exch pop %
9580     vsize 72 sub exch DvipsToPDF %
9581     HyperBase sub % baseline skip
9582     sub /pdf@voff exch def%
9583 } def\Hy@ps@CR
9584 /H.R {%
9585     currentpoint %
9586     HyperBorder sub /pdf@ury exch def %
9587     HyperBorder add /pdf@urx exch def %
9588     currentpoint exch pop vsize 72 sub %
9589     exch DvipsToPDF sub /pdf@voff exch def%
9590 } def\Hy@ps@CR
9591 }

9592 \AfterBeginDocument{%
9593     \ifHy@colorlinks
9594         \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9595     \fi
9596 }

```

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.

```

9597 \expandafter\let\expandafter\keepPDF@SetupDoc
9598 \csname PDF@SetupDoc\endcsname
9599 \def\PDF@SetupDoc{%
9600   \ifx\@baseurl\@empty
9601   \else
9602     \special{html:<base href="\@baseurl">}%
9603   \fi
9604   \keepPDF@SetupDoc
9605 }
9606 \def\hyper@anchor#1{%
9607   \Hy@SaveLastskip
9608   \begingroup
9609     \let\protect=\string
9610     \special{html:<a name=%
9611       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9612   \endgroup
9613   \Hy@activeanchortrue
9614   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9615   \special{html:</a>}%
9616   \Hy@activeanchorfalse
9617   \Hy@RestoreLastskip
9618 }
9619 \def\hyper@anchorstart#1{%
9620   \Hy@SaveLastskip
9621   \begingroup
9622     \hyper@chars
9623     \special{html:<a name=%
9624       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9625   \endgroup
9626   \Hy@activeanchortrue
9627 }
9628 \def\hyper@anchorend{%
9629   \special{html:</a>}%
9630   \Hy@activeanchorfalse
9631   \Hy@RestoreLastskip
9632 }
9633 \def\@urltype{url}
9634 \def\hyper@linkstart#1#2{%
9635   \expandafter\Hy@colorlink\csname @#1color\endcsname
9636   \def\Hy@tempa{#1}%
9637   \ifx\Hy@tempa\@urltype
9638     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9639   \else
9640     \begingroup
9641       \hyper@chars
9642       \special{html:<a href=%
9643         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9644     \endgroup
9645   \fi
9646 }
9647 \def\hyper@linkend{%
9648   \special{html:</a>}%
9649   \Hy@endcolorlink
9650 }
9651 \def\hyper@linkfile#1#2#3{%

```



```

9652 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9653 }
9654 \def\hyper@linkurl#1#2{%
9655   \leavevmode
9656   \ifHy@raiselinks
9657     \setbox\@tempboxa=\color@hbox #1\color@endbox
9658     \@linkdim\dp\@tempboxa
9659     \lower\@linkdim\hbox{%
9660       \hyper@chars
9661       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9662     }%
9663     \Hy@colorlink\@urlcolor#1%
9664     \@linkdim\ht\@tempboxa
9665     \advance\@linkdim by -6.5\p@
9666     \raise\@linkdim\hbox{\special{html:</a>}}%
9667     \Hy@endcolorlink
9668   \else
9669     \begingroup
9670     \hyper@chars
9671     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9672     \Hy@colorlink\@urlcolor#1%
9673     \special{html:</a>}}%
9674     \Hy@endcolorlink
9675   \endgroup
9676 \fi
9677 }

```

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

```

9678 \def\hyper@link#1#2#3{%
9679   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}}%
9680 }
9681 \def\hyper@image#1#2{%
9682   \begingroup
9683   \hyper@chars
9684   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9685   \endgroup
9686 }
9687 </textures>

```

## 46.12 dvipsone

```

9688 % \subsection{dvipsone driver}
9689 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9690 % |\special| commands.
9691 <*dvipsone>
9692 \providecommand*\XR@ext}{pdf}
9693 \def\Hy@raisedlink{}
9694 \providecommand*\@pdfborder{0 0 1}
9695 \providecommand*\@pdfborderstyle{}
9696 \def\literalps@out#1{\special{ps:#1}}%
9697 \def\headerps@out#1{\special{headertext=#1}}%
9698 \input{pdfmark.def}%
9699 \ifx\@pdfproducer\relax
9700   \def\@pdfproducer{dvipsone + Distiller}%
9701 \fi
9702 \def\PDF@FinishDoc{%
9703   \Hy@UseMaketitleInfos
9704   \special{PDF: Keywords \@pdfkeywords}%

```

```

9705 \special{PDF: Title \@pdftitle}%
9706 \special{PDF: Creator \@pdfcreator}%
9707 \ifx\@pdfcreationdate\@empty
9708 \else
9709 \special{PDF: CreationDate \@pdfcreationdate}%
9710 \fi
9711 \ifx\@pdfmoddate\@empty
9712 \else
9713 \special{PDF: ModDate \@pdfmoddate}%
9714 \fi
9715 \special{PDF: Author \@pdfauthor}%
9716 \ifx\@pdfproducer\relax
9717 \else
9718 \special{PDF: Producer \@pdfproducer}%
9719 \fi
9720 \special{PDF: Subject \@pdfsubject}%
9721 \Hy@DisableOption{pdfauthor}%
9722 \Hy@DisableOption{pdftitle}%
9723 \Hy@DisableOption{pdfsubject}%
9724 \Hy@DisableOption{pdfcreator}%
9725 \Hy@DisableOption{pdfcreationdate}%
9726 \Hy@DisableOption{pdfmoddate}%
9727 \Hy@DisableOption{pdfproducer}%
9728 \Hy@DisableOption{pdfkeywords}%
9729 }
9730 \def\PDF@SetupDoc{%
9731 \def\Hy@temp{%
9732 \ifx\@pdfstartpage\@empty
9733 \else
9734 \ifx\@pdfstartview\@empty
9735 \else
9736 \edef\Hy@temp{%
9737 ,Page=\@pdfstartpage
9738 ,View=\@pdfstartview
9739 }%
9740 \fi
9741 \fi
9742 \edef\Hy@temp{%
9743 \noexpand\pdfmark{%
9744 pdfmark=/DOCVIEW,%
9745 PageMode=/\@pdfpagemode
9746 \Hy@temp
9747 }%
9748 }%
9749 \Hy@temp
9750 \ifx\@pdfpagescrop\@empty
9751 \else
9752 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9753 \fi
9754 \edef\Hy@temp{%
9755 \ifHy@toolbar\else /HideToolbar true\fi
9756 \ifHy@menubar\else /HideMenubar true\fi
9757 \ifHy@windowui\else /HideWindowUI true\fi
9758 \ifHy@fitwindow /FitWindow true\fi
9759 \ifHy@centerwindow /CenterWindow true\fi
9760 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9761 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

9762 \Hy@UseNameKey{Direction}\@pdfdirection
9763 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9764 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9765 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9766 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9767 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9768 \Hy@UseNameKey{Duplex}\@pdfduplex
9769 \ifx\@pdfpicktraybypdfsize\@empty
9770 \else
9771 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9772 \fi
9773 \ifx\@pdfprintpagerange\@empty
9774 \else
9775 /PrintPageRange[\@pdfprintpagerange]%
9776 \fi
9777 \ifx\@pdfnumcopies\@empty
9778 \else
9779 /NumCopies \@pdfnumcopies
9780 \fi
9781 }%
9782 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9783 \pdfmark{%
9784 pdfmark=/PUT,%
9785 Raw={%
9786 \string{Catalog\string}<<%
9787 \ifx\Hy@temp\@empty
9788 \else
9789 /ViewerPreferences<<\Hy@temp>>%
9790 \fi
9791 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9792 \ifx\@pdflang\@empty
9793 \else
9794 /Lang(\@pdflang)%
9795 \fi
9796 \ifx\@baseurl\@empty
9797 \else
9798 /URI<</Base(\Hy@pstringB)>>%
9799 \fi
9800 >>%
9801 }%
9802 }%
9803 }
9804 \providecommand*\@pdfview{XYZ}
9805 \providecommand*\@pdfviewparams{ %
9806 gsave revscl currentpoint grestore %
9807 72 add exch pop null exch null%
9808 }
9809 \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  $\TeX$ .

```

9810 \g@addto@macro\Hy@FirstPageHook{%
9811 \headerps@out{%

```

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

```

9812 /DvipsToPDF { 65781 div } def%
9813 /PDFToDvips { 65781 mul } def%
9814 /BPToDvips{65781 mul}def%
9815 /HyperBorder { 1 PDFToDvips } def%
9816 /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.

```

9817 /BorderArrayPatch{%
9818   [exch{%
9819     dup dup type/integertype eq exch type/realtype eq or%
9820     {BPToDvips}if%
9821   }forall]]%
9822 }def%
9823 /H.S {%
9824   currentpoint %
9825   HyperBorder add /pdf@lly exch def %
9826   dup DvipsToPDF 72 add /pdf@hoff exch def %
9827   HyperBorder sub /pdf@llx exch def%
9828 } def%
9829 /H.L {%
9830   2 sub %
9831   PDFToDvips /HyperBase exch def %
9832   currentpoint %
9833   HyperBase sub /pdf@ury exch def%
9834   /pdf@urx exch def%
9835 } def%
9836 /H.A {%
9837   H.L %
9838   currentpoint exch pop %
9839   HyperBase sub % baseline skip
9840   DvipsToPDF /pdf@voff exch def%
9841 } def%
9842 /H.R {%
9843   currentpoint %
9844   HyperBorder sub /pdf@ury exch def %
9845   HyperBorder add /pdf@urx exch def %
9846   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9847 } def%
9848 }%
9849 }
9850 </dvipsone>

```

## 46.13 TeX4ht

```

9851 <*tex4ht>
9852 \providecommand*{\XR@ext}{html}
9853 \def\Hy@raisedlink{}
9854 \@ifpackageloaded{tex4ht}{%
9855   \typeout{hyperref tex4ht: tex4ht already loaded}%
9856 }{%
9857   \RequirePackage[hx4ht]{tex4ht}%
9858 }
9859 \hyperlinkfileprefix{}
9860 \def\PDF@FinishDoc{}
9861 \def\PDF@SetupDoc{%
9862   \ifx\@baseurl\@empty

```

```

9863 \else
9864 \special{t4ht=<base href="\@baseurl">}%
9865 \fi
9866 }
9867 \def\hyper@anchor#1{%
9868 \Hy@SaveLastskip
9869 \begingroup
9870 \let\protect=\string
9871 \special{t4ht=<a name=%
9872 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9873 \endgroup
9874 \Hy@activeanchortrue
9875 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9876 \special{t4ht=</a>}%
9877 \Hy@activeanchorfalse
9878 \Hy@RestoreLastskip
9879 }
9880 \def\hyper@anchorstart#1{%
9881 \Hy@SaveLastskip
9882 \begingroup
9883 \hyper@chars\special{t4ht=<a name=%
9884 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9885 \endgroup
9886 \Hy@activeanchortrue
9887 }
9888 \def\hyper@anchorend{%
9889 \special{t4ht=</a>}%
9890 \Hy@activeanchorfalse
9891 \Hy@RestoreLastskip
9892 }
9893 \def\@urltype{url}
9894 \def\hyper@linkstart#1#2{%
9895 \expandafter\Hy@colorlink\csname @#1color\endcsname
9896 \def\Hy@tempa{#1}%
9897 \ifx\Hy@tempa\@urltype
9898 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9899 \else
9900 \begingroup
9901 \hyper@chars
9902 \special{t4ht=<a href=%
9903 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9904 \endgroup
9905 \fi
9906 }
9907 \def\hyper@linkend{%
9908 \special{t4ht=</a>}%
9909 \Hy@endcolorlink
9910 }
9911 \def\hyper@linkfile#1#2#3{%
9912 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9913 }
9914 \def\hyper@linkurl#1#2{%
9915 \leavevmode
9916 \ifHy@raiselinks
9917 \setbox\@tempboxa=\color@hbox #1\color@endbox
9918 \@linkdim\dp\@tempboxa
9919 \lower\@linkdim\hbox{%

```

```

9920     \begingroup
9921     \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9922     \endgroup
9923 }%
9924 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9925 \@linkdim\ht\@tempboxa
9926 \advance\@linkdim by -6.5\p@
9927 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9928 \else
9929 \begingroup
9930 \hyper@chars
9931 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9932 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9933 \special{t4ht=</a>}}%
9934 \endgroup
9935 \fi
9936 }

```

Poor implementation of \hyper@link without considering #1.

```

9937 \def\hyper@link#1#2#3{%
9938   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9939 }
9940 \def\hyper@image#1#2{%
9941   \begingroup
9942   \hyper@chars
9943   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
9944   \endgroup
9945 }
9946 \let\autoref\ref
9947 \ifx \rEfLiNK \UnDef
9948   \def\rEfLiNK #1#2{#2}%
9949 \fi
9950 \def\backref#1{}
9951 </tex4ht>
9952 <*tex4htcfg>
9953 \IfFileExists{\jobname.cfg}{\endinput}{}
9954 \Preamble{html}
9955   \begin{document}%
9956 \EndPreamble
9957 \def\TeX{TeX}
9958 \def\OMEGA{\Omega}
9959 \def\LaTeX{LaTeX}
9960 \def\LaTeXe{\LaTeX2e}
9961 \def\eTeX{e-TeX}
9962 \def\MF{Metafont}
9963 \def\MP{MetaPost}
9964 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

9965 <*pdfmark>
9966 \long\def\@Form[#1]{%
9967   \g@addto@macro\Hy@FirstPageHook{%
9968     \headerps@out{%
9969 [%
9970   /_objdef{pdfDocEncoding}%

```

```

9971 /type/dict%
9972 /OBJ pdfmark%
9973 [%
9974 {pdfDocEncoding}%
9975 <<%
9976 /Type/Encoding%
9977 /Differences[%
9978 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9979 /tilde %
9980 39/quotesingle %
9981 96/grave %
9982 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9983 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9984 /quotedblbase/quotedblleft/quotedblright/quoteleft%
9985 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9986 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9987 164/currency %
9988 166/brokenbar %
9989 168/dieresis/copyright/ordfeminine %
9990 172/logicalnot/.notdef/registered/macron/degree/plusminus%
9991 /twosuperior/threesuperior/acute/mu %
9992 183/periodcentered/cedilla/onesuperior/ordmasculine %
9993 188/onequarter/onehalf/threequarters %
9994 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9995 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9996 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9997 /Ocircumflex/Otilde/Odieresis/multiply/Slash/Ugrave%
9998 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9999 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10000 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10001 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10002 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10003 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10004 ]%
10005 >>%
10006 /PUT pdfmark%
10007 [%
10008 /_objdef{ZaDb}%
10009 /type/dict%
10010 /OBJ pdfmark%
10011 [%
10012 {ZaDb}%
10013 <<%
10014 /Type/Font%
10015 /Subtype/Type1%
10016 /Name/ZaDb%
10017 /BaseFont/ZapfDingbats%
10018 >>%
10019 /PUT pdfmark%
10020 [%
10021 /_objdef{Helv}%
10022 /type/dict%
10023 /OBJ pdfmark%
10024 [%
10025 {Helv}%
10026 <<%
10027 /Type/Font%

```

```

10028     /Subtype/Type1%
10029     /Name/Helv%
10030     /BaseFont/Helvetica%
10031     /Encoding{pdfDocEncoding}%
10032     >>%
10033 /PUT pdfmark%
10034 [%
10035   /_objdef{aform}%
10036   /type/dict%
10037 /OBJ pdfmark%
10038 [%
10039   /_objdef{afields}%
10040   /type/array%
10041 /OBJ pdfmark%
10042 {%
10043   [%
10044     /BBox[0 0 100 100]%
10045     /_objdef{Check}%
10046 /BP pdfmark %
10047 1 0 0 setrgbcolor%
10048 /ZapfDingbats 80 selectfont %
10049 20 20 moveto%
10050 (4)show%
10051 [/EP pdfmark%
10052 [%
10053   /BBox[0 0 100 100]%
10054   /_objdef{Cross}%
10055 /BP pdfmark %
10056 1 0 0 setrgbcolor%
10057 /ZapfDingbats 80 selectfont %
10058 20 20 moveto%
10059 (8)show%
10060 [/EP pdfmark%
10061 [%
10062   /BBox[0 0 250 100]%
10063   /_objdef{Submit}%
10064 /BP pdfmark %
10065 0.6 setgray %
10066 0 0 250 100 rectfill %
10067 1 setgray %
10068 2 2 moveto %
10069 2 98 lineto %
10070 248 98 lineto %
10071 246 96 lineto %
10072 4 96 lineto %
10073 4 4 lineto %
10074 fill %
10075 0.34 setgray %
10076 248 98 moveto %
10077 248 2 lineto %
10078 2 2 lineto %
10079 4 4 lineto %
10080 246 4 lineto %
10081 246 96 lineto %
10082 fill%
10083 /Helvetica 76 selectfont %
10084 0 setgray %

```



```

10085 8 22.5 moveto%
10086 (Submit)show%
10087 [/EP pdfmark%
10088 [%
10089 /BBox[0 0 250 100]%
10090 /_objdef{SubmitP}%
10091 /BP pdfmark %
10092 0.6 setgray %
10093 0 0 250 100 rectfill %
10094 0.34 setgray %
10095 2 2 moveto %
10096 2 98 lineto %
10097 248 98 lineto %
10098 246 96 lineto %
10099 4 96 lineto %
10100 4 4 lineto %
10101 fill %
10102 1 setgray %
10103 248 98 moveto %
10104 248 2 lineto %
10105 2 2 lineto %
10106 4 4 lineto %
10107 246 4 lineto %
10108 246 96 lineto %
10109 fill%
10110 /Helvetica 76 selectfont %
10111 0 setgray %
10112 10 20.5 moveto%
10113 (Submit)show%
10114 [/EP pdfmark%
10115 } ?pdfmark%
10116 [%
10117 {aform}%
10118 <<%
10119 /Fields{afields}%
10120 /DR<<%
10121 /Font<<%
10122 /ZaDb{ZaDb}%
10123 /Helv{Helv}%
10124 >>%
10125 >>%
10126 /DA(/Helv 10 Tf 0 g)%
10127 /CO{corder}%
10128 \ifHy@pdfa
10129 \else
10130 /NeedAppearances true%
10131 \fi
10132 >>%
10133 /PUT pdfmark%
10134 [%
10135 {Catalog}%
10136 <<%
10137 /AcroForm{aform}%
10138 >>%
10139 /PUT pdfmark%
10140 [%
10141 /_objdef{corder}%

```

```

10142 /type/array%
10143 /OBJ pdfmark% dps
10144 }}%
10145 \setkeys{Form}{#1}%
10146 }
10147 \def\@endForm{}
10148 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10149 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10150 }
10151 \def\@TextField[#1]#2{% parameters, label
10152 \def\Fld@name{#2}%
10153 \def\Fld@default{}%
10154 \let\Fld@value\@empty
10155 \def\Fld@width{\DefaultWidthofText}%
10156 \def\Fld@height{%
10157 \ifFld@multiline
10158 \DefaultHeightofTextMultiline
10159 \else
10160 \DefaultHeightofText
10161 \fi
10162 }%
10163 \begingroup
10164 \Field@toks={ }%
10165 \expandafter\HyField@SetKeys\expandafter{%
10166 \DefaultOptionsofText,#1%
10167 }%
10168 \HyField@FlagsText
10169 \ifFld@hidden\def\Fld@width{1sp}\fi
10170 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10171 \LayoutTextField{#2}{%
10172 \Hy@escapeform\PDFForm@Text
10173 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10174 pdfmark=/ANN,Raw={\PDFForm@Text}%
10175 }%
10176 }%
10177 \endgroup
10178 }
10179 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10180 \def\Fld@name{#2}%
10181 \let\Fld@default\relax
10182 \let\Fld@value\relax
10183 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10184 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10185 \begingroup
10186 \Fld@menulength=0 %
10187 \@tempdima\z@
10188 \@for\@curropt:=#3\do{%
10189 \expandafter\Fld@checkequals\@curropt==\%
10190 \Hy@StepCount\Fld@menulength
10191 \settowidth{\@tempdimb}{\@currDisplay}%
10192 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10193 }%
10194 \advance\@tempdima by 15\p@
10195 \Field@toks={ }%
10196 \begingroup
10197 \HyField@SetKeys{#1}%
10198 \edef\x{\endgroup

```

```

10199 \noexpand\expandafter
10200 \noexpand\HyField@SetKeys
10201 \noexpand\expandafter{%
10202 \expandafter\noexpand\csname DefaultOptionsof%
10203 \ifFld@radio
10204 Radio%
10205 \else
10206 \ifFld@combo
10207 \ifFld@popdown
10208 PopdownBox%
10209 \else
10210 ComboBox%
10211 \fi
10212 \else
10213 ListBox%
10214 \fi
10215 \fi
10216 \endcsname
10217 }%
10218 }\x
10219 \HyField@SetKeys{#1}%
10220 \ifFld@hidden\def\Fld@width{1sp}\fi
10221 \ifx\Fld@value\relax
10222 \let\Fld@value\Fld@default
10223 \fi
10224 \LayoutChoiceField{#2}{%
10225 \ifFld@radio
10226 \HyField@FlagsRadioButton
10227 \@@Radio{#3}%
10228 \else
10229 \begingroup
10230 \HyField@FlagsChoice
10231 \ifdim\Fld@width<\@tempdima
10232 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10233 \edef\Fld@width{\the\@tempdima}%
10234 \fi
10235 \ifFld@combo
10236 \else
10237 \@tempdima=\the\Fld@menulength\Fld@charsize
10238 \advance\@tempdima by \Fld@borderwidth bp %
10239 \advance\@tempdima by \Fld@borderwidth bp %
10240 \edef\Fld@height{\the\@tempdima}%
10241 \fi
10242 \@@ListBox{#3}%
10243 \endgroup
10244 \fi
10245 }%
10246 \endgroup
10247 }
10248 \def\@@Radio#1{%
10249 \Fld@listcount=0 %
10250 \@for\@curropt:=#1\do{%
10251 \expandafter\Fld@checkequals\@curropt==\\%
10252 \Hy@StepCount\Fld@listcount
10253 \@currDisplay\space
10254 \Hy@escapeform\PDFForm@Radio
10255 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%

```

```

10256         pdfmark=/ANN,%
10257         Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10258     } % deliberate space between radio buttons
10259 }%
10260 }
10261 \newcount\Fld@listcount
10262 \def\@@ListBox#1{%
10263     \HyField@PDFChoices{#1}%
10264     \Hy@escapeform\PDFForm@List
10265     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10266         pdfmark=/ANN,Raw={\PDFForm@List}%
10267     }%
10268 }
10269 \def\@PushButton[#1]#2{% parameters, label
10270     \def\Fld@name{#2}%
10271     \begingroup
10272         \Field@toks={ }%
10273         \expandafter\HyField@SetKeys\expandafter{%
10274             \DefaultOptionsofPushButton,#1%
10275         }%
10276         \ifHy@pdfa
10277             \PackageError{hyperref}{%
10278                 PDF/A: Push button with JavaScript is prohibited%
10279             }\@ehc
10280             \LayoutPushButtonField{%
10281                 \leavevmode
10282                 \MakeButtonField{#2}%
10283             }%
10284         \else
10285             \HyField@FlagsPushButton
10286             \ifFld@hidden\def\Fld@width{1sp}\fi
10287             \LayoutPushButtonField{%
10288                 \leavevmode
10289                 \Hy@escapeform\PDFForm@Push
10290                 \pdfmark[\MakeButtonField{#2}]{%
10291                     pdfmark=/ANN,Raw={\PDFForm@Push}%
10292                 }%
10293             }%
10294         \fi
10295     \endgroup
10296 }
10297 \def\@Submit[#1]#2{%
10298     \Field@toks={ }%
10299     \def\Fld@width{\DefaultWidthofSubmit}%
10300     \def\Fld@height{\DefaultHeightofSubmit}%
10301     \begingroup
10302         \expandafter\HyField@SetKeys\expandafter{%
10303             \DefaultOptionsofSubmit,#1%
10304         }%
10305         \HyField@FlagsPushButton
10306         \HyField@FlagsSubmit
10307         \ifFld@hidden\def\Fld@width{1sp}\fi
10308         \Hy@escapeform\PDFForm@Submit
10309         \pdfmark[\MakeButtonField{#2}]{%
10310             pdfmark=/ANN,%
10311             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10312         }%

```

```

10313 \endgroup
10314 }
10315 \def\@Reset[#1]#2{%
10316   \Field@toks={ }%
10317   \def\Fld@width{\DefaultWidthofReset}%
10318   \def\Fld@height{\DefaultHeightofReset}%
10319   \begingroup
10320     \expandafter\HyField@SetKeys\expandafter{%
10321       \DefaultOptionsofReset,#1%
10322     }%
10323     \leavevmode
10324     \ifHy@pdfa
10325       \PackageError{hyperref}{%
10326         PDF/A: Reset action is prohibited%
10327       }\@ehc
10328       \MakeButtonField{#2}%
10329     \else
10330       \HyField@FlagsPushButton
10331       \ifFld@hidden\def\Fld@width{1sp}\fi
10332       \Hy@escapeform\PDFForm@Reset
10333       \pdfmark[\MakeButtonField{#2}]{%
10334         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10335       }%
10336     \fi
10337   \endgroup
10338 }%
10339 \def\@CheckBox[#1]#2{% parameters, label
10340   \def\Fld@name{#2}%
10341   \def\Fld@default{0}%
10342   \begingroup
10343     \def\Fld@width{\DefaultWidthofCheckBox}%
10344     \def\Fld@height{\DefaultHeightofCheckBox}%
10345     \Field@toks={ }%
10346     \expandafter\HyField@SetKeys\expandafter{%
10347       \DefaultOptionsofCheckBox,#1%
10348     }%
10349     \HyField@FlagsCheckBox
10350     \ifFld@hidden\def\Fld@width{1sp}\fi
10351     \LayoutCheckField{#2}{%
10352       \Hy@escapeform\PDFForm@Check
10353       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10354         pdfmark=/ANN,Raw={\PDFForm@Check}%
10355       }%
10356     }%
10357   \endgroup
10358 }
10359 \pdfmark

```

## 47.2 HyperTeX

```

10360 \hypertex
10361 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10362 \def\@endForm{}
10363 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10364   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10365 }
10366 \def\@TextField[#1]#2{% parameters, label
10367   \typeout{Sorry, HyperTeX does not support FORM text fields}%

```

```

10368 }
10369 \def\@CheckBox[#1]#2{% parameters, label
10370 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10371 }
10372 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10373 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10374 }
10375 \def\@PushButton[#1]#2{% parameters, label
10376 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10377 }
10378 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10379 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10380 \end{hypertex}

```

### 47.3 TeX4ht

```

10381 \def\@Form[#1]{%
10382 \setkeys{Form}{#1}%
10383 \HCode{<form action="\Form@action" method="\Form@method">}%
10384 }
10385 \def\@endForm{\HCode{</form>}}
10386 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10387 \typeout{Sorry, TeX4ht does not support gauges}%
10388 }
10389 \def\@TextField[#1]#2{% parameters, label
10390 \let\Hy@reserved@a\@empty
10391 \def\Fld@name{#2}%
10392 \def\Fld@default{}%
10393 \bgroup
10394 \Field@toks={ }%
10395 \setkeys{Field}{#1}%
10396 \HCode{<label for="\Fld@name">#2</label>}%
10397 \ifFld@password
10398 \@@PasswordField
10399 \else
10400 \@@TextField
10401 \fi
10402 \egroup
10403 }
10404 \def\@@PasswordField{%
10405 \HCode{%
10406 <input type="password" %
10407 id="\Fld@name" %
10408 name="\Fld@name" %
10409 \ifFld@hidden type="hidden" \fi
10410 value="\Fld@default" %
10411 \the\Fld@toks
10412 >%
10413 }%
10414 }
10415 \def\@@TextField{%
10416 \ifFld@multiline
10417 \HCode{<textarea %
10418 \ifFld@readonly readonly \fi
10419 id="\Fld@name" %
10420 name="\Fld@name" %
10421 \ifFld@hidden type="hidden" \fi

```

```

10423     \the\Field@toks>%
10424 }%
10425     \Fld@default
10426     \HCode{</textarea>}%
10427 \else
10428     \HCode{<input type="text" %
10429     \ifFld@readonly readonly \fi
10430     id="\Fld@name" %
10431     name="\Fld@name" %
10432     \ifFld@hidden type="hidden" \fi
10433     value="\Fld@default" %
10434     \the\Field@toks>%
10435 }%
10436 \fi
10437 }
10438 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10439     \def\Fld@name{#2}%
10440     \def\Fld@default{}%
10441     \let\Hy@reserved@a\relax
10442     \begingroup
10443         \expandafter\Fld@findlength#3\\%
10444         \Field@toks={ }%
10445         \setkeys{Field}{#1}%
10446         #2%
10447         \ifFld@radio
10448             \expandafter\@@Radio#3\\%
10449         \else
10450             \expandafter\@@Menu#3\\%
10451         \fi
10452     \endgroup
10453 }
10454 \def\Fld@findlength#1\\{%
10455     \Fld@menulength=0 %
10456     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10457 }
10458 \def\@@Menu#1\\{%
10459     \HCode{<select size="\the\Fld@menulength" %
10460     name="\Fld@name" %
10461     \the\Field@toks>%
10462 }%
10463     \@for\@curropt:=#1\do{%
10464         \expandafter\Fld@checkequals\@curropt==\\%
10465         \HCode{<option %
10466             \ifx\@curropt\Fld@default selected \fi
10467             value="\@currValue">\@currDisplay</option>%
10468         }%
10469     }%
10470     \HCode{</select>}%
10471 }
10472 \def\@@Radio#1\\{%
10473     \@for\@curropt:=#1\do{%
10474         \expandafter\Fld@checkequals\@curropt==\\%
10475         \HCode{<input type="radio" %
10476             \ifx\@curropt\Fld@default checked \fi
10477             name="\Fld@name" %
10478             value="\@currValue" %
10479             \the\Field@toks>%

```

```

10480     }%
10481     \@currDisplay
10482 }%
10483 }
10484 \def\@PushButton[#1]#2{% parameters, label
10485   \def\Fld@name{#2}%
10486   \bgroup
10487     \Field@toks={ }%
10488     \setkeys{Field}{#1}%
10489     \HCode{<input type="button" %
10490       name="\Fld@name" %
10491       value="#2" %
10492       \the\Field@toks>%
10493     }%
10494     \HCode{</button>}%
10495   \egroup
10496 }
10497 \def\@Submit[#1]#2{%
10498   \HCode{<button type="submit">#2</button>}%
10499 }
10500 \def\@Reset[#1]#2{%
10501   \HCode{<button type="reset">#2</button>}%
10502 }
10503 \def\@CheckBox[#1]#2{% parameters, label
10504   \let\Hy@reserved@a\@empty
10505   \def\Fld@name{#2}%
10506   \def\Fld@default{0}%
10507   \bgroup
10508     \Field@toks={ }%
10509     \setkeys{Field}{#1}%
10510     \HCode{<input type="checkbox" %
10511       \ifFld@checked checked \fi
10512       \ifFld@disabled disabled \fi
10513       \ifFld@readonly readonly \fi
10514       name="\Fld@name" %
10515       \ifFld@hidden type="hidden" \fi
10516       value="\Fld@default" %
10517       \the\Field@toks>%
10518     #2%
10519   }%
10520   \egroup
10521 }
10522 </tex4ht>

```

## 47.4 pdfTeX

```

10523 <*pdfTeX>
10524 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10525   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10526 }
10527 \def\MakeFieldObject#1#2{\sbox0{#1}%
10528   \immediate\pdfxform0 %
10529   \expandafter\edef\csname #2Object\endcsname{%
10530     \the\pdflastxform\space 0 R%
10531   }%
10532   \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10533 }%
10534 \def\HyField@afields{}

```



```

10535 \begingroup\expandafter\expandafter\expandafter\endgroup
10536 \expandafter\ifx\csname pdflastlink\endcsname\relax
10537   \let\HyField@AddToFields\relax
10538   \PackageInfo{hyperref}{%
10539     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10540     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10541     but other PDF viewers might complain%
10542   }%
10543 \else
10544   \def\HyField@AddToFields{%
10545     \xdef\HyField@afields{%
10546       \ifx\HyField@afields\@empty
10547         \else
10548           \HyField@afields
10549           \space
10550         \fi
10551       \the\pdflastlink\space 0 R%
10552     }%
10553   }%
10554 \fi
10555 \def\@Form[#1]{%
10556   \ifundefined{textcolor}{\let\textcolor@gobble}{}}%
10557   \setkeys{Form}{#1}%
10558   \ifnum\pdfTeXversion>13 %
10559     \pdfrefobj\OBJ@pdfdocencoding
10560     \pdfrefobj\OBJ@ZaDb
10561     \pdfrefobj\OBJ@Helv
10562   \fi
10563   \AtEndDocument{%
10564     \immediate\pdfobj{%
10565       <<%
10566         /Fields[\HyField@afields]%
10567         /DR<<%
10568           /Font<<%
10569             /ZaDb \OBJ@ZaDb\space 0 R%
10570             /Helv \OBJ@Helv\space 0 R%
10571           >>%
10572         >>%
10573         /DA(/Helv 10 Tf 0 g)%
10574         \ifHy@pdfa
10575         \else
10576           /NeedAppearances true%
10577         \fi
10578       >>%
10579     }%
10580     \edef\OBJ@acroform{\the\pdflastobj}%
10581     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10582   }%
10583   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10584   \begingroup
10585     \fontfamily{pzd}%
10586     \fontencoding{U}%
10587     \fontseries{m}%
10588     \fontshape{n}%
10589     \selectfont
10590     \char123 %

```

```

10591 \endgroup
10592 }{Ding}%
10593 \MakeFieldObject{%
10594   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10595 }{Submit}%
10596 \MakeFieldObject{%
10597   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10598 }{SubmitP}%
10599 }
10600 \def\@endForm{}
10601 \def\@TextField[#1]#2{% parameters, label
10602   \def\Fld@name{#2}%
10603   \def\Fld@default{}%
10604   \let\Fld@value\@empty
10605   \def\Fld@width{\DefaultWidthofText}%
10606   \def\Fld@height{%
10607     \ifFld@multiline
10608       \DefaultHeightofTextMultiline
10609     \else
10610       \DefaultHeightofText
10611     \fi
10612   }%
10613   \begingroup
10614     \Field@toks={ }%
10615     \expandafter\HyField@SetKeys\expandafter{%
10616       \DefaultOptionsofText,#1%
10617     }%
10618     \PDFForm@Name
10619     \HyField@FlagsText
10620     \ifFld@hidden\def\Fld@width{1sp}\fi
10621     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10622     \LayoutTextField{#2}{%
10623       \Hy@escapeform\PDFForm@Text
10624       \pdfstartlink user {\PDFForm@Text}\relax
10625       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10626       \HyField@AddToFields
10627     }%
10628   \endgroup
10629 }
10630 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10631   \def\Fld@name{#2}%
10632   \let\Fld@default\relax
10633   \let\Fld@value\relax
10634   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10635   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10636   \begingroup
10637     \Fld@menulength=0 %
10638     \@tempdima\z@
10639     \@for\@curropt:=#3\do{%
10640       \expandafter\Fld@checkequals\@curropt==\%
10641       \Hy@StepCount\Fld@menulength
10642       \settowidth{\@tempdimb}{\@currDisplay}%
10643       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10644     }%
10645     \advance\@tempdima by 15\p@
10646     \Field@toks={ }%
10647   \begingroup

```

```

10648     \HyField@SetKeys{#1}%
10649 \edef\x{\endgroup
10650     \noexpand\expandafter
10651     \noexpand\HyField@SetKeys
10652     \noexpand\expandafter{%
10653     \expandafter\noexpand\csname DefaultOptionsof%
10654     \ifFld@radio
10655     Radio%
10656     \else
10657     \ifFld@combo
10658     \ifFld@popdown
10659     PopdownBox%
10660     \else
10661     ComboBox%
10662     \fi
10663     \else
10664     ListBox%
10665     \fi
10666     \fi
10667     \endcsname
10668     }%
10669 } \x
10670 \HyField@SetKeys{#1}%
10671 \PDFForm@Name
10672 \ifFld@hidden\def\Fld@width{1sp}\fi
10673 \ifx\Fld@value\relax
10674     \let\Fld@value\Fld@default
10675 \fi
10676 \LayoutChoiceField{#2}{%
10677     \ifFld@radio
10678     \HyField@FlagsRadioButton
10679     \@@Radio{#3}%
10680     \else
10681     \begingroup
10682     \HyField@FlagsChoice
10683     \ifdim\Fld@width<\@tempdima
10684     \ifdim\@tempdima<1cm\@tempdima1cm\fi
10685     \edef\Fld@width{\the\@tempdima}%
10686     \fi
10687     \ifFld@combo
10688     \else
10689     \@tempdima=\the\Fld@menulength\Fld@charsize
10690     \advance\@tempdima by \Fld@borderwidth bp %
10691     \advance\@tempdima by \Fld@borderwidth bp %
10692     \edef\Fld@height{\the\@tempdima}%
10693     \fi
10694     \@@ListBox{#3}%
10695     \endgroup
10696     \fi
10697     }%
10698 \endgroup
10699 }
10700 \def\@@Radio#1{%
10701     \Fld@listcount=0 %
10702     \@for\@curropt:=#1\do{%
10703         \expandafter\Fld@checkequals\@curropt==\%
10704         \Hy@StepCount\Fld@listcount

```

```

10705 \currDisplay\space
10706 \leavevmode
10707 \Hy@escapeform\PDFForm@Radio
10708 \pdfstartlink user {%
10709 \PDFForm@Radio
10710 /AP<<%
10711 /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.

```

10712 \currValue\space \DingObject
10713 >>%
10714 >>%
10715 }%
10716 \relax
10717 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10718 \ifnum\Fld@listcount=1 %
10719 \HyField@AddToFields
10720 \fi
10721 \space % deliberate space between radio buttons
10722 }%
10723 }
10724 \newcount\Fld@listcount
10725 \def\@@ListBox#1{%
10726 \HyField@PDFChoices{#1}%
10727 \leavevmode
10728 \Hy@escapeform\PDFForm@List
10729 \pdfstartlink user {\PDFForm@List}\relax
10730 \MakeChoiceField{\Fld@width}{\Fld@height}%
10731 \pdfendlink
10732 \HyField@AddToFields
10733 }
10734 \def\@PushButton[#1]#2{% parameters, label
10735 \def\Fld@name{#2}%
10736 \begingroup
10737 \Field@toks={ }%
10738 \expandafter\HyField@SetKeys\expandafter{%
10739 \DefaultOptionsofPushButton,#1%
10740 }%
10741 \PDFForm@Name
10742 \ifHy@pdfa
10743 \PackageError{hyperref}{%
10744 PDF/A: Push button with JavaScript is prohibited%
10745 }\@ehc
10746 \LayoutPushButtonField{%
10747 \leavevmode
10748 \MakeButtonField{#2}%
10749 }%
10750 \else
10751 \HyField@FlagsPushButton
10752 \ifFld@hidden\def\Fld@width{1sp}\fi
10753 \LayoutPushButtonField{%
10754 \leavevmode
10755 \Hy@escapeform\PDFForm@Push
10756 \pdfstartlink user {\PDFForm@Push}\relax
10757 \MakeButtonField{#2}%
10758 \pdfendlink

```

```

10759         \HyField@AddToFields
10760     }%
10761     \fi
10762 \endgroup
10763 }
10764 \def\@Submit[#1]#2{%
10765     \Field@toks={ }%
10766     \def\Fld@width{\DefaultWidthofSubmit}%
10767     \def\Fld@height{\DefaultHeightofSubmit}%
10768     \begingroup
10769         \expandafter\HyField@SetKeys\expandafter{%
10770             \DefaultOptionsofSubmit,#1%
10771         }%
10772         \HyField@FlagsPushButton
10773         \HyField@FlagsSubmit
10774         \ifFld@hidden\def\Fld@width{1sp}\fi
10775         \leavevmode
10776         \Hy@escapeform\PDFForm@Submit
10777         \pdfstartlink user {%
10778             \PDFForm@Submit
10779             /AP<</N \SubmitObject/D \SubmitPObject>>%
10780         }%
10781         \relax
10782         \MakeButtonField{#2}%
10783         \pdfendlink
10784         \HyField@AddToFields
10785     \endgroup
10786 }
10787 \def\@Reset[#1]#2{%
10788     \Field@toks={ }%
10789     \def\Fld@width{\DefaultWidthofReset}%
10790     \def\Fld@height{\DefaultHeightofReset}%
10791     \begingroup
10792         \expandafter\HyField@SetKeys\expandafter{%
10793             \DefaultOptionsofReset,#1%
10794         }%
10795         \leavevmode
10796         \ifHy@pdfa
10797             \PackageError{hyperref}{%
10798                 PDF/A: Reset action is prohibited%
10799             }\@ehc
10800             \MakeButtonField{#2}%
10801         \else
10802             \HyField@FlagsPushButton
10803             \ifFld@hidden\def\Fld@width{1sp}\fi
10804             \Hy@escapeform\PDFForm@Reset
10805             \pdfstartlink user {\PDFForm@Reset}\relax
10806             \MakeButtonField{#2}%
10807             \pdfendlink
10808             \HyField@AddToFields
10809         \fi
10810     \endgroup
10811 }
10812 \def\@CheckBox[#1]#2{% parameters, label
10813     \def\Fld@name{#2}%
10814     \def\Fld@default{0}%
10815     \begingroup

```

```

10816 \def\Fld@width{\DefaultWidthofCheckBox}%
10817 \def\Fld@height{\DefaultHeightofCheckBox}%
10818 \Field@toks={ }%
10819 \expandafter\HyField@SetKeys\expandafter{%
10820 \DefaultOptionsofCheckBox,#1%
10821 }%
10822 \PDFForm@Name
10823 \HyField@FlagsCheckBox
10824 \ifFld@hidden\def\Fld@width{1sp}\fi
10825 \LayoutCheckField{#2}{%
10826 \Hy@escapeform\PDFForm@Check
10827 \pdfstartlink user {\PDFForm@Check}\relax
10828 \MakeCheckField{\Fld@width}{\Fld@height}%
10829 \pdfendlink
10830 \HyField@AddToFields
10831 }%
10832 \endgroup
10833 }
10834 \pdfobj {%
10835 <<%
10836 /Type/Encoding%
10837 /Differences[%
10838 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10839 /ring/tilde %
10840 39/quotesingle %
10841 96/grave %
10842 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10843 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10844 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10845 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10846 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10847 164/currency %
10848 166/brokenbar %
10849 168/dieresis/copyright/ordfeminine %
10850 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10851 /twosuperior/threesuperior/acute/mu %
10852 183/periodcentered/cedilla/onesuperior/ordmasculine %
10853 188/onequarter/onehalf/threequarters %
10854 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10855 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10856 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10857 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10858 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10859 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10860 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10861 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10862 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10863 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10864 ]%
10865 >>%
10866 }
10867 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10868 \pdfobj{%
10869 <<%
10870 /Type/Font%
10871 /Subtype/Type1%
10872 /Name/ZaDb%

```

```

10873     /BaseFont/ZapfDingbats%
10874   >>%
10875 }
10876 \edef\OBJ@ZaDb{\the\pdflastobj}
10877 \pdfobj{%
10878   <<%
10879     /Type/Font%
10880     /Subtype/Type1%
10881     /Name/Helv%
10882     /BaseFont/Helvetica%
10883     /Encoding \OBJ@pdfdocencoding\space 0 R%
10884   >>%
10885 }
10886 \edef\OBJ@Helv{\the\pdflastobj}
10887 </pdftex>

```

## 47.5 dvipdfm

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

10888 < *dvipdfm >

```

\@Gauge

```

10889 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10890   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10891 }

```

\@Form

```

10892 \def\@Form[#1]{%
10893   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10894   \setkeys{Form}{#1}%
10895   \@pdfm@mark{obj @afields []}%
10896   \@pdfm@mark{obj @corder []}%
10897   \@pdfm@mark{%
10898     obj @aform <<%
10899       /Fields @afields%
10900       /DR<<%
10901         /Font<<%
10902           /ZaDb @OBJZaDb%
10903           /Helv @OBJHelv%
10904         >>%
10905       >>%
10906       /DA(/Helv 10 Tf 0 g)%
10907       /CO @corder%
10908       \ifHy@pdfa
10909       \else
10910         /NeedAppearances true%
10911       \fi
10912     >>%
10913   }%
10914   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10915 }

```

\@endForm

```

10916 \def\@endForm{}

```

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

```

10917 \def\dvipdfm@setdim{%
10918   height \the\ht\pdfm@box\space
10919   width \the\wd\pdfm@box\space
10920   depth \the\dp\pdfm@box\space
10921 }

\HyField@AnnotCount

10922 \newcount\HyField@AnnotCount
10923 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

10924 \def\HyField@AdvanceAnnotCount{%
10925   \global\advance\HyField@AnnotCount\@ne
10926 }

\HyField@TheAnnotCount

10927 \def\HyField@TheAnnotCount{%
10928   \the\HyField@AnnotCount
10929 }

\@TextField

10930 \def\@TextField[#1]#2{% parameters, label
10931   \def\Fld@name{#2}%
10932   \def\Fld@default{}%
10933   \let\Fld@value\@empty
10934   \def\Fld@width{\DefaultWidthofText}%
10935   \def\Fld@height{%
10936     \ifFld@multiline
10937       \DefaultHeightofTextMultiline
10938     \else
10939       \DefaultHeightofText
10940     \fi
10941   }%
10942   \begingroup
10943     \Field@toks={ }%
10944     \expandafter\HyField@SetKeys\expandafter{%
10945       \DefaultOptionsofText,#1%
10946     }%
10947     \PDFForm@Name
10948     \HyField@FlagsText
10949     \ifFld@hidden\def\Fld@width{1sp}\fi
10950     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10951     \setbox\pdfm@box=\hbox{%
10952       \MakeTextField{\Fld@width}{\Fld@height}%
10953     }%
10954     \HyField@AdvanceAnnotCount
10955     \LayoutTextField{#2}{%
10956       \Hy@escapeform\PDFForm@Text
10957       \@pdfm@mark{%
10958         ann @text\HyField@TheAnnotCount\space
10959         \dvipdfm@setdim << \PDFForm@Text >>%
10960       }%
10961     }%
10962     \unhbox\pdfm@box
10963     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10964     % record in @afields array
10965   \endgroup

```



10966 }

\@ChoiceMenu

```
10967 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10968   \def\Fld@name{#2}%
10969   \let\Fld@default\relax
10970   \let\Fld@value\relax
10971   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10972   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10973   \begingroup
10974     \Fld@menulength=0 %
10975     \@tempdima\z@
10976     \for\@curropt:=#3\do{%
10977       \expandafter\Fld@checkequals\@curropt==\%
10978       \Hy@StepCount\Fld@menulength
10979       \settowidth{\@tempdimb}{\@currDisplay}%
10980       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10981     }%
10982     \advance\@tempdima by 15\p@
10983     \Field@toks={ }%
10984     \begingroup
10985       \HyField@SetKeys{#1}%
10986     \edef\x{\endgroup
10987       \noexpand\expandafter
10988       \noexpand\HyField@SetKeys
10989       \noexpand\expandafter{%
10990         \expandafter\noexpand\cname DefaultOptionsof%
10991         \ifFld@radio
10992           Radio%
10993         \else
10994           \ifFld@combo
10995             \ifFld@popdown
10996               PopdownBox%
10997             \else
10998               ComboBox%
10999             \fi
11000           \else
11001             ListBox%
11002           \fi
11003         \fi
11004       \endcsname
11005     }%
11006   }\x
11007   \HyField@SetKeys{#1}%
11008   \PDFForm@Name
11009   \ifFld@hidden\def\Fld@width{1sp}\fi
11010   \ifx\Fld@value\relax
11011     \let\Fld@value\Fld@default
11012   \fi
11013   \LayoutChoiceField{#2}{%
11014     \ifFld@radio
11015       \HyField@FlagsRadioButton
11016       \@Radio{#3}%
11017     \else
11018       \begingroup
11019         \HyField@FlagsChoice
11020         \ifdim\Fld@width<\@tempdima
```

```

11021         \ifdim\@tempdima<1cm\@tempdima1cm\fi
11022         \edef\Fld@width{\the\@tempdima}%
11023     \fi
11024     \ifFld@combo
11025     \else
11026         \@tempdima=\the\Fld@menulength\Fld@charsize
11027         \advance\@tempdima by \Fld@borderwidth bp %
11028         \advance\@tempdima by \Fld@borderwidth bp %
11029         \edef\Fld@height{\the\@tempdima}%
11030     \fi
11031     \@@ListBox{#3}%
11032 \endgroup
11033 \fi
11034 }%
11035 \endgroup
11036 }

```

\@@Radio

```

11037 \def\@@Radio#1{%
11038     \Fld@listcount=0 %
11039     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11040     \@for\@curropt:=#1\do{%
11041         \expandafter\Fld@checkequals\@curropt==\%
11042         \Hy@StepCount\Fld@listcount
11043         \@currDisplay\space
11044         \leavevmode
11045         \Hy@escapeform\PDFForm@Radio
11046         \ifnum\Fld@listcount=1 %
11047             \HyField@AdvanceAnnotCount
11048         \fi
11049         \@pdfm@mark{%
11050             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11051             \dvi pdfm@setdim
11052             <<%
11053                 \PDFForm@Radio
11054                 /AP<</N<</\@currValue /null>>>>%
11055             >>%
11056         }%
11057         \unhcopy\pdfm@box\space% deliberate space between radio buttons
11058         \ifnum\Fld@listcount=1 %
11059             \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11060         \fi
11061     }%
11062 }

```

\Fld@listcount

```

11063 \newcount\Fld@listcount

```

\@@ListBox

```

11064 \def\@@ListBox#1{%
11065     \HyField@PDFChoices{#1}%
11066     \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11067     \leavevmode
11068     \Hy@escapeform\PDFForm@List
11069     \HyField@AdvanceAnnotCount
11070     \@pdfm@mark{%
11071         ann @list\HyField@TheAnnotCount\space

```

```

11072 \dvipdfm@setdim
11073 <<\PDFForm@List>>%
11074 }%
11075 \unhbox\pdfm@box
11076 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11077 }

```

\@PushButton

```

11078 \def\@PushButton[#1]#2{% parameters, label
11079 \def\Fld@name{#2}%
11080 \begingroup
11081 \Field@toks={ }%
11082 \expandafter\HyField@SetKeys\expandafter{%
11083 \DefaultOptionsofPushButton,#1%
11084 }%
11085 \PDFForm@Name
11086 \ifHy@pdfa
11087 \PackageError{hyperref}{%
11088 PDF/A: Push button with JavaScript is prohibited%
11089 }\@ehc
11090 \LayoutPushButtonField{%
11091 \leavevmode
11092 \MakeButtonField{#2}%
11093 }%
11094 \else
11095 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11096 \HyField@FlagsPushButton
11097 \ifFld@hidden\def\Fld@width{1sp}\fi
11098 \HyField@AdvanceAnnotCount
11099 \LayoutPushButtonField{%
11100 \leavevmode
11101 \Hy@escapeform\PDFForm@Push
11102 \@pdfm@mark{%
11103 ann @push\HyField@TheAnnotCount\space
11104 \dvipdfm@setdim
11105 <<\PDFForm@Push>>%
11106 }%
11107 }%
11108 \unhbox\pdfm@box
11109 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11110 \fi
11111 \endgroup
11112 }

```

\@Submit

```

11113 \def\@Submit[#1]#2{%
11114 \Field@toks={ }%
11115 \def\Fld@width{\DefaultWidthofSubmit}%
11116 \def\Fld@height{\DefaultHeightofSubmit}%
11117 \begingroup
11118 \expandafter\HyField@SetKeys\expandafter{%
11119 \DefaultOptionsofSubmit,#1%
11120 }%
11121 \HyField@FlagsPushButton
11122 \HyField@FlagsSubmit
11123 \ifFld@hidden\def\Fld@width{1sp}\fi
11124 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%

```

```

11125 \leavevmode
11126 \Hy@escapeform\PDFForm@Submit
11127 \HyField@AdvanceAnnotCount
11128 \@pdfm@mark{%
11129     ann @submit\HyField@TheAnnotCount\space
11130     \dvi pdfm@setdim
11131     <<\PDFForm@Submit>>%
11132 }%
11133 \unhbox\pdfm@box%
11134 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11135 \endgroup
11136 }

\@Reset
11137 \def\@Reset[#1]#2{%
11138     \Field@toks={ }%
11139     \def\Fld@width{\DefaultWidthofReset}%
11140     \def\Fld@height{\DefaultHeightofReset}%
11141     \begingroup
11142         \expandafter\HyField@SetKeys\expandafter{%
11143             \DefaultOptionsofReset,#1%
11144         }%
11145     \leavevmode
11146     \ifHy@pdfa
11147         \PackageError{hyperref}{%
11148             PDF/A: Reset action is prohibited%
11149         }\@ehc
11150         \MakeButtonField{#2}%
11151     \else
11152         \HyField@FlagsPushButton
11153         \ifFld@hidden\def\Fld@width{1sp}\fi
11154         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11155         \Hy@escapeform\PDFForm@Reset
11156         \HyField@AdvanceAnnotCount
11157         \@pdfm@mark{%
11158             ann @reset\HyField@TheAnnotCount\space
11159             \dvi pdfm@setdim
11160             <<\PDFForm@Reset>>%
11161         }%
11162         \unhbox\pdfm@box
11163         \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11164     \fi
11165 \endgroup
11166 }

\@CheckBox
11167 \def\@CheckBox[#1]#2{% parameters, label
11168     \def\Fld@name{#2}%
11169     \def\Fld@default{0}%
11170     \begingroup
11171         \def\Fld@width{\DefaultWidthofCheckBox}%
11172         \def\Fld@height{\DefaultHeightofCheckBox}%
11173         \Field@toks={ }%
11174         \expandafter\HyField@SetKeys\expandafter{%
11175             \DefaultOptionsofCheckBox,#1%
11176         }%
11177         \PDFForm@Name

```

```

11178 \HyField@FlagsCheckBox
11179 \ifFld@hidden\def\Fld@width{1sp}\fi
11180 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11181 \HyField@AdvanceAnnotCount
11182 \LayoutCheckField{#2}{%
11183 \Hy@escapeform\PDFForm@Check
11184 \@pdfm@mark{%
11185 ann @check\HyField@TheAnnotCount\space
11186 \dvipdfm@setdim
11187 <<\PDFForm@Check>>%
11188 }%
11189 \unhbox\pdfm@box
11190 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11191 }%
11192 \endgroup
11193 }

11194 \@pdfm@mark{obj @OBJpdfdocencoding%
11195 <<%
11196 /Type/Encoding%
11197 /Differences[%
11198 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11199 39/quotesingle %
11200 96/grave %
11201 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11202 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11203 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11204 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11205 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11206 164/currency %
11207 166/brokenbar %
11208 168/dieresis/copyright/ordfeminine %
11209 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11210 /twosuperior/threesuperior/acute/mu %
11211 183/periodcentered/cedilla/onesuperior/ordmasculine %
11212 188/onequarter/onehalf/threequarters %
11213 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11214 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11215 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11216 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11217 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11218 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11219 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11220 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11221 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11222 /thorn/ydieresis%
11223 ]%
11224 >>%
11225 }

11226 \@pdfm@mark{obj @OBJZaDb%
11227 <<%
11228 /Type/Font%
11229 /Subtype/Type1%
11230 /Name/ZaDb%
11231 /BaseFont/ZapfDingbats%
11232 >>%
11233 }

11234 \@pdfm@mark{obj @OBJHelv%

```

```

11235 <<%
11236 /Type/Font%
11237 /Subtype/Type1%
11238 /Name/Helv%
11239 /BaseFont/Helvetica%
11240 /Encoding @OBJpdfdocencoding%
11241 >>%
11242 }
11243 </dvipdfm>

```

## 47.6 Common forms part

```

11244 <*pdfform>

```

\Hy@escapestring

```

11245 \begingroup\expandafter\expandafter\expandafter\endgroup
11246 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11247 \let\Hy@escapestring\@firstofone
11248 \def\Hy@escapeform#1{%
11249 \ifHy@escapeform
11250 \def\Hy@escapestring##1{%
11251 \noexpand\Hy@escapestring{\noexpand##1}%
11252 }%
11253 \edef\Hy@temp{#1}%
11254 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11255 \def\Hy@escapestring##1{%
11256 \@ifundefined{Hy@esc@\string##1}{%
11257 ##1%
11258 \ThisShouldNotHappen
11259 }{%
11260 \csname Hy@esc@\string##1\endcsname
11261 }%
11262 }%
11263 \else
11264 \let\Hy@escapestring\@firstofone
11265 \fi
11266 }%
11267 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11268 \ifx\#3\%
11269 \else
11270 \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11271 \Hy@ReturnAfterFi{%
11272 \Hy@@escapeform#3\@nil
11273 }%
11274 \fi
11275 }%
11276 \else
11277 \def\Hy@escapeform#1{%
11278 \ifHy@escapeform
11279 \let\Hy@escapestring\pdfescapestring
11280 \else
11281 \let\Hy@escapestring\@firstofone
11282 \fi
11283 }%
11284 \Hy@escapeform{}%
11285 \fi

```

\PDFForm@Name

```
11286 \def\PDFForm@Name{%
11287   \begingroup
11288     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11289       \ifHy@unicode
11290         \Hy@unicodetrue
11291       \fi
11292     \fi
11293     \pdfstringdef\Hy@gtemp\Fld@name
11294   \endgroup
11295   \let\Fld@name\Hy@gtemp
11296 }
```

\PDFForm@Check

```
11297 \def\PDFForm@Check{%
11298   /Subtype/Widget%
11299   \Fld@annotflags
11300   /T(\Fld@name)%
11301   /FT/Btn%
11302   \Fld@flags
11303   /Q \Fld@align
11304   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11305   /MK<<%
11306     \ifnum\Fld@rotation=\z@
11307     \else
11308       /R \Fld@rotation
11309     \fi
11310     \ifx\Fld@bordercolor\relax
11311     \else
11312       /BC[\Fld@bordercolor]%
11313     \fi
11314     \ifx\Fld@bcolor\relax
11315     \else
11316       /BG[\Fld@bcolor]%
11317     \fi
11318     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11319   >>%
11320   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11321     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11322   /H/P%
11323   \ifFld@checked /V/Yes\else /V/Off\fi
11324 }
```

\PDFForm@Push

```
11325 \ifHy@pdfa
11326 \else
11327   \def\PDFForm@Push{%
11328     /Subtype/Widget%
11329     \Fld@annotflags
11330     /T(\Fld@name)%
11331     /FT/Btn%
11332     \Fld@flags
11333     /H/P%
11334     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11335     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11336       \ifx\Fld@bordercolor\relax\else 1\fi
11337       \space
```

```

11338     \else
11339         /MK<<%
11340         \ifnum\Fld@rotation=\z@
11341         \else
11342             /R \Fld@rotation
11343         \fi
11344         \ifx\Fld@bordercolor\relax
11345         \else
11346             /BC[\Fld@bordercolor]%
11347         \fi
11348     >>%
11349 \fi
11350 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11351 }%
11352 \fi

```

\Fld@additionalactions

```

11353 \def\Fld@@additionalactions{%
K input (keystroke) format
11354 \ifx\Fld@keystroke@code\@empty
11355 \else
11356     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11357 \fi
F display format
11358 \ifx\Fld@format@code\@empty
11359 \else
11360     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11361 \fi
V validation
11362 \ifx\Fld@validate@code\@empty
11363 \else
11364     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11365 \fi
C calculation
11366 \ifx\Fld@calculate@code\@empty
11367 \else
11368     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11369 \fi
Fo receiving the input focus
11370 \ifx\Fld@onfocus@code\@empty
11371 \else
11372     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11373 \fi
Bl loosing the input focus (blurred)
11374 \ifx\Fld@onblur@code\@empty
11375 \else
11376     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11377 \fi
D pressing the mouse button (down)
11378 \ifx\Fld@onmousedown@code\@empty
11379 \else
11380     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11381 \fi

```



U releasing the mouse button (up)

```
11382 \ifx\Fld@onmouseup@code\@empty
11383 \else
11384 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11385 \fi
```

E cursor enters the annotation's active area.

```
11386 \ifx\Fld@onenter@code\@empty
11387 \else
11388 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11389 \fi
```

X cursor exits the annotation's active area.

```
11390 \ifx\Fld@onexit@code\@empty
11391 \else
11392 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11393 \fi
```

11394 }

```
11395 \def\Fld@additionalactions{%
11396 \if-\Fld@@additionalactions-%
11397 \else
11398 \ifHy@pdfa
11399 \else
11400 /AA<<\Fld@@additionalactions>>%
11401 \fi
11402 \fi
11403 }
```

\PDFForm@List

```
11404 \def\PDFForm@List{%
11405 /Subtype/Widget%
11406 \Fld@annotflags
11407 /T(\Fld@name)%
11408 /FT/Ch%
11409 \Fld@flags
11410 /Q \Fld@align
11411 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11412 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11413 \ifx\Fld@bordercolor\relax\else 1\fi
11414 \ifx\Fld@bcolor\relax \else 1\fi
11415 \space
11416 \else
11417 /MK<<%
11418 \ifnum\Fld@rotation=\z@
11419 \else
11420 /R \Fld@rotation
11421 \fi
11422 \ifx\Fld@bordercolor\relax
11423 \else
11424 /BC[\Fld@bordercolor]%
11425 \fi
11426 \ifx\Fld@bcolor\relax
11427 \else
11428 /BG[\Fld@bcolor]%
11429 \fi
11430 >>%
11431 \fi
11432 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
```

```

11433     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11434   \Fld@choices
11435   \Fld@additionalactions
11436 }

```

#### \PDFForm@Radio

```

11437 \def\PDFForm@Radio{%
11438   /Subtype/Widget%
11439   \Fld@annotflags
11440   /T(\Fld@name)%
11441   /FT/Btn%
11442   \Fld@flags
11443   /H/P%
11444   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11445   /MK<<%
11446     \ifnum\Fld@rotation=\z@
11447     \else
11448       /R \Fld@rotation
11449     \fi
11450     \ifx\Fld@bordercolor\relax
11451     \else
11452       /BC[\Fld@bordercolor]%
11453     \fi
11454     \ifx\Fld@bcolor\relax
11455     \else
11456       /BG[\Fld@bcolor]%
11457     \fi
11458     /CA(H)%
11459   >>%
11460   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11461     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11462   \ifx\@currValue\Fld@default
11463     /V/\Fld@default
11464   \else
11465     /V/Off%
11466   \fi
11467   \Fld@additionalactions
11468 }

```

#### \PDFForm@Text

```

11469 \def\PDFForm@Text{%
11470   /Subtype/Widget%
11471   \Fld@annotflags
11472   /T(\Fld@name)%
11473   /FT/Tx%
11474   \Fld@flags
11475   /Q \Fld@align
11476   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11477   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11478     \ifx\Fld@bordercolor\relax\else 1\fi
11479     \ifx\Fld@bcolor\relax \else 1\fi
11480     \space
11481   \else
11482     /MK<<%
11483     \ifnum\Fld@rotation=\z@
11484     \else
11485       /R \Fld@rotation

```

```

11486     \fi
11487     \ifx\Fld@bordercolor\relax
11488     \else
11489         /BC[\Fld@bordercolor]%
11490     \fi
11491     \ifx\Fld@bcolor\relax
11492     \else
11493         /BG[\Fld@bcolor]%
11494     \fi
11495     >>%
11496 \fi
11497 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11498     \ifx\Fld@color\empty\else\space\Fld@color\fi)%
11499 /DV(\Hy@escapestring{\Fld@default})%
11500 /V(\Hy@escapestring{\Fld@value})%
11501 \Fld@additionalactions
11502 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11503 }

```

\PDFForm@Submit

```

11504 \def\PDFForm@Submit{%
11505 /Subtype/Widget%
11506 \Fld@annotflags
11507 /T(\Fld@name)%
11508 /FT/Btn%
11509 \Fld@flags
11510 /H/P%
11511 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11512 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11513     \ifx\Fld@bordercolor\relax\else 1\fi
11514     \space
11515 \else
11516     /MK<<%
11517     \ifnum\Fld@rotation=\z@
11518     \else
11519         /R \Fld@rotation
11520     \fi
11521     \ifx\Fld@bordercolor\relax
11522     \else
11523         /BC[\Fld@bordercolor]%
11524     \fi
11525     >>%
11526 \fi
11527 /A<<%
11528 /S/SubmitForm%
11529 /F<<%
11530 /FS/URL%
11531 /F(\Hy@escapestring{\Form@action})%
11532 >>%
11533 \Fld@submitflags
11534 >>%
11535 }

```

\PDFForm@Reset

```

11536 \ifHy@pdfa
11537 \else
11538 \def\PDFForm@Reset{%

```

```

11539 /Subtype/Widget%
11540 \Fld@annotflags
11541 /T(\Fld@name)%
11542 /FT/Btn%
11543 \Fld@flags
11544 /H/P%
11545 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11546 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11547 \ifx\Fld@bordercolor\relax\else 1\fi
11548 \space
11549 \else
11550 /MK<<%
11551 \ifnum\Fld@rotation=\z@
11552 \else
11553 /R \Fld@rotation
11554 \fi
11555 \ifx\Fld@bordercolor\relax
11556 \else
11557 /BC[\Fld@bordercolor]%
11558 \fi
11559 % /CA (Clear)
11560 % /AC (Done)
11561 >>%
11562 \fi
11563 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11564 /A<</S/ResetForm>>%
11565 }%
11566 \fi

11567 </pdfform>
11568 <*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 L<sup>A</sup>T<sub>E</sub>X 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`

```

11569 \def\phantomsection{%
11570 \Hy@GlobalStepCount\Hy@linkcounter
11571 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11572 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11573 }
11574 </package>

```

### 48.1 Bookmarks

```
11575 <*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.

```

11576 \def\Hy@writebookmark#1#2#3#4#5{%
11577   % section number, text, label, level, file
11578   \ifx\WriteBookmarks\relax%
11579   \else
11580     \ifnum#4>\Hy@bookmarksdepth\relax
11581     \else
11582       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
11583     \fi
11584   \fi
11585 }
11586 \def\Hy@currentbookmarklevel{0}
11587 \def\Hy@numberline#1{#1 }
11588 \def\@@writetorep#1#2#3#4#5{%
11589   \begingroup
11590     \edef\Hy@tempa{#5}%
11591     \ifx\Hy@tempa\Hy@bookmarkstype
11592       \edef\Hy@level{#4}%
11593       \ifx\Hy@levelcheck Y%
11594         \@tempcnta\Hy@level\relax
11595         \advance\@tempcnta by -1 %
11596         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11597           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11598           \advance\@tempcnta by 1 %
11599           \Hy@Warning{%
11600             Difference (\the\@tempcnta) between bookmark levels is %
11601             greater \MessageBreak than one, level fixed%
11602           }%
11603           \@tempcnta\Hy@currentbookmarklevel
11604           \advance\@tempcnta by 1 %
11605           \edef\Hy@level{\the\@tempcnta}%
11606         \fi
11607       \else
11608         \global\let\Hy@levelcheck Y%
11609       \fi
11610       \global\let\Hy@currentbookmarklevel\Hy@level
11611       \@tempcnta\Hy@level\relax
11612       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11613       \advance\@tempcnta by -1 %
11614       \edef\Hy@tempa{#3}%
11615       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11616       \ifx\Hy@tempa\Hy@tempb
11617         \Hy@Warning{%
11618           The anchor of a bookmark and its parent's must not%
11619           \MessageBreak be the same. Added a new anchor%
11620         }%
11621       \phantomsection
11622     \fi
11623     \ifHy@bookmarksnumbered
11624       \let\numberline\Hy@numberline
11625       \let\partnumberline\Hy@numberline
11626       \let\chapternumberline\Hy@numberline
11627     \else
11628       \let\numberline\@gobble
11629       \let\partnumberline\@gobble

```

```

11630      \let\chapternumberline@gobble
11631      \fi
11632      \pdfstringdef\Hy@tempa{#2}%
11633      \if@filesw
11634          \protected@write\@outlinefile{%
11635              \protect\BOOKMARK
11636              [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11637              {\Hy@tempa}{\Hy@tempb}%
11638          }%
11639      \fi
11640      \fi
11641      \endgroup
11642 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains ] .

```

11643 \newcommand{\currentpdfbookmark}{%
11644     \pdfbookmark[\Hy@currentbookmarklevel]%
11645 }
11646 \newcommand{\subpdfbookmark}{%
11647     \@tempcnta\Hy@currentbookmarklevel
11648     \Hy@StepCount\@tempcnta
11649     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11650 }
11651 \newcommand{\belowpdfbookmark}[2]{%
11652     \@tempcnta\Hy@currentbookmarklevel
11653     \Hy@StepCount\@tempcnta
11654     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11655     \advance\@tempcnta by -1 %
11656     \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11657 }

```

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.

```

11658 \renewcommand\pdfbookmark[3][0]{%
11659     \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11660     \hyper@anchorstart{#3.#1}\hyper@anchorend
11661 }
11662 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
11663 \def\@BOOKMARK[#1]{\@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

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.

```

11664 (*vtex)
11665 \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.

```

11666 \begingroup
11667     \catcode'\'=12 %
11668     \ifnum\Hy@VTeXversion<650 %
11669         \catcode\'\"=12 %

```

```

11670 \gdef\hv@pdf@char#1#2#3{%
11671 \char
11672 \ifcase'#1#2#3 %
11673 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11674 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11675 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11676 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11677 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11678 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11679 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11680 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11681 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11682 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11683 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11684 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11685 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11686 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11687 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11688 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11689 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11690 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11691 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11692 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11693 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11694 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11695 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11696 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11697 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11698 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11699 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11700 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11701 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11702 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11703 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11704 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11705 \fi
11706 }%
11707 \else
11708 \gdef\hv@pdf@char{\char'}%
11709 \fi
11710 \endgroup

```

\@@BOOKMARK

```

11711 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11712 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11713 \edef\@mycount{\the\@serial@counter}%
11714 \Hy@StepCount\@serial@counter
11715 \edef\@parcount{%
11716 \expandafter\ifx\csname @count@#5\endcsname\relax
11717 0%
11718 \else
11719 \csname @count@#5\endcsname
11720 \fi
11721 }%
11722 \immediate\special{%
11723 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11724 s=\ifx#2-c\else o\fi,t=#4%

```

```

11725 }%
11726 }%

```

# \ReadBookmarks

```

11727 \def\ReadBookmarks{%
11728   \begingroup
11729   \def\O{\hv@pdf@char 0}%
11730   \def\1{\hv@pdf@char 1}%
11731   \def\2{\hv@pdf@char 2}%
11732   \def\3{\hv@pdf@char 3}%
11733   \def\({}%
11734   \def\)}%
11735   \def\do##1{%
11736     \ifnum\the\catcode'##1=\active
11737       \makeother##1%
11738     \fi
11739   }%
11740   \dospecials
11741   \InputIfFileExists{\jobname.out}{\}{}%
11742 \endgroup
11743 \ifx\WriteBookmarks\relax
11744 \else
11745   \if@files
11746     \newwrite\@outlinefile
11747     \immediate\openout\@outlinefile=\jobname.out\relax
11748     \ifHy@typexml
11749       \immediate\write\@outlinefile{<relaxxml>\relax}%
11750     \fi
11751   \fi
11752 \fi
11753 }

11754 </vtex>

11755 <*\vtex>
11756 \def\ReadBookmarks{%
11757   \begingroup
11758   \escapechar='\'%
11759   \let\escapechar\@gobble %
11760   \def\@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11761   \InputIfFileExists{\jobname.out}{\}{}%
11762   \ifx\WriteBookmarks\relax
11763     \global\let\WriteBookmarks\relax
11764   \fi
11765   \def\@BOOKMARK[##1][##2]##3##4##5{%
11766     \def\Hy@temp{##4}%
11767 <*pdfTex>
11768     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11769     \Hy@OutlineName{\Hy@pstringName{
11770       ##2\check@bm@number{##3}}%
11771     }{%
11772       \expandafter\strip@prefix\meaning\Hy@temp
11773     }%
11774 </pdfTex>
11775 <*pdfmark>
11776     \pdfmark{%
11777       pdfmark=/OUT,%
11778       Count={##2\check@bm@number{##3}},%

```



```

11779         Dest={##3},%
11780         Title=\expandafter\strip@prefix\meaning\Hy@temp
11781     }%
11782 </pdfmark>
11783 <dvipdfm>
11784     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11785     \@pdfm@mark{%
11786         outline \ifHy@DvipdfmxOutlineOpen
11787             [%
11788             \ifnum##21>\z@
11789             \else
11790             -%
11791             \fi
11792             ] %
11793             \fi
11794             ##1<<%
11795             /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11796             /A<<%
11797             /S/GoTo%
11798             /D(\Hy@pstringName)%
11799             >>%
11800             >>%
11801         }%
11802 </dvipdfm>
11803     }%
11804     {%
11805         \def\WriteBookmarks{0}%
11806         \InputIfFileExists{\jobname.out}{\relax}%
11807     }%
11808     {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}%
11809     \ifx\WriteBookmarks\relax
11810     \else
11811         \if@filesw
11812             \newwrite\@outlinefile
11813             \immediate\openout\@outlinefile=\jobname.out\relax
11814             \ifHy@typexml
11815                 \immediate\write\@outlinefile{<relaxxml>\relax}%
11816             \fi
11817         \fi
11818     \fi
11819     \endgroup
11820 }
11821 <pdfTeX>
11822 \def\Hy@OutlineName#1#2#3#4{%
11823     \pdfoutline goto name{#2}count#3{#4}%
11824 }
11825 </pdfTeX>
11826 \def\check@bm@number#1{%
11827     \expandafter\ifx\csname B_#1\endcsname\relax
11828     0%
11829     \else
11830         \csname B_#1\endcsname
11831     \fi
11832 }
11833 \def\calc@bm@number#1{%
11834     \@tempcnta=\check@bm@number{#1}\relax
11835     \advance\@tempcnta by 1 %

```

```

11836 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11837 }
11838 \!/vtex>

11839 \ifHy@implicit
11840 \else
11841 \expandafter\endinput
11842 \fi

11843 </outlines>
11844 <*outlines | hypertex>

11845 \let\H@old@ssect\@ssect
11846 \def\@ssect#1#2#3#4#5{%
11847 \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11848 \phantomsection
11849 }
11850 \let\H@old@schapter\@schapter
11851 \def\@schapter#1{%
11852 \H@old@schapter{#1}%
11853 \beginingroup
11854 \let\@mkboth\@gobbletwo
11855 \Hy@GlobalStepCount\Hy@linkcounter
11856 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11857 \Hy@raisedlink{%
11858 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11859 }%
11860 \endgroup
11861 }

```

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:

```

11862 \@ifundefined{@chapter}{\{}{%
11863 \let\Hy@org@chapter\@chapter
11864 \def\@chapter{%
11865 \def\Hy@next{%
11866 \Hy@GlobalStepCount\Hy@linkcounter
11867 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11868 \Hy@raisedlink{%
11869 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11870 }%
11871 }%
11872 \ifnum\c@secnumdepth>\m@ne
11873 \@ifundefined{if@mainmatter}%
11874 \iftrue{\csname if@mainmatter\endcsname}%
11875 \let\Hy@next\relax
11876 \fi
11877 \fi
11878 \Hy@next
11879 \Hy@org@chapter
11880 }%
11881 }

11882 \let\H@old@part\@part
11883 \beginingroup\expandafter\expandafter\expandafter\endgroup
11884 \expandafter\ifx\csname chapter\endcsname\relax
11885 \let\Hy@secnum@part\z@
11886 \else
11887 \let\Hy@secnum@part\m@ne

```

```

11888 \fi
11889 \def\@part{%
11890   \ifnum\Hy@secnum@part>\c@secnumdepth
11891     \phantomsection
11892   \fi
11893   \H@old@part
11894 }

11895 \let\H@old@spart\@spart
11896 \def\@spart#1{%
11897   \H@old@spart{#1}%
11898   \Hy@GlobalStepCount\Hy@linkcounter
11899   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11900   \Hy@raisedlink{%
11901     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11902   }%
11903 }

11904 \let\H@old@sect\@sect
11905 \def\@sect#1#2#3#4#5#6[#7]#8{%
11906   \ifnum #2>\c@secnumdepth
11907     \Hy@GlobalStepCount\Hy@linkcounter
11908     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11909   \fi
11910   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11911   \ifnum #2>\c@secnumdepth
11912     \Hy@raisedlink{%
11913       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11914     }%
11915   \fi
11916 }

11917 </outlines | hypertex>
11918 <*outlines>

11919 \expandafter\def\csname Parent-4\endcsname{}
11920 \expandafter\def\csname Parent-3\endcsname{}
11921 \expandafter\def\csname Parent-2\endcsname{}
11922 \expandafter\def\csname Parent-1\endcsname{}
11923 \expandafter\def\csname Parent0\endcsname{}
11924 \expandafter\def\csname Parent1\endcsname{}
11925 \expandafter\def\csname Parent2\endcsname{}
11926 \expandafter\def\csname Parent3\endcsname{}
11927 \expandafter\def\csname Parent4\endcsname{}

11928 </outlines>

```

## 49 Compatibility with koma-script classes

```
11929 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

11930 \def\Hy@tempa{%
11931   \def\@addchap[##1]##2{%
11932     \typeout{##2}%
11933     \if@twoside
11934       \@mkboth{##1}{-}%
11935     \else

```

```

11936 \mkboth{}{##1}%
11937 \fi
11938 \addtocontents{lof}{\protect\addvspace{10\p@}}%
11939 \addtocontents{lot}{\protect\addvspace{10\p@}}%
11940 \Hy@GlobalStepCount\Hy@linkcounter
11941 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11942 \Hy@raisedlink{%
11943 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11944 }%
11945 \if@twocolumn
11946 \topnewpage[\@makeschapterhead{##2}]%
11947 \else
11948 \@makeschapterhead{##2}%
11949 \@afterheading
11950 \fi
11951 \addcontentsline{toc}{chapter}{##1}%
11952 }%
11953 }
11954 \@ifclassloaded{scrbook}{%
11955 \@ifclasslater{scrbook}{2001/01/01}{%
11956 \let\Hy@tempa\@empty
11957 }{}%
11958 }{%
11959 \@ifclassloaded{scrreprt}{%
11960 \@ifclasslater{scrreprt}{2001/01/01}{%
11961 \let\Hy@tempa\@empty
11962 }{}%
11963 }{%
11964 \let\Hy@tempa\@empty
11965 }%
11966 }%
11967 \Hy@tempa
11968 </outlines | hypertext>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

### 50.1 PD1 encoding

```

11969 <*pd1enc>
11970 \DeclareFontEncoding{PD1}{}{}

Accents
11971 \DeclareTextAccent{'}{PD1}{\textasciigrave}
11972 \DeclareTextAccent{'\'}{PD1}{\textacute}
11973 \DeclareTextAccent{\`}{PD1}{\textasciicircum}
11974 \DeclareTextAccent{\~}{PD1}{\texttilde}
11975 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
11976 \DeclareTextAccent{\r}{PD1}{\textring}
11977 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
11978 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11979 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11980 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
11981 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
11982 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
11983 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}

```

```

11984 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11985 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
11986 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11987 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
11988 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11989 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
11990 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11991 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11992 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
11993 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
11994 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
11995 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
11996 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
11997 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
11998 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
11999 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12000 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12001 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12002 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12003 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12004 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12005 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12006 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12007 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12008 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12009 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12010 % U+0009 (CHARACTER TABULATION)
12011 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12012 % U+000A (LINE FEED)
12013 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12014 % U+000D (CARRIAGE RETURN)
12015 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

12016 % U+02D8 BREVE; breve
12017 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
12018 % U+02C7 CARON; caron
12019 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
12020 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
12021 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
12022 % U+02D9 DOT ABOVE; dotaccent
12023 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
12024 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
12025 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
12026 % U+02DB OGONEK; ogonek
12027 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
12028 % U+02DA RING ABOVE; ring
12029 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
12030 % U+02DC SMALL TILDE; ilde, *tilde
12031 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

12032 % U+0022 QUOTATION MARK; quotedbl

12033 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

12034 % U+0023 NUMBER SIGN; numbersign

12035 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

12036 % U+0024 DOLLAR SIGN; dollar  
 12037 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 12038 % U+0025 PERCENT SIGN; percent  
 12039 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 12040 % U+0026 AMPERSAND; ampersand  
 12041 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 12042 % U+0028 LEFT PARENTHESIS; parenleft  
 12043 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 12044 % U+0029 RIGHT PARENTHESIS; parenright  
 12045 \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  
 12046 % U+002E FULL STOP; period  
 12047 \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  
 12048 % U+003C LESS-THAN SIGN; less  
 12049 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 12050 % U+003E GREATER-THAN SIGN; greater  
 12051 \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  
 12052 % U+005C REVERSE SOLIDUS; backslash  
 12053 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12054 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12055 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12056 % U+005F LOW LINE; underscore  
 12057 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12058 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12059 % U+0060 GRAVE ACCENT; grave  
 12060 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12061 % U+0069 LATIN SMALL LETTER I; i  
 12062 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...

\172: U+007A LATIN SMALL LETTER Z; z  
 12063 % U+007B LEFT CURLY BRACKET; braceleft  
 12064 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12065 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12066 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12067 % U+007D RIGHT CURLY BRACKET; braceright  
 12068 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12069 % U+007E TILDE; asciitilde  
 12070 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12071 % U+2022 BULLET; bullet  
 12072 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12073 % U+2020 DAGGER; dagger  
 12074 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12075 % U+2021 DOUBLE DAGGER; daggerdbl  
 12076 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12077 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12078 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12079 % U+2014 EM DASH; emdash  
 12080 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12081 % U+2013 EN DASH; endash  
 12082 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12083 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12084 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12085 % U+2044 FRACTION SLASH; fraction  
 12086 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 12087 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 12088 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 12089 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 12090 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 12091 % U+2212 MINUS SIGN; minus  
 12092 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 12093 % U+2030 PER MILLE SIGN; perthousand  
 12094 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 12095 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 12096 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 12097 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 12098 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 12099 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 12100 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 12101 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 12102 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 12103 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 12104 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 12105 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 12106 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 12107 % U+2122 TRADE MARK SIGN; trademark  
 12108 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 12109 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 12110 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 12111 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 12112 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 12113 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 12114 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 12115 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 12116 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 12117 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron

12118 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 12119 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 12120 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
 12121 \DeclareTextCommand{\IJ}{PD1}{\230}  
 12122 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 12123 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 12124 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12125 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 12126 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 12127 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 12128 % U+0153 LATIN SMALL LIGATURE OE; oe  
 12129 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 12130 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12131 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 12132 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 12133 \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.

12134 % U+20AC EURO SIGN; \*Euro, euro  
 12135 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 12136 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12137 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 12138 % U+00A2 CENT SIGN; cent  
 12139 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 12140 % U+00A3 POUND SIGN; sterling  
 12141 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 12142 % U+00A4 CURRENCY SIGN; currency  
 12143 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 12144 % U+00A5 YEN SIGN; yen  
 12145 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 12146 % U+00A6 BROKEN BAR; brokenbar  
 12147 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 12148 % U+00A7 SECTION SIGN; section  
 12149 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 12150 % U+00A8 DIAERESIS; dieresis  
 12151 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 12152 % U+00A9 COPYRIGHT SIGN; copyright  
 12153 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 12154 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12155 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 12156 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12157 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 12158 % U+00AC NOT SIGN; logicalnot  
 12159 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 12160 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

12161 % U+00AE REGISTERED SIGN; registered  
 12162 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 12163 % U+00AF MACRON; \*macron, overscore  
 12164 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 12165 % U+00B0 DEGREE SIGN; degree  
 12166 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 12167 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12168 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 12169 % U+00B2 SUPERScript TWO; twosuperior  
 12170 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 12171 % U+00B3 SUPERScript THREE; threesuperior



12172 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
12173 % U+00B4 ACUTE ACCENT; acute  
12174 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
12175 % U+00B5 MICRO SIGN; mu, mu1  
12176 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
12177 % U+00B6 PILCROW SIGN; paragraph  
12178 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
12179 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
12180 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
12181 % U+00B8 CEDILLA; cedilla  
12182 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
12183 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12184 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
12185 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12186 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
12187 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12188 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
12189 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12190 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
12191 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12192 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
12193 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12194 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
12195 % U+00BF INVERTED QUESTION MARK; questiondown  
12196 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
12197 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12198 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
12199 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12200 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
12201 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12202 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
12203 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12204 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
12205 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12206 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
12207 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12208 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
12209 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12210 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
12211 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12212 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
12213 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12214 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
12215 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12216 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
12217 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12218 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
12219 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12220 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
12221 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12222 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
12223 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12224 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
12225 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12226 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
12227 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12228 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF

12229 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12230 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
12231 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
12232 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12233 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
12234 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12235 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
12236 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12237 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
12238 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12239 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
12240 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12241 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
12242 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12243 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
12244 % U+00D7 MULTIPLICATION SIGN; multiply  
12245 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
12246 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12247 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
12248 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12249 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
12250 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12251 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
12252 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12253 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
12254 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12255 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
12256 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12257 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
12258 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12259 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
12260 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12261 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
12262 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12263 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
12264 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12265 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12266 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12267 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12268 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12269 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12270 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12271 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12272 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12273 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12274 % U+00E6 LATIN SMALL LETTER AE; ae  
12275 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12276 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12277 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12278 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12279 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
12280 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12281 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12282 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12283 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12284 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12285 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB

12286 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 12287 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
 12288 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
 12289 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 12290 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
 12291 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
 12292 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 12293 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE  
 12294 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE  
 12295 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 12296 \DeclareTextCompositeCommand{\`}{PD1}{i}{\357}% U+00EF  
 12297 \DeclareTextCompositeCommand{\`}{PD1}{i}{\357}% U+00EF  
 12298 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12299 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
 12300 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12301 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
 12302 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12303 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
 12304 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12305 \DeclareTextCompositeCommand{\`}{PD1}{o}{\363}% U+00F3  
 12306 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12307 \DeclareTextCompositeCommand{\`}{PD1}{o}{\364}% U+00F4  
 12308 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12309 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
 12310 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12311 \DeclareTextCompositeCommand{\`}{PD1}{o}{\366}% U+00F6  
 12312 % U+00F7 DIVISION SIGN; divide  
 12313 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
 12314 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12315 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
 12316 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12317 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
 12318 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12319 \DeclareTextCompositeCommand{\`}{PD1}{u}{\372}% U+00FA  
 12320 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12321 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB  
 12322 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12323 \DeclareTextCompositeCommand{\`}{PD1}{u}{\374}% U+00FC  
 12324 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12325 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD  
 12326 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12327 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
 12328 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12329 \DeclareTextCompositeCommand{\`}{PD1}{y}{\377}% U+00FF  
 12330 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

12331 \DeclareTextCommand{\SS}{PD1}{SS}  
 12332 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

12333 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
 12334 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
 12335 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
 12336 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
 12337 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}  
 12338 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}  
 12339 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}  
 12340 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

```
12341 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12342 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12343 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12344 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12345 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12346 \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;

```
12347 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12348 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12349 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12350 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12351 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12352 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12353 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12354 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12355 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12356 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12357 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12358 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12359 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12360 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
```

```
12361 </pdlenc>
```

## 50.2 PU encoding

```
12362 <*puenc>
12363 \DeclareFontEncoding{PU}{-}{-}
```

### 50.2.1 NFSS2 accents

```
12364 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12365 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
12366 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12367 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12368 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12369 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
12370 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12371 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12372 % U+0304 COMBINING MACRON; macroncmb
12373 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12374 % U+0306 COMBINING BREVE; brevecmb
12375 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12376 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12377 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12378 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12379 % U+0308 COMBINING DIAERESIS; dieresiscmb
12380 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12381 % U+030A COMBINING RING ABOVE; ringcmb
12382 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12383 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12384 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12385 % U+030C COMBINING CARON; caroncmb
12386 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12387 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12388 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12389 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
```

```

12390 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12391 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12392 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
12393 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12394 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12395 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12396 % U+0327 COMBINING CEDILLA; cedillacmb
12397 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12398 % U+0328 COMBINING OGONEK; ogonekcmb
12399 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12400 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12401 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12402 % U+20DD COMBINING ENCLOSING CIRCLE
12403 \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.

```

12404 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12405 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12406 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciicircum}
12407 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12408 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12409 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12410 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12411 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12412 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12413 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12414 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12415 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12416 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12417 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12418 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12419 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12420 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12421 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12422 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

12423 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12424 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12425 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciicircum}
12426 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12427 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12428 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12429 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12430 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12431 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12432 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12433 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12434 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12435 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12436 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12437 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12438 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12439 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12440 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12441 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12442 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}

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12443 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12444 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
12445 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12446 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12447 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12448 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12449 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12450 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12451 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12452 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12453 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12454 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12455 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12456 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12457 % U+0009 (CHARACTER TABULATION)
12458 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12459 % U+000A (LINE FEED)
12460 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12461 % U+000D (CARRIAGE RETURN)
12462 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12463 % U+0022 QUOTATION MARK; quotedbl
12464 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12465 % U+0023 NUMBER SIGN; numbersign
12466 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12467 % U+0024 DOLLAR SIGN; dollar
12468 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12469 % U+0025 PERCENT SIGN; percent
12470 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12471 % U+0026 AMPERSAND; ampersand
12472 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12473 % U+0027 APOSTROPHE; quotesingle
12474 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12475 % U+0028 LEFT PARENTHESIS; parenleft
12476 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12477 % U+0029 RIGHT PARENTHESIS; parenright
12478 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12479 % U+002A ASTERISK; asterisk
12480 \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

12481 % U+003C LESS-THAN SIGN; less
12482 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

```

\80\075: U+003D EQUALS SIGN; equal  
 12483 % U+003E GREATER-THAN SIGN; greater  
 12484 \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  
 12485 % U+005C REVERSE SOLIDUS; backslash  
 12486 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12487 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12488 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12489 % U+005F LOW LINE; underscore  
 12490 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12491 % U+0060 GRAVE ACCENT; grave  
 12492 \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  
 12493 % U+0069 LATIN SMALL LETTER I; i  
 12494 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12495 \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  
 12496 % U+007B LEFT CURLY BRACKET; braceleft  
 12497 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12498 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12499 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12500 % U+007D RIGHT CURLY BRACKET; braceright  
 12501 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12502 % U+007E TILDE; asciitilde  
 12503 \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  
 12504 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12505 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12506 % U+00A2 CENT SIGN; cent  
 12507 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12508 % U+00A3 POUND SIGN; sterling  
 12509 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12510 % U+00A4 CURRENCY SIGN; currency  
 12511 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12512 % U+00A5 YEN SIGN; yen  
 12513 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12514 % U+00A6 BROKEN BAR; brokenbar  
 12515 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12516 % U+00A7 SECTION SIGN; section  
 12517 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12518 % U+00A8 DIAERESIS; dieresis

12519 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
12520 % U+00A9 COPYRIGHT SIGN; copyright  
12521 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
12522 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
12523 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
12524 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
12525 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
12526 % U+00AC NOT SIGN; logicalnot  
12527 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
12528 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
12529 % U+00AE REGISTERED SIGN; registered  
12530 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
12531 % U+00AF MACRON; \*macron, overscore  
12532 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
12533 % U+00B0 DEGREE SIGN; degree  
12534 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
12535 % U+00B1 PLUS-MINUS SIGN; plusminus  
12536 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
12537 % U+00B2 SUPERSCRIPT TWO; twosuperior  
12538 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
12539 % U+00B3 SUPERSCRIPT THREE; threesuperior  
12540 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
12541 % U+00B4 ACUTE ACCENT; acute  
12542 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
12543 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
12544 % U+00B5 MICRO SIGN; mu, mu1  
12545 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
12546 % U+00B6 PILCROW SIGN; paragraph  
12547 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
12548 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
12549 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
12550 % U+00B8 CEDILLA; cedilla  
12551 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
12552 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12553 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
12554 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12555 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
12556 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12557 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
12558 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12559 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
12560 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12561 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
12562 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12563 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12564 % U+00BF INVERTED QUESTION MARK; questiondown  
12565 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12566 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12567 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12568 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12569 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12570 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12571 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12572 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12573 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12574 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis



12575 \DeclareTextCompositeCommand{"}{PU}{A}{\80\304}% U+00C4  
12576 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12577 \DeclareTextCompositeCommand{r}{PU}{A}{\80\305}% U+00C5  
12578 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12579 \DeclareTextCommand{AE}{PU}{\80\306}% U+00C6  
12580 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12581 \DeclareTextCompositeCommand{c}{PU}{C}{\80\307}% U+00C7  
12582 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12583 \DeclareTextCompositeCommand{'}{PU}{E}{\80\310}% U+00C8  
12584 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12585 \DeclareTextCompositeCommand{'}{PU}{E}{\80\311}% U+00C9  
12586 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12587 \DeclareTextCompositeCommand{^}{PU}{E}{\80\312}% U+00CA  
12588 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12589 \DeclareTextCompositeCommand{"}{PU}{E}{\80\313}% U+00CB  
12590 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12591 \DeclareTextCompositeCommand{'}{PU}{I}{\80\314}% U+00CC  
12592 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12593 \DeclareTextCompositeCommand{'}{PU}{I}{\80\315}% U+00CD  
12594 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12595 \DeclareTextCompositeCommand{^}{PU}{I}{\80\316}% U+00CE  
12596 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12597 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317}% U+00CF  
12598 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12599 \DeclareTextCommand{DH}{PU}{\80\320}% U+00D0  
12600 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12601 \DeclareTextCompositeCommand{~}{PU}{N}{\80\321}% U+00D1  
12602 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12603 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}% U+00D2  
12604 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12605 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}% U+00D3  
12606 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12607 \DeclareTextCompositeCommand{^}{PU}{O}{\80\324}% U+00D4  
12608 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12609 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325}% U+00D5  
12610 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12611 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6  
12612 % U+00D7 MULTIPLICATION SIGN; multiply  
12613 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12614 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12615 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12616 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12617 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}% U+00D9  
12618 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12619 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}% U+00DA  
12620 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12621 \DeclareTextCompositeCommand{^}{PU}{U}{\80\333}% U+00DB  
12622 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12623 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC  
12624 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12625 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}% U+00DD  
12626 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12627 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12628 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12629 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12630 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12631 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}% U+00E0

12632 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
 12633 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
 12634 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
 12635 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
 12636 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
 12637 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
 12638 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
 12639 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
 12640 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
 12641 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
 12642 % U+00E6 LATIN SMALL LETTER AE; ae  
 12643 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
 12644 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
 12645 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
 12646 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
 12647 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
 12648 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
 12649 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
 12650 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
 12651 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
 12652 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
 12653 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
 12654 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
 12655 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
 12656 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 12657 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
 12658 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 12659 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\355}% U+00ED  
 12660 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
 12661 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
 12662 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE  
 12663 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
 12664 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 12665 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
 12666 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12667 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 12668 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12669 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 12670 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12671 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
 12672 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12673 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 12674 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12675 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 12676 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12677 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 12678 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12679 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 12680 % U+00F7 DIVISION SIGN; divide  
 12681 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12682 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12683 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 12684 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12685 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 12686 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12687 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 12688 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex

12689 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB  
 12690 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12691 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 12692 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12693 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 12694 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12695 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 12696 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12697 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

## 50.2.4 Latin Extended-A: U+0080 to U+017F

12698 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12699 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 12700 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12701 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 12702 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12703 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12704 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12705 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12706 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12707 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 12708 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 12709 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 12710 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 12711 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 12712 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 12713 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 12714 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 12715 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 12716 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 12717 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 12718 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 12719 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 12720 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 12721 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 12722 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 12723 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 12724 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 12725 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 12726 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 12727 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 12728 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 12729 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 12730 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 12731 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 12732 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
 12733 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 12734 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 12735 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
 12736 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
 12737 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
 12738 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
 12739 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
 12740 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
 12741 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
 12742 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent

12743 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12744 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12745 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12746 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12747 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12748 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12749 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12750 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12751 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12752 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12753 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12754 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12755 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12756 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12757 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12758 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12759 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12760 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12761 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12762 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12763 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12764 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12765 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
12766 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
12767 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
12768 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
12769 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
12770 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
12771 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
12772 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
12773 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
12774 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
12775 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
12776 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
12777 \DeclareTextCommand{\textHslash}{PU}{\81\047}% U+0127  
12778 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
12779 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
12780 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
12781 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
12782 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
12783 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
12784 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
12785 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
12786 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
12787 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
12788 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
12789 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
12790 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
12791 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
12792 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
12793 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
12794 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
12795 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
12796 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
12797 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
12798 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
12799 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130

```

12800 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
12801 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
12802 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
12803 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
12804 % U+0133 LATIN SMALL LIGATURE IJ; ij
12805 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
12806 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
12807 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
12808 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
12809 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
12810 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
12811 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
12812 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
12813 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
12814 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

```

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

```

12815 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
12816 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
12817 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
12818 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
12819 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
12820 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
12821 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
12822 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
12823 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
12824 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
12825 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
12826 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
12827 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
12828 \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`.

```

12829 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
12830 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
12831 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
12832 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
12833 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12834 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
12835 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12836 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
12837 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
12838 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
12839 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
12840 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
12841 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
12842 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
12843 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
12844 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
12845 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
12846 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
12847 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
12848 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
12849 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
12850 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149

```

12851 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 12852 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 12853 % U+014B LATIN SMALL LETTER ENG; eng  
 12854 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 12855 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 12856 \DeclareTextCompositeCommand{=} {PU} {O} {\81\114}% U+014C  
 12857 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 12858 \DeclareTextCompositeCommand{=} {PU} {o} {\81\115}% U+014D  
 12859 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 12860 \DeclareTextCompositeCommand{\u} {PU} {O} {\81\116}% U+014E  
 12861 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 12862 \DeclareTextCompositeCommand{\u} {PU} {o} {\81\117}% U+014F  
 12863 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
 12864 \DeclareTextCompositeCommand{\H} {PU} {O} {\81\120}% U+0150  
 12865 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
 12866 \DeclareTextCompositeCommand{\H} {PU} {o} {\81\121}% U+0151  
 12867 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 12868 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 12869 % U+0153 LATIN SMALL LIGATURE OE; oe  
 12870 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 12871 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 12872 \DeclareTextCompositeCommand{\'} {PU} {R} {\81\124}% U+0154  
 12873 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 12874 \DeclareTextCompositeCommand{\'} {PU} {r} {\81\125}% U+0155  
 12875 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
 12876 \DeclareTextCompositeCommand{\c} {PU} {R} {\81\126}% U+0156  
 12877 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 12878 \DeclareTextCompositeCommand{\c} {PU} {r} {\81\127}% U+0157  
 12879 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 12880 \DeclareTextCompositeCommand{\v} {PU} {R} {\81\130}% U+0158  
 12881 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 12882 \DeclareTextCompositeCommand{\v} {PU} {r} {\81\131}% U+0159  
 12883 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 12884 \DeclareTextCompositeCommand{\'} {PU} {S} {\81\132}% U+015A  
 12885 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 12886 \DeclareTextCompositeCommand{\'} {PU} {s} {\81\133}% U+015B  
 12887 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 12888 \DeclareTextCompositeCommand{\^} {PU} {S} {\81\134}% U+015C  
 12889 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 12890 \DeclareTextCompositeCommand{\^} {PU} {s} {\81\135}% U+015D  
 12891 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 12892 \DeclareTextCompositeCommand{\c} {PU} {S} {\81\136}% U+015E  
 12893 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 12894 \DeclareTextCompositeCommand{\c} {PU} {s} {\81\137}% U+015F  
 12895 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12896 \DeclareTextCompositeCommand{\v} {PU} {S} {\81\140}% U+0160  
 12897 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12898 \DeclareTextCompositeCommand{\v} {PU} {s} {\81\141}% U+0161  
 12899 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
 12900 \DeclareTextCompositeCommand{\c} {PU} {T} {\81\142}% U+0162  
 12901 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 12902 \DeclareTextCompositeCommand{\c} {PU} {t} {\81\143}% U+0163  
 12903 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 12904 \DeclareTextCompositeCommand{\v} {PU} {T} {\81\144}% U+0164  
 12905 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 12906 \DeclareTextCompositeCommand{\v} {PU} {t} {\81\145}% U+0165  
 12907 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar

12908 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
12909 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
12910 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
12911 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
12912 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
12913 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
12914 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
12915 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
12916 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
12917 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
12918 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
12919 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
12920 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
12921 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
12922 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
12923 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
12924 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
12925 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
12926 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
12927 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
12928 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
12929 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
12930 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
12931 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
12932 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
12933 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
12934 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
12935 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
12936 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
12937 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
12938 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
12939 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
12940 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
12941 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
12942 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
12943 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
12944 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
12945 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
12946 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
12947 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
12948 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
12949 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
12950 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
12951 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
12952 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
12953 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
12954 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
12955 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
12956 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
12957 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
12958 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

12959 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
12960 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
12961 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
12962 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD

12963 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
12964 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
12965 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icarón  
12966 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
12967 % U+01D0 LATIN SMALL LETTER I WITH CARON; icarón  
12968 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
12969 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
12970 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocarón  
12971 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
12972 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocarón  
12973 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
12974 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucarón  
12975 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
12976 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucarón  
12977 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
12978 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
12979 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
12980 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
12981 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
12982 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcarón  
12983 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
12984 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcarón  
12985 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
12986 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcarón  
12987 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
12988 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcarón  
12989 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
12990 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
12991 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
12992 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
12993 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
12994 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcarón  
12995 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
12996 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
12997 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
12998 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
12999 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
13000 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
13001 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
13002 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
13003 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
13004 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
13005 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13006 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC  
13007 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13008 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD  
13009 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
13010 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE  
13011 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacut  
13012 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF  
13013 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13014 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13015 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13016 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13017 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13018 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13019 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave



13020 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 13021 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 13022 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 13023 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 13024 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 13025 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 13026 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 13027 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 13028 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 13029 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 13030 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 13031 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 13032 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 13033 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 13034 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 13035 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 13036 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 13037 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 13038 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 13039 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 13040 % U+021F LATIN SMALL LETTER H WITH CARON  
 13041 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 13042 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 13043 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 13044 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 13045 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 13046 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 13047 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 13048 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 13049 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 13050 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 13051 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 13052 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 13053 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 13054 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13055 \DeclareTextCompositeCommand{=} {PU}{Y}{\82\062}% U+0232  
 13056 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13057 \DeclareTextCompositeCommand{=} {PU}{y}{\82\063}% U+0233  
 13058 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13059 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13060 % U+02C7 CARON; caron  
 13061 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13062 % U+02D8 BREVE; breve  
 13063 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13064 % U+02D9 DOT ABOVE; dotaccent  
 13065 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13066 % U+02DA RING ABOVE; ring  
 13067 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13068 % U+02DB OGONEK; ogonek  
 13069 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13070 % U+02DC SMALL TILDE; ilde, \*tilde  
 13071 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13072 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13073 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13074 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD

13075 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13076 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13077 % U+02F7 MODIFIER LETTER LOW TILDE  
 13078 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13079 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13080 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13081 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13082 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13083 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13084 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13085 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13086 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13087 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13088 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

13089 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13090 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13091 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13092 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13093 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 13094 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13095 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13096 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13097 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13098 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13099 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13100 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13101 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13102 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 13103 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 13104 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 13105 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 13106 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 13107 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis  
 13108 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 13109 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 13110 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 13111 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 13112 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 13113 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 13114 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 13115 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 13116 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 13117 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 13118 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 13119 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 13120 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 13121 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 13122 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 13123 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 13124 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 13125 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 13126 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 13127 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa

13128 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13129 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13130 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13131 % U+039C GREEK CAPITAL LETTER MU; Mu  
13132 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13133 % U+039D GREEK CAPITAL LETTER NU; Nu  
13134 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13135 % U+039E GREEK CAPITAL LETTER XI; Xi  
13136 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13137 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13138 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13139 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13140 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13141 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13142 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13143 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13144 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13145 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13146 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13147 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13148 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13149 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13150 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13151 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13152 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13153 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13154 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13155 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13156 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13157 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13158 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13159 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13160 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
13161 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13162 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13163 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13164 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
13165 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13166 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
13167 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13168 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
13169 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13170 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis  
13171 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
13172 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
13173 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13174 % U+03B2 GREEK SMALL LETTER BETA; beta  
13175 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13176 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13177 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13178 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13179 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13180 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13181 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13182 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13183 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13184 % U+03B7 GREEK SMALL LETTER ETA; eta

13185 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13186 % U+03B8 GREEK SMALL LETTER THETA; theta  
13187 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13188 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13189 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13190 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13191 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13192 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13193 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13194 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13195 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13196 % U+03BD GREEK SMALL LETTER NU; nu  
13197 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13198 % U+03BE GREEK SMALL LETTER XI; xi  
13199 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13200 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13201 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13202 % U+03C0 GREEK SMALL LETTER PI; pi  
13203 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13204 % U+03C1 GREEK SMALL LETTER RHO; rho  
13205 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13206 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13207 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13208 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
13209 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
13210 % U+03C4 GREEK SMALL LETTER TAU; tau  
13211 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
13212 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
13213 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
13214 % U+03C6 GREEK SMALL LETTER PHI; phi  
13215 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
13216 % U+03C7 GREEK SMALL LETTER CHI; chi  
13217 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
13218 % U+03C8 GREEK SMALL LETTER PSI; psi  
13219 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
13220 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
13221 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
13222 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
13223 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
13224 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis  
13225 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
13226 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; microntonos  
13227 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
13228 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
13229 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
13230 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
13231 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
13232 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
13233 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
13234 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
13235 % U+03DB GREEK SMALL LETTER STIGMA  
13236 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
13237 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
13238 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
13239 % U+03DD GREEK SMALL LETTER DIGAMMA  
13240 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
13241 % U+03DE GREEK LETTER KOPPA; Koppagreek

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13242 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13243 % U+03DF GREEK SMALL LETTER KOPPA
13244 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13245 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13246 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13247 % U+03E1 GREEK SMALL LETTER SAMPI
13248 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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## 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.

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13249 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13250 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13251 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrillic, *afii10023
13252 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13253 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13254 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13255 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13256 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13257 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13258 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrillic, *afii10053
13259 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13260 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13261 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13262 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrillic, *afii10055
13263 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13264 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrillic, *afii10056
13265 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13266 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13267 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13268 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13269 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13270 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13271 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13272 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13273 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13274 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13275 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13276 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13277 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13278 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13279 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrillic, *afii10062
13280 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13281 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13282 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrillic, *afii10145
13283 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
13284 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
13285 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
13286 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
13287 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
13288 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
13289 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
13290 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
13291 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
13292 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
13293 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
13294 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022

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13295 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13296 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13297 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13298 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13299 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13300 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13301 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13302 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13303 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13304 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13305 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13306 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13307 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13308 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13309 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13310 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13311 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13312 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13313 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13314 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13315 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13316 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13317 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13318 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
13319 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13320 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13321 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13322 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13323 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13324 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13325 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13326 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
13327 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
13328 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13329 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
13330 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13331 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13332 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13333 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13334 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13335 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13336 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13337 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13338 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13339 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
13340 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13341 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13342 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13343 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13344 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13345 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
13346 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13347 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
13348 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13349 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13350 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13351 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic

13352 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13353 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13354 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13355 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13356 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13357 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13358 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13359 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13360 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13361 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13362 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
13363 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13364 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13365 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
13366 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13367 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13368 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13369 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13370 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13371 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13372 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13373 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
13374 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13375 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13376 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13377 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13378 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13379 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13380 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13381 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13382 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13383 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13384 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
13385 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
13386 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13387 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13388 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13389 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13390 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13391 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13392 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13393 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13394 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13395 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
13396 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13397 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13398 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13399 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13400 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13401 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13402 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13403 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
13404 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13405 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
13406 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13407 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C  
13408 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic

13409 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
13410 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13411 \DeclareTextCommand{\cyrju}{PU}{\84\116}% U+044E  
13412 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13413 \DeclareTextCommand{\cyrja}{PU}{\84\117}% U+044F  
13414 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13415 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13416 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13417 \DeclareTextCommand{\cyrjo}{PU}{\84\121}% U+0451  
13418 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13419 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13420 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13421 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13422 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13423 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13424 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13425 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13426 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13427 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13428 \DeclareTextCommand{\cyrri}{PU}{\84\126}% U+0456  
13429 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13430 \DeclareTextCommand{\cyrji}{PU}{\84\127}% U+0457  
13431 \DeclareTextCompositeCommand{\"}{PU}{\cyrri}{\84\127}% U+0457  
13432 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13433 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13434 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13435 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
13436 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13437 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13438 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13439 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13440 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13441 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
13442 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13443 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13444 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13445 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13446 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13447 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13448 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13449 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13450 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13451 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13452 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13453 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
13454 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13455 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13456 \DeclareTextCommand{\cyrjat}{PU}{\84\143}% U+0463  
13457 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13458 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13459 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13460 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13461 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13462 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13463 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13464 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13465 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic



13466 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13467 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic  
13468 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13469 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13470 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13471 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13472 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13473 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13474 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13475 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13476 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13477 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13478 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13479 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13480 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13481 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13482 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13483 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13484 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13485 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13486 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13487 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13488 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13489 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
13490 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13491 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13492 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13493 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13494 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13495 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13496 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13497 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
13498 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
13499 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
13500 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
13501 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
13502 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
13503 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
13504 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
13505 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
13506 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
13507 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
13508 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
13509 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
13510 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
13511 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
13512 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
13513 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
13514 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
13515 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
13516 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
13517 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
13518 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-

cyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 13519 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 13520 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 13521 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 13522 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 13523 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 13524 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 13525 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 13526 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 13527 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 13528 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 13529 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 13530 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 13531 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 13532 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 13533 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 13534 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 13535 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 13536 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 13537 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 13538 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 13539 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 13540 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 13541 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 13542 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 13543 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 13544 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 13545 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 13546 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 13547 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 13548 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 13549 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 13550 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 13551 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499  
 13552 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 13553 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 13554 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 13555 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 13556 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 13557 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic  
 13558 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 13559 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic  
 13560 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 13561 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 13562 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 13563 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 13564 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 13565 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 13566 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 13567 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 13568 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 13569 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic

13570 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
13571 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endscendercyrillic  
13572 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
13573 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
13574 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
13575 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
13576 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
13577 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
13578 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
13579 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
13580 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
13581 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
13582 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
13583 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
13584 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
13585 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
13586 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
13587 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
13588 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
13589 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
13590 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
13591 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
13592 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
13593 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
13594 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
13595 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
13596 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
13597 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
13598 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
13599 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
13600 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
13601 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
13602 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
13603 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
13604 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13605 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
13606 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13607 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13608 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13609 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13610 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
13611 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13612 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
13613 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
13614 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
13615 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
13616 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
13617 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
13618 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
13619 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
13620 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
13621 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
13622 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
13623 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
13624 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
13625 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
13626 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD

13627 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
 13628 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 13629 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 13630 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
 13631 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 13632 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 13633 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 13634 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 13635 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 13636 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 13637 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 13638 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 13639 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 13640 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 13641 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 13642 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 13643 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 13644 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 13645 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 13646 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
 13647 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 13648 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 13649 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 13650 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 13651 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
 13652 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 13653 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
 13654 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 13655 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 13656 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 13657 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 13658 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 13659 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 13660 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 13661 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 13662 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 13663 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 13664 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
 13665 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 13666 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
 13667 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 13668 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 13669 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 13670 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 13671 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic  
 13672 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 13673 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic  
 13674 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 13675 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 13676 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 13677 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 13678 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 13679 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiescyrillic  
 13680 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 13681 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiescyrillic  
 13682 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB

13683 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
13684 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
13685 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
13686 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD  
13687 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
13688 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
13689 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
13690 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
13691 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
13692 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
13693 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
13694 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
13695 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
13696 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2  
13697 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
13698 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3  
13699 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
13700 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
13701 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
13702 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
13703 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
13704 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
13705 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
13706 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
13707 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
13708 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
13709 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
13710 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
13711 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
13712 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
13713 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
13714 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
13715 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
13716 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
13717 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
13718 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
13719 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
13720 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
13721 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
13722 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
13723 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
13724 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
13725 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
13726 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
13727 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
13728 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
13729 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
13730 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
13731 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
13732 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
13733 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
13734 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
13735 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
13736 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
13737 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
13738 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
13739 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic

13740 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13741 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresis Cyrillic  
 13742 \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  
 13743 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13744 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 13745 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13746 \DeclareTextCommand{\cyrrhk}{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

13747 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13748 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

13749 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13750 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 13751 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13752 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 13753 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 13754 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 13755 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 13756 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 13757 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 13758 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 13759 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 13760 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 13761 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 13762 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 13763 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 13764 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 13765 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 13766 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 13767 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 13768 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 13769 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 13770 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
 13771 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 13772 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
 13773 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
 13774 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
 13775 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
 13776 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
 13777 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
 13778 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
 13779 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
 13780 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
 13781 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
 13782 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
 13783 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
 13784 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
 13785 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
 13786 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28

13787 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
13788 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
13789 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
13790 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
13791 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
13792 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
13793 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
13794 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
13795 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
13796 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
13797 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
13798 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
13799 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
13800 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
13801 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
13802 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
13803 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
13804 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
13805 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
13806 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
13807 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
13808 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
13809 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
13810 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
13811 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
13812 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
13813 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
13814 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
13815 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
13816 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
13817 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
13818 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
13819 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
13820 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
13821 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
13822 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
13823 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
13824 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
13825 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
13826 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
13827 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
13828 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
13829 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
13830 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
13831 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
13832 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
13833 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
13834 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
13835 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
13836 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
13837 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
13838 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
13839 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
13840 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
13841 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
13842 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
13843 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde

13844 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
13845 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
13846 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\200}% U+1E80  
13847 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
13848 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81  
13849 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
13850 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\202}% U+1E82  
13851 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
13852 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
13853 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
13854 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\204}% U+1E84  
13855 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
13856 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
13857 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
13858 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\206}% U+1E86  
13859 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
13860 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
13861 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
13862 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
13863 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
13864 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
13865 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
13866 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
13867 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
13868 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
13869 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
13870 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
13871 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
13872 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
13873 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
13874 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
13875 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
13876 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
13877 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
13878 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
13879 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
13880 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
13881 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
13882 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
13883 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
13884 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
13885 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
13886 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
13887 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
13888 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
13889 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
13890 \DeclareTextCompositeCommand{\.}{PU}{\textlongS}{\9036\233}% U+1E9B  
13891 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
13892 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
13893 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
13894 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
13895 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
13896 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
13897 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
13898 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
13899 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
13900 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8



13901 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 13902 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

13903 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 13904 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 13905 % U+2013 EN DASH; endash  
 13906 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 13907 % U+2014 EM DASH; emdash  
 13908 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 13909 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 13910 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 13911 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13912 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 13913 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13914 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 13915 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13916 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 13917 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13918 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 13919 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 13920 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 13921 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 13922 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 13923 % U+2020 DAGGER; dagger  
 13924 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 13925 % U+2021 DOUBLE DAGGER; daggerdbl  
 13926 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 13927 % U+2022 BULLET; bullet  
 13928 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 13929 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13930 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 13931 % U+2030 PER MILLE SIGN; perthousand  
 13932 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 13933 % U+2031 PER TEN THOUSAND SIGN  
 13934 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 13935 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 13936 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 13937 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 13938 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 13939 % U+203B REFERENCE MARK; referencemark  
 13940 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 13941 % U+203D INTERROBANG  
 13942 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 13943 % U+2044 FRACTION SLASH; fraction  
 13944 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 13945 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 13946 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 13947 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 13948 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 13949 % U+2052 COMMERCIAL MINUS SIGN  
 13950 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

## 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

13951 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 13952 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 13953 % U+2074 SUPERSCRIPT FOUR; foursuperior

13954 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 13955 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 13956 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 13957 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 13958 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 13959 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 13960 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 13961 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 13962 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 13963 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 13964 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 13965 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 13966 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 13967 % U+207B SUPERSCRIPT MINUS  
 13968 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 13969 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 13970 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 13971 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 13972 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 13973 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 13974 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 13975 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 13976 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 13977 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 13978 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 13979 % U+2081 SUBSCRIPT ONE; oneinferior  
 13980 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 13981 % U+2082 SUBSCRIPT TWO; twoinferior  
 13982 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 13983 % U+2083 SUBSCRIPT THREE; threeinferior  
 13984 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 13985 % U+2084 SUBSCRIPT FOUR; fourinferior  
 13986 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 13987 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 13988 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 13989 % U+2086 SUBSCRIPT SIX; sixinferior  
 13990 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 13991 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 13992 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 13993 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 13994 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 13995 % U+2089 SUBSCRIPT NINE; nineinferior  
 13996 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 13997 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 13998 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 13999 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14000 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

## 50.2.14 Currency Symbols: U+20A0 to U+20CF

14001 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14002 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14003 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14004 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14005 % U+20A6 NAIRA SIGN  
 14006 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14007 % U+20A7 PESETA SIGN; peseta  
 14008 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7

14009 % U+20A9 WON SIGN; won  
 14010 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14011 % U+20AB DONG SIGN; dong  
 14012 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14013 % U+20AC EURO SIGN; \*Euro, euro  
 14014 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14015 % U+20B1 PESO SIGN  
 14016 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14017 % U+20B2 GUARANI SIGN  
 14018 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 50.2.15 Letterlike Symbols: U+2100 to U+214F

14019 % U+2103 DEGREE CELSIUS; centigrade  
 14020 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14021 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14022 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14023 % U+2117 SOUND RECORDING COPYRIGHT  
 14024 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14025 % U+211E PRESCRIPTION TAKE; prescription  
 14026 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14027 % U+2120 SERVICE MARK  
 14028 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14029 % U+2122 TRADE MARK SIGN; trademark  
 14030 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14031 % U+2126 OHM SIGN; Ohm, Omega  
 14032 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14033 % U+2127 INVERTED OHM SIGN  
 14034 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14035 % U+212B ANGSTROM SIGN; angstrom  
 14036 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14037 % U+212E ESTIMATED SYMBOL; estimated  
 14038 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 14039 % U+2135 ALEF SYMBOL; aleph  
 14040 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

14041 % U+2190 LEFTWARDS ARROW; arrowleft  
 14042 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14043 % U+2191 UPWARDS ARROW; arrowup  
 14044 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14045 % U+2192 RIGHTWARDS ARROW; arrowright  
 14046 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14047 % U+2193 DOWNWARDS ARROW; arrowdown  
 14048 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

14049 % U+2212 MINUS SIGN; minus  
 14050 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14051 % U+221A SQUARE ROOT; radical  
 14052 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14053 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 14054 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 14055 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 14056 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

## 50.2.19 Control Pictures: U+2400 to U+243F

14057 % U+2422 BLANK SYMBOL  
14058 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
14059 % U+2423 OPEN BOX; blank  
14060 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

## 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14061 % U+2460 CIRCLED DIGIT ONE; onecircle  
14062 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
14063 % U+2461 CIRCLED DIGIT TWO; twocircle  
14064 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
14065 % U+2462 CIRCLED DIGIT THREE; threecircle  
14066 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
14067 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
14068 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
14069 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
14070 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
14071 % U+2465 CIRCLED DIGIT SIX; sixcircle  
14072 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
14073 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
14074 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
14075 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
14076 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
14077 % U+2468 CIRCLED DIGIT NINE; ninecircle  
14078 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
14079 % U+2469 CIRCLED NUMBER TEN; tencircle  
14080 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
14081 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
14082 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
14083 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
14084 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
14085 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14086 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14087 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14088 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14089 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14090 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14091 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14092 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14093 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14094 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14095 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14096 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14097 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14098 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14099 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14100 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14101 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14102 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14103 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14104 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14105 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14106 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14107 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14108 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14109 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14110 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA

14111 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14112 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14113 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14114 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14115 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14116 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14117 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14118 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14119 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14120 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14121 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14122 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14123 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14124 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14125 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14126 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14127 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14128 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14129 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14130 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14131 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14132 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14133 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
14134 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14135 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14136 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
14137 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
14138 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
14139 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
14140 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
14141 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
14142 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
14143 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
14144 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
14145 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
14146 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
14147 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
14148 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
14149 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
14150 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
14151 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
14152 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
14153 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
14154 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
14155 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
14156 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
14157 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
14158 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
14159 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
14160 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
14161 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
14162 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
14163 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
14164 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
14165 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
14166 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
14167 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle

14168 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 14169 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 14170 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 14171 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcicle  
 14172 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 14173 % U+24DA CIRCLED LATIN SMALL LETTER K; kcicle  
 14174 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 14175 % U+24DB CIRCLED LATIN SMALL LETTER L; lcicle  
 14176 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 14177 % U+24DC CIRCLED LATIN SMALL LETTER M; mcicle  
 14178 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 14179 % U+24DD CIRCLED LATIN SMALL LETTER N; ncicle  
 14180 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 14181 % U+24DE CIRCLED LATIN SMALL LETTER O; ocicle  
 14182 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 14183 % U+24DF CIRCLED LATIN SMALL LETTER P; pcicle  
 14184 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 14185 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcicle  
 14186 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 14187 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcicle  
 14188 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 14189 % U+24E2 CIRCLED LATIN SMALL LETTER S; scicle  
 14190 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 14191 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcicle  
 14192 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 14193 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucicle  
 14194 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 14195 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcicle  
 14196 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 14197 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcicle  
 14198 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 14199 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcicle  
 14200 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14201 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycicle  
 14202 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14203 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcicle  
 14204 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14205 % U+24EA CIRCLED DIGIT ZERO  
 14206 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

14207 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14208 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14209 % U+25EF LARGE CIRCLE; largecircle  
 14210 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14211 % U+266A EIGHTH NOTE; musicalnote  
 14212 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14213 % U+26AD MARRIAGE SYMBOL  
 14214 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14215 % U+26AE DIVORCE SYMBOL  
 14216 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14217 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14218 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6

```

14219 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14220 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```

14221 % U+FB01 LATIN SMALL LIGATURE FI; fi
14222 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14223 % U+FB02 LATIN SMALL LIGATURE FL; fl
14224 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

### 50.2.25 Miscellaneous

```

14225 \DeclareTextCommand{\SS}{PU}{SS}

```

### 50.2.26 Aliases

Aliases (german.sty)

```

14226 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14227 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14228 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14229 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14230 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14231 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14232 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14233 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

14234 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14235 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14236 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14237 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14238 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14239 </puenc>

```

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

14240 <*puvnenc>

14241 \DeclareTextCommand{\abreve}{PU}{\81\003}
14242 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14243 \DeclareTextCommand{\dj}{PU}{\81\021}
14244 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14245 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14246 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14247 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14248 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14249 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14250 \DeclareTextCommand{\DJ}{PU}{\81\020}
14251 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14252 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14253 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14254 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14255 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14256 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14257 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14258 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14259 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14260 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}

```

14261 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}  
14262 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}  
14263 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}  
14264 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}  
14265 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}  
14266 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}  
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14374 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}

14375 </puvnenc>

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

14376 <\*puarenc>

```
14377 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14378 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14379 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14380 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
14381 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14382 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14383 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14384 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14385 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14386 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14387 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14388 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14389 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14390 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14391 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14392 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14393 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14394 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14395 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14396 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14397 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14398 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14399 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14400 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14401 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14402 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
14403 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWHEEL
14404 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14405 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14406 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14407 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14408 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14409 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14410 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14411 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14412 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14413 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14414 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14415 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14416 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14417 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14418 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14419 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14420 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14421 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi
14422 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14423 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14424 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
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14425 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
14426 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14427 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LETTER YEH

14428 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14429 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14430 \puarenc

```

## 51 End of file hyccheck.tex

```

14431 \*check
14432 \typeout{}
14433 \begin{document}
14434 \end{document}
14435 \check

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