

# 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  
`\Hy@ReturnAfterFi` `\if`-nesting especially for recursive macros.

```

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

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

```

### 5.2 Babel's protection of shorthand characters

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

```

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

```

### 5.3 Coordinate transformations

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

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

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

Example (T<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\textP\textparagraph
412 \let\ldots\textellipsis
413 \let\dots\textellipsis
```

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

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

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

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

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

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

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

```
416 \def\TeX{\TeX}%
417 \def\LaTeX{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 expandable commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

```
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  $\TeX$ 's argument parsing. With this method we must take the following item into account, that makes things a little more complicate:

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

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

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

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

```
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.lfd 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 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.

```
627 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
628 \DeclareFontFamily{PD1}{pdf}{}
629 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
630 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

### 6.3.2 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.

```
631 \def\HyPsd@InitUnicode{%
632   \ifundefined{T@PU}{\input{puenc.def}}{}%
633   \DeclareFontFamily{PU}{pdf}{}%
634   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
635   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
636   \let\HyPsd@InitUnicode\relax
637 }
```

## 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 T<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```
638 \def\texorpdfstring{%
639   \ifHy@pdfstring
640     \expandafter\@secondoftwo
641   \else
642     \expandafter\@firstoftwo
643   \fi
644 }
```

### 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`.

```
645 \@ifundefined{pdfstringdefPreHook}{%
646   \let\pdfstringdefPreHook\@empty
647 }{}
648 \@ifundefined{pdfstringdefPostHook}{%
```

```

649 \let\pdfstringdefPostHook\@gobble
650 }{}

```

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

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

```

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

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

651 \def\pdfstringdefDisableCommands{%
652   \begingroup
653     \makeatletter
654     \HyPsd@DisableCommands
655 }

```

`\HyPsd@DisableCommands`

```

656 \long\def\HyPsd@DisableCommands#1{%
657   \toks0=\expandafter{\pdfstringdefPreHook}%
658   \toks1={#1}%
659   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
660   \endgroup
661 }

```

`\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`.

```

662 \def\pdfstringdefWarn#1{%
663   \expandafter\noexpand\csname\<>-string#1\endcsname
664 }

```

## 6.5 Help macros for expansion

### 6.5.1 Babel languages

```

665 \newif\ifHy@next

```

Nothing to do for english.

```

666 \ifundefined{danish@sh@}{sel}{}{%
667   \def\HyPsd@babel@danish{%
668     \declare@shorthand{danish}{|}{|}%
669     \declare@shorthand{danish}{~}{-}%
670   }%

```

```

671 }
672 \@ifundefined{dutch@sh@"@sel}{-}{%
673   \def\HyPsd@babel@dutch{%
674     \declare@shorthand{dutch}{-}{-}%
675     \declare@shorthand{dutch}{-}{-}%
676   }%
677 }
678 \@ifundefined{finnish@sh@"@sel}{-}{%
679   \def\HyPsd@babel@finnish{%
680     \declare@shorthand{finnish}{-}{-}%
681   }%
682 }
683 \@ifundefined{french@sh@"@sel}{-}{%
684   \def\HyPsd@babel@frenchb{%
685     \def\guill@spacing{ }%
686   }%
687 }
688 \@ifundefined{german@sh@"@sel}{-}{%
689   \def\HyPsd@babel@german{%
690     \declare@shorthand{german}{f}{f}%
691     \declare@shorthand{german}{-}{-}%
692     \declare@shorthand{german}{-}{-}%
693   }%
694 }
695 \@ifundefined{macedonian@sh@"@sel}{-}{%
696   \def\HyPsd@babel@macedonian{%
697     \declare@shorthand{macedonian}{-}{-}%
698     \declare@shorthand{macedonian}{-}{-}%
699   }%
700 }{-}
701 \@ifundefined{ngerman@sh@"@sel}{-}{%
702   \def\HyPsd@babel@ngerman{%
703     \declare@shorthand{ngerman}{-}{-}%
704     \declare@shorthand{ngerman}{-}{-}%
705   }%
706 }
707 \@ifundefined{portuges@sh@"@sel}{-}{%
708   \def\HyPsd@babel@portuges{%
709     \declare@shorthand{portuges}{-}{-}%
710   }%
711 }
712 \@ifundefined{russian@sh@"@sel}{-}{%
713   \def\HyPsd@babel@russian{%
714     \declare@shorthand{russian}{-}{-}%
715     \declare@shorthand{russian}{-}{-}%
716   }%
717 }
718 \@ifundefined{slovene@sh@"@sel}{-}{%
719   \def\HyPsd@babel@slovene{%
720     \declare@shorthand{slovene}{-}{-}%
721   }%
722 }

```

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

```

723 \@ifundefined{spanish@sh@>@sel}{-}{%
724   \def\HyPsd@babel@spanish{%
725     \declare@shorthand{spanish}{<<}{\guillemotleft}%
726     \declare@shorthand{spanish}{>>}{\guillemotright}%

```

```

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

```

```

784         \expandafter \@gobble \expandafter #1 \number #2%
785     \else
786         \ifnum #2 < 100 %
787             \expandafter \HyPsd@GreekNumII
788             \expandafter \@gobble \expandafter #1 \number #2%
789         \else
790             \expandafter \HyPsd@GreekNumIII
791             \expandafter \@gobble \expandafter #1 \number #2%
792         \fi
793     \fi
794     \ifnum #2 > \z@
795         \textnumeralsigngreek
796     \fi
797 \else
798     \ifnum #2 < \@M
799         \expandafter \HyPsd@GreekNumIV \expandafter #1 \number #2%
800     \else
801         \ifnum #2 < 100000 %
802             \expandafter \HyPsd@GreekNumV \expandafter #1 \number #2%
803         \else
804             \expandafter \HyPsd@GreekNumVI \expandafter #1 \number #2%
805         \fi
806     \fi
807 \fi
808 }
809 \def \HyPsd@GreekNumI#1#2#3{%
810     #1{%
811         \ifnum #3 > \z@
812             \textnumeralsignlowergreek
813         \fi
814     }%
815     \expandafter #2%
816     \ifcase #3 %
817         {}{}%
818         \or \textalpha \textAlpha
819         \or \textbeta \textBeta
820         \or \textgamma \textGamma
821         \or \textdelta \textDelta
822         \or \textepsilon \textEpsilon
823         \or \textstigmagreek \textStigmagreek
824         \or \textzeta \textZeta
825         \or \texteta \textEta
826         \or \texttheta \textTheta
827     \else
828         {}{}%
829     \fi
830 }
831 \def \HyPsd@GreekNumII#1#2#3#4{%
832     #1{%
833         \ifnum #3 > \z@
834             \textnumeralsignlowergreek
835         \fi
836     }%
837     \expandafter #2%
838     \ifcase #3 %
839         {}{}%
840         \or \textiota \textIota

```

```

841 \or\textkappa\textKappa
842 \or\textlambda\textLambda
843 \or\textmu\textMu
844 \or\textnu\textNu
845 \or\textxi\textXi
846 \or\textomicron\textOmicron
847 \or\textpi\textPi
848 \or\textkoppagreek\textKoppagreek
849 \else
850   {}{}%
851 \fi
852 \HyPsd@GreekNumI#1#2#4%
853 }
854 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
855   #1{%
856     \ifnum#3>\z@
857       \textnumeralsignlowergreek
858     \fi
859   }%
860   \expandafter#2%
861   \ifcase#3 %
862     {}{}%
863     \or\textrho\textRho
864     \or\textsigma\textSigma
865     \or\texttau\textTau
866     \or\textupsilon\textUpsilon
867     \or\textphi\textPhi
868     \or\textchi\textChi
869     \or\textpsi\textPsi
870     \or\textomega\textOmega
871     \or\textsampigreek\textSampigreek
872   \else
873     {}{}%
874   \fi
875   \HyPsd@GreekNumII#1#2#4#5%
876 }
877 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
878   \HyPsd@GreekNumI\@firstofone#1#2%
879   \HyPsd@@GreekNum#1{#3#4#5}%
880 }
881 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
882   \HyPsd@GreekNumII\@firstofone#1#2#3%
883   \HyPsd@@GreekNum#1{#4#5#6}%
884 }
885 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
886   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
887   \HyPsd@@GreekNum#1{#5#6#7}%
888 }

```

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

```

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

```

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

```

920 \def\HyPsd@CJKActiveChars#1{%
921   \ifx#1!%
922     \let\HyPsd@CJKActiveChars\relax
923   \else
924     \edef#1{\noexpand\Hy@cjkpu\string#1}%
925   \fi
926   \HyPsd@CJKActiveChars
927 }

```

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

```

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

```

```

939 \or H\or I\or J\or K\or L\or M\or N\or O%
940 \or P\or Q\or R\or S\or T\or U\or V\or W%
941 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
942 \or \140\or a\or b\or c\or d\or e\or f\or g%
943 \or h\or i\or j\or k\or l\or m\or n\or o%
944 \or p\or q\or r\or s\or t\or u\or v\or w%
945 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
946 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
947 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
948 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
949 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
950 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
951 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
952 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
953 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
954 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
955 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
956 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
957 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
958 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
959 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
960 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
961 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
962 \fi
963 }

```

### 6.5.3 \@inmathwarn-Patch

\HyPsd@inmathwarn The patch of \@inmathwarn is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in ltoutenc.dtx changes. Checked with L<sup>A</sup>T<sub>E</sub>X 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 (L<sup>A</sup>T<sub>E</sub>X 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}

964 \def\HyPsd@inmathwarn#1#2{%
965   \ifx#2\expandafter
966     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
967       \HyPsd@GLYPHERR
968       \expandafter\@gobble\string#1%
969       >%
970       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
971     \else
972       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
973     \fi
974   \else
975     \expandafter#2%
976   \fi
977 }
978 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
979 \def\HyPsd@EndWithElse#1\else\else}

```

\HyPsd@add@accent

```

980 \def\HyPsd@add@accent#1#2{%
981   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
982   #2%
983 }%

```

#### 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.

```

984 \def\HyPsd@LetUnexpandableSpace#1{%
985   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
986 }

```

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

```

987 \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.

```
988 \edef\HyPsd@XSPACE{\string#\string X}
989 \edef\HyPsd@ITALCORR{\string#\string I}
990 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.6 `\hspace` fix

`\HyPsd@hspace`

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

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

```
992 \def\HyPsd@@hspace#1*#2\END{%
993   \ifx\#2\%
994     \HyPsd@hspacetest{#1}%
995   \else
996     \expandafter\HyPsd@hspacetest
997   \fi
998 }
```

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

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

### 6.5.7 Fix for AMS classes

```
1000 \@ifundefined{tocsection}{%
1001   \let\HyPsd@AMSclassfix\relax
1002 }{%
1003   \def\HyPsd@AMSclassfix{%
1004     \let\tocpart\HyPsd@tocsection
1005     \let\tocchapter\HyPsd@tocsection
1006     \let\tocappendix\HyPsd@tocsection
1007     \let\tocsection\HyPsd@tocsection
1008     \let\tocsubsection\HyPsd@tocsection
1009     \let\tocsubsubsection\HyPsd@tocsection
1010     \let\tocparagraph\HyPsd@tocsection
1011   }%
1012   \def\HyPsd@tocsection#1#2#3{%
1013     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1014     #3%
1015   }%
1016 }
```

### 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.

```
1017 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1018 \def\HyPsd@@ref#1*#2\END{%
```

```

1019 \ifx\#2\%
1020 \HyPsd@@@ref{#1}%
1021 \else
1022 \expandafter\HyPsd@@@ref
1023 \fi
1024 }%

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

1025 \def\HyPsd@@@ref#1{%
1026 \expandafter\ifx\csname r@#1\endcsname\relax
1027 ??%
1028 \else
1029 \expandafter\expandafter\expandafter
1030 \@car\csname r@#1\endcsname\@nil
1031 \fi
1032 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1033 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

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

1034 \def\HyPsd@@pageref#1*#2END{%
1035 \ifx\#2\%
1036 \HyPsd@@@pageref{#1}%
1037 \else
1038 \expandafter\HyPsd@@@pageref
1039 \fi
1040 }

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

1041 \def\HyPsd@@@pageref#1{%
1042 \expandafter\ifx\csname r@#1\endcsname\relax
1043 ??%
1044 \else
1045 \expandafter\expandafter\expandafter\expandafter
1046 \expandafter\expandafter\expandafter\@car
1047 \expandafter\expandafter\expandafter\@gobble
1048 \csname r@#1\endcsname{}\@nil
1049 \fi
1050 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1051 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

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

1052 \def\HyPsd@@nameref#1*#2END{%
1053 \ifx\#2\%
1054 \HyPsd@@@nameref{#1}%
1055 \else
1056 \expandafter\HyPsd@@@nameref
1057 \fi
1058 }

```

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

```

1059 \def\HyPsd@@@nameref#1{%
1060   \expandafter\ifx\csname r@#1\endcsname\relax
1061     ??%
1062   \else
1063     \expandafter\expandafter\expandafter\expandafter
1064     \expandafter\expandafter\expandafter\@car
1065     \expandafter\expandafter\expandafter\@gobbletwo
1066     \csname r@#1\endcsname\}\}\@nil
1067   \fi
1068 }

```

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

```

1069 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1070 \def\HyPsd@@autoref#1*#2\END{%
1071   \ifx\#2\%
1072     \HyPsd@@@autoref{#1}%
1073   \else
1074     \expandafter\HyPsd@@@autoref
1075   \fi
1076 }

```

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

```

1077 \def\HyPsd@@@autoref#1{%
1078   \expandafter\ifx\csname r@#1\endcsname\relax
1079     ??%
1080   \else
1081     \expandafter\expandafter\expandafter\HyPsd@autorefname
1082     \csname r@#1\endcsname\}\}\}\@nil
1083     \expandafter\expandafter\expandafter
1084     \@car\csname r@#1\endcsname\@nil
1085   \fi
1086 }

```

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

```

1087 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1088   \ifx\#4\%
1089   \else
1090     \HyPsd@@autorefname#4.\@nil
1091   \fi
1092 }

```

`\HyPsd@@autorefname`

```

1093 \def\HyPsd@@autorefname#1.#2\@nil{%
1094   \@ifundefined{#1autorefname}{%
1095     \@ifundefined{#1name}{%
1096       }{%
1097         \csname#1name\endcsname\space
1098       }%
1099     }{%
1100       \csname#1autorefname\endcsname\space
1101     }%
1102 }

```

### 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
1103 \begingroup
1104   \def\x#1#2{%
1105     \endgroup
1106     \let#1\def
1107     \def\HyPsd@DefCommand##1##2##{%
1108       #1%
1109       \expandafter\noexpand
1110         \csname\expandafter\@gobble\string##1\@empty\endcsname
1111       \@gobble
1112     }%
1113     \let#2\let
1114     \def\HyPsd@@LetCommand##1{%
1115       \expandafter\ifx\csname##1\expandafter\endcsname
1116         \csname iftrue\endcsname
1117       \pdfstringdefWarn\let
1118       \expandafter\@gobble
1119     \else
1120       \expandafter\ifx\csname##1\expandafter\endcsname
1121         \csname iffalse\endcsname
1122       \pdfstringdefWarn\let
1123       \expandafter\expandafter\expandafter\@gobble
1124     \else
1125       #2%
1126       \expandafter\noexpand
1127       \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1128         \fi
1129     \fi
1130 }%
1131 }%
1132 \expandafter\x\csname <def>-command\expandafter\endcsname
1133         \csname <let>-command\endcsname
1134 \def\HyPsd@LetCommand#1{%
1135     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1136     \expandafter\expandafter\expandafter{%
1137     \expandafter\@gobble\string#1\@empty
1138 }%
1139 }

```

### 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.

```

1140 \def\HyPsd@ifnextchar{%
1141     \pdfstringdefWarn\@ifnextchar
1142     \expandafter\@gobbletwo\@gobble
1143 }

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\@ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report [latex/3662](https://tex.stackexchange.com/questions/3662).

```

1144 \def\HyPsd@new@ifnextchar{%
1145     \pdfstringdefWarn\new@ifnextchar
1146     \expandafter\@gobbletwo\@gobble
1147 }

```

### 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`.

```

1148 \def\HyPsd@protected@testopt#1{%
1149     \pdfstringdefWarn#1%
1150     \@gobbletwo
1151 }

```

## 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:

```

1152 \def\HyPsd@Warning#1{%
1153     \begingroup
1154     \def\space{ }%
1155     \Hy@Warning{#1}%
1156 \endgroup
1157 }

```



## 6.6.2 Protecting spaces

```

1158 \RequirePackage{etexcmds}[2007/09/09]
1159 \ifetex@unexpanded
1160   \expandafter\@secondoftwo
1161 \else
1162   \expandafter\@firstoftwo
1163 \fi
1164 {%

```

`\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`.

```

1165   \def\HyPsd@ProtectSpaces#1{%
1166     \iftrue
1167       \expandafter\HyPsd@@ProtectSpacesFi
1168       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1169     \fi
1170   }%

```

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

```

1171   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1172     \fi
1173     \ifx\scrollmode#2\scrollmode
1174       \HyPsd@RemoveMask#1\HyPsd@End#3%
1175     \else
1176       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1177       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1178     \fi
1179   }%

```

### 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.

```

1180   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1181     \toks@\expandafter{#1}%
1182     \xdef#2{\the\toks@}%
1183   }%

1184 }{%
1185   \let\HyPsd@fi\fi
1186   \def\HyPsd@ProtectSpaces#1{%
1187     \xdef#1{%
1188       \iftrue
1189         \expandafter\HyPsd@@ProtectSpacesFi
1190         \expandafter|\expandafter\@empty#1| %
1191       \HyPsd@fi
1192     }%
1193     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1194   }%
1195   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1196     \fi
1197     \etex@unexpanded{#1}%
1198     \ifx\scrollmode#2\scrollmode
1199     \else
1200       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1201 \HyPsd@fi
1202 }%
1203 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1204 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1205 }%
1206 }

```

### 6.6.3 Remove grouping braces

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

```

1207 \def\HyPsd@RemoveBraces#1{%
1208 \ifx\scrollmode#1\scrollmode
1209 \else
1210 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1211 \fi
1212 }

```

`\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`.

```

1213 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1214 \fi
1215 \def\Hy@temp@A{#1#2}%
1216 \def\Hy@temp@B{#3}%
1217 \ifx\Hy@temp@A\Hy@temp@B
1218 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1219 \HyPsd@String#1%
1220 }%
1221 \ifx\scrollmode#2\scrollmode
1222 \else
1223 \Hy@ReturnAfterFiFiEnd{%
1224 \HyPsd@RemoveBraces{#2}%
1225 }%
1226 \fi
1227 \else
1228 \def\Hy@temp@A{#1}%
1229 \HyPsd@AppendItalcorr\HyPsd@String
1230 \ifx\Hy@temp@A\empty
1231 \Hy@ReturnAfterElseFiFiEnd{%
1232 \HyPsd@RemoveBraces{#2}%
1233 }%
1234 \else
1235 \HyPsd@ProtectSpaces\Hy@temp@A
1236 \HyPsd@AppendItalcorr\Hy@temp@A
1237 \Hy@ReturnAfterFiFiEnd{%
1238 \expandafter\HyPsd@RemoveBraces\expandafter
1239 {\Hy@temp@A#2}%
1240 }%
1241 \fi
1242 \fi

```

```

1243 \Hy@ReturnEnd
1244 }

```

\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.

```

1245 \def\HyPsd@AppendItalcorr#1{%
1246 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1247 }
1248 \def\HyPsd@@AppendItalcorr#1#2{%
1249 \expandafter\def\expandafter#2\expandafter{#2#1}%
1250 }

```

#### 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).

```

1251 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1252 \global\let\HyPsd@Rest\relax
1253 \ifcat\relax\noexpand#1\relax
1254 \ifx#1\protect
1255 \else
1256 \ifx#1\penalty
1257 \setbox\z@=\hbox{%
1258 \afterassignment\HyPsd@AfterCountRemove
1259 \count@=#2\HyPsd@End
1260 }%
1261 \else
1262 \ifx#1\kern
1263 \setbox\z@=\hbox{%
1264 \afterassignment\HyPsd@AfterDimenRemove
1265 \dimen@=#2\HyPsd@End
1266 }%
1267 \else
1268 \ifx#1\hskip
1269 \setbox\z@=\hbox{%
1270 \afterassignment\HyPsd@AfterSkipRemove
1271 \skip@=#2\HyPsd@End
1272 }%
1273 \else
1274 \HyPsd@CatcodeWarning{#1}%
1275 \fi
1276 \fi
1277 \fi
1278 \fi
1279 \else
1280 \ifcat#1A% letter
1281 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1282     \HyPsd@String#1%
1283   }%
1284   \else
1285     \ifcat#1 % SPACE
1286       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1287         \HyPsd@String\HyPsd@SPACEOPTI
1288       }%
1289   \else
1290     \ifcat$#1%
1291       \HyPsd@CatcodeWarning{math shift}%
1292   \else
1293     \ifcat&#1%
1294       \HyPsd@CatcodeWarning{alignment tab}%
1295   \else
1296     \ifcat^#1%
1297       \HyPsd@CatcodeWarning{superscript}%
1298   \else
1299     \ifcat_#1%
1300       \HyPsd@CatcodeWarning{subscript}%
1301   \else
1302     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1303       \HyPsd@String#1%
1304     }%
1305   \fi
1306 \fi
1307 \fi
1308 \fi
1309 \fi
1310 \fi
1311 \fi
1312 \ifx\HyPsd@Rest\relax
1313   \ifx\scrollmode#2\scrollmode
1314   \else
1315     \Hy@ReturnAfterFiFiEnd{%
1316       \HyPsd@CheckCatcodes#2\HyPsd@end
1317     }%
1318   \fi
1319 \else
1320   \ifx\HyPsd@Rest\@empty
1321   \else
1322     \Hy@ReturnAfterFiFiEnd{%
1323       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@end
1324     }%
1325   \fi
1326 \fi
1327 \Hy@ReturnEnd
1328 }

```

### Remove counts, dimens, skips.

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

```

1329 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
1330   \gdef\HyPsd@Rest{#1}%
1331 }

```

\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.

```

1332 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1333   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1334     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1335     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1336   \else
1337     \ifdim\dimen@=\z@
1338     \else
1339       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1340     \fi
1341     \gdef\HyPsd@Rest{#1}%
1342   \fi
1343 }

```

**\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).

```

1344 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1345   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1346     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1347     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1348   \else
1349     \ifdim\skip@=\z@
1350     \else
1351       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1352     \fi
1353     \gdef\HyPsd@Rest{#1}%
1354   \fi
1355 }

```

### Catcode warnings.

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

```

1356 \def\HyPsd@CatcodeWarning#1{%
1357   \HyPsd@Warning{%
1358     Token not allowed in a PDF string (%
1359     \ifHy@unicode
1360       Unicode%
1361     \else
1362       PDFDocEncoding%
1363     \fi
1364     ):%
1365     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1366   }%
1367 }
1368 \begingroup
1369   \catcode‘\|=0 %
1370   \catcode‘\|=12 %
1371   \gdef\HyPsd@RemoveCmdPrefix#1{%
1372     \expandafter\HyPsd@@RemoveCmdPrefix
1373     \string#1\@empty\<>-|\@empty|\@empty
1374   }%
1375   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1376 \endgroup

```

**\HyPsd@RemoveSpaceWarning**

```

1377 \def\HyPsd@RemoveSpaceWarning#1{%
1378   \HyPsd@Warning{%
1379     Token not allowed in a PDF string (
1380     \ifHy@unicode
1381       Unicode%
1382     \else
1383       PDFDocEncoding%
1384     \fi
1385   ):%
1386   \MessageBreak #1\MessageBreak
1387   removed%
1388 }%
1389 }

```

\HyPsd@ReplaceSpaceWarning

```

1390 \def\HyPsd@ReplaceSpaceWarning#1{%
1391   \HyPsd@Warning{%
1392     Token not allowed in a PDF string (
1393     \ifHy@unicode
1394       Unicode%
1395     \else
1396       PDFDocEncoding%
1397     \fi
1398   ):%
1399   \MessageBreak #1\MessageBreak
1400   replaced by space%
1401 }%
1402 }

```

### 6.6.5 Check for wrong glyphs

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

```

1403 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1404   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1405     \HyPsd@String#1%
1406   }%
1407   \ifx\#2\%
1408   \else
1409     \Hy@ReturnAfterFi{%
1410       \HyPsd@GlyphProcessWarning#2\@empty
1411     }%
1412   \fi
1413 }
1414 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1415   \HyPsd@@GlyphProcessWarning#1++>%
1416   \HyPsd@GlyphProcess#2\@empty
1417 }
1418 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1419   \ifx\#2\%
1420     \HyPsd@Warning{%
1421       Glyph not defined in %
1422       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1423       removing '@backslashchar#1'%
1424     }%
1425   \else
1426     \HyPsd@Warning{%

```

```

1427     Composite letter '@backslashchar#1+#2'\MessageBreak
1428     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1429     \MessageBreak
1430     removing '@backslashchar#1'%
1431 }%
1432 \fi
1433 }

```

### 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`.

```

1434 \def\HyPsd@spaceopti#1{ % first space
1435   \ifx\HyPsd@spaceopti#1%
1436     \040%
1437   \else
1438     #1%
1439   \fi
1440 }%

```

### 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.

```

1441 \def\HyPsd@Subst#1#2#3{%
1442   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1443     \fi
1444     ##1%
1445     \ifx\scrollmode##2\scrollmode
1446     \else
1447       #2%
1448       \HyPsd@@ReplaceFi##2\END
1449     \fi
1450   }%
1451   \xdef#3{%
1452     \iftrue
1453       \expandafter\HyPsd@@ReplaceFi#3#1\END
1454     \fi
1455   }%
1456 }

```

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

```

1457 \def\HyPsd@StringSubst#1{%
1458   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1459 }

```

### 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.

```

1460 \def\HyPsd@doxspace#1{%
1461   \ifx#1\relax\else
1462     \ifx#1.\else
1463       \ifx#1:\else
1464         \ifx#1,\else
1465         \ifx#1;\else
1466         \ifx#1!\else
1467         \ifx#1?\else
1468         \ifx#1/\else
1469         \ifx#1-\else
1470         \ifx#1'\else
1471         \HyPsd@SPACEOPTI
1472       \fi
1473     \fi
1474   \fi
1475 \fi
1476 \fi
1477 \fi
1478 \fi
1479 \fi
1480 \fi
1481 \fi
1482 #1%
1483 }%

```

### 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.

```

1484 \begingroup
1485   \catcode'\|=0 %
1486   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1487 |gdef|HyPsd@ConvertToUnicode#1{%
1488   |xdef#1{%
1489     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1490   }%
1491   |ifx#1|@empty
1492   |else
1493     |xdef#1{%
1494       \376\377%
1495       #1%
1496     }%
1497   |fi
1498 }%

```

\HyPsd@DoConvert

```

1499 |gdef|HyPsd@DoConvert#1{%
1500   |ifx#1|@empty
1501   |else
1502     |Hy@ReturnAfterFi{%
1503       |ifx#1\%%
1504       \%%
1505       |expandafter|HyPsd@DoEscape

```



```

1506         |else
1507         \000#1%
1508         |expandafter|HyPsd@DoConvert
1509         |fi
1510     }%
1511 |fi
1512 }%

```

\HyPsd@DoEscape

```

1513 |gdef|HyPsd@DoEscape#1{%
1514     |ifx#19%
1515     |expandafter|HyPsd@GetTwoBytes
1516     |else
1517     |Hy@ReturnAfterFi{%
1518     |ifx#18%
1519     00%
1520     |expandafter|HyPsd@GetTwoBytes
1521     |else
1522     #1%
1523     |expandafter|HyPsd@GetOneByte
1524     |fi
1525     }%
1526 |fi
1527 }%

```

\HyPsd@GetTwoBytes

```

1528 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1529     #1\#2#3#4%
1530     |HyPsd@DoConvert
1531     }%

```

\HyPsd@GetOneByte

```

1532 |gdef|HyPsd@GetOneByte#1#2{%
1533     #1#2%
1534     |HyPsd@DoConvert
1535     }%
1536 |endgroup

```

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

```

1537 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1538     \xdef#4{#4#1#2}%
1539     \HyPsd@@ConvertToUnicode#3\END#4%
1540 }

```

## 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

```

```

1541 \begingroup\expandafter\expandafter\expandafter\endgroup
1542 \expandafter\ifx\csname numexpr\endcsname\relax
1543   \let\HyPsd@UTFviii\relax
1544 \else
1545   \begingroup
1546     \lccode'\~='^f4\relax
1547   \lowercase{\endgroup
1548     \def\HyPsd@UTFviii{%
1549       \let\UTFviii@two@octets\HyPsd@UTFviii@two
1550       \let\UTFviii@three@octets\HyPsd@UTFviii@three
1551       \let\UTFviii@four@octets\HyPsd@UTFviii@four
1552       \ifx~\HyPsd@UTFviii@ccxliv@undef
1553         \let~\HyPsd@UTFviii@ccxliv@def
1554       \fi
1555       \let\unichar\HyPsd@unichar
1556     }%
1557   }%
1558   \def\HyPsd@UTFviii@ccxliv@undef{\@inpc@undefined@{utf8}}%
1559   \edef\HyPsd@UTFviii@ccxliv@def{%
1560     \noexpand\UTFviii@four@octets\string ~^f4%
1561   }%

```

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.

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

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

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

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

$$(5)$$

```

1562 \def\HyPsd@UTFviii@two#1#2{%
1563   \expandafter\HyPsd@UTFviii@two
1564   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1565   \number'#1\expandafter|%
1566   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1567   \number'#2 \@nil
1568 }%
1569 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1570   \expandafter\8%
1571   \number\dimexpr #1-48\expandafter\relax
1572   \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
1573   \number\dimexpr #3-8*%
1574   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1575   \number\dimexpr #4-8*#3\relax
1576 }%

```

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

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

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

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

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

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

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

(12)

```

1577 \def\HyPsd@UTFviii@three#1#2#3{%
1578   \expandafter\HyPsd@UTFviii@three
1579   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1580   \number'#1\expandafter|
1581   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1582   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1583   \number'#2\expandafter|
1584   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1585   \number'#3 \@nil
1586 }%
1587 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1588   \expandafter\%
1589   \number\numexpr #1-56\expandafter\relax
1590   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1591   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1592   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1593   \number\numexpr #6-16\expandafter\relax
1594   \number\numexpr #7-8*#6\relax
1595 }%

```

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

```

UTF-8:  11110uuu    10uuzzzz    10yyyyyy    10xxxxxx
www =  uuuu - 1
UTF-16: 110110ww    wwzzzzyy    11011yy    yyxxxxxx
octal:  011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1596 \def\HyPsd@UTFviii@four#1#2{%
1597   \expandafter\HyPsd@UTFviii@four\number
1598   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1599   \expandafter|\number
1600   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
1601 }%
1602 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1603   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1604   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1605   \ifodd#2 %
1606     \number\numexpr(#2-1)/2\relax
1607   \else
1608     \number\numexpr#2/2\relax
1609   \fi
1610   \number\numexpr\ifodd#2 4+\fi
1611   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1612   \933%
1613   \expandafter\HyPsd@@UTFviii@four\number
1614   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|
1615 }%
1616 \def\HyPsd@@UTFviii@four#1|#2{%
1617   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1618   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1619   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1620   \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1621 }%

```

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

```

1622 \def\HyPsd@unichar#1{%
1623   \ifHy@unicode
1624     \ifnum#1>"10FFFF %
1625       \HyPsd@UnicodeReplacementCharacter % illegal
1626     \else
1627       \ifnum#1>"FFFF %

```

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

```

1628     \expandafter\HyPsd@unichar\expandafter{%
1629       \number\numexpr 55296+%
1630       \dimexpr.0009765625\dimexpr\number#1sp-\p@
1631       \relax\relax\relax
1632     }%

```

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

```

1633     \expandafter\HyPsd@unichar\expandafter{%
1634       \number\numexpr#1-9216%
1635       -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1636       \relax\relax\relax
1637     }%
1638   \else
1639     \ifnum#1>"7FF %
1640       \9%
1641       \expandafter\HyPsd@unichar@first@byte\expandafter{%
1642         \number
1643         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1644       }%
1645     \else
1646       \8%
1647       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1648     \fi
1649     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1650       \number
1651       \numexpr#1-256*\number
1652       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1653     }%
1654   \fi
1655 \fi
1656 \else
1657   .% unsupported (Unicode -> PDF Doc Encoding)
1658 \fi
1659 }%
1660 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1661 \def\HyPsd@unichar@first@byte#1{%
1662   \number\dimexpr.015625\dimexpr#1sp\relax\relax
1663   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1664     \number
1665     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1666     \relax\relax\relax
1667   }%
1668 }%
1669 \def\HyPsd@unichar@second@byte#1{%
1670   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1671   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1672     \number
1673     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%

```

```

1674     \relax\relax\relax
1675   }%
1676 }%
1677 \def\HyPsd@unichar@octtwo#1{%
1678   \number\dimexpr.125\dimexpr#1sp\relax\relax
1679   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1680   \relax\relax\relax
1681 }%
1682 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```

1683 \@ifclassloaded{memoir}{%
1684   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1685 }{}

```

### 7.2 Package subfigure

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

```

1686 \@ifpackageloaded{subfigure}{%
1687   \@ifundefined{sub@label}{%
1688     \Hy@hypertexnamesfalse
1689   }{%
1690     \renewcommand*{\sub@label}[1]{%
1691       \bsphack
1692       \subfig@oldlabel{#1}%
1693       \if@filesw
1694         \begingroup
1695         \edef\@currentlabstr{%
1696           \expandafter\strip@prefix\meaning\@currentlabelname
1697         }%
1698         \protected@write\@auxout{}{%
1699           \string\newlabel{sub@#1}{%
1700             {\@nameuse{@@thesub\@capttype}}%
1701             {\thepage}%
1702             {%
1703               \expandafter\strip@period\@currentlabstr
1704               \relax.\relax\@@%
1705             }%
1706             {\@currentHref}%
1707             {}%
1708           }%
1709         }%
1710       \endgroup
1711     }%
1712     \esphack
1713   }%
1714   \@ifpackagelater{subfigure}{2002/03/26}{%
1715     \providecommand*{\toclevel@subfigure}{1}%
1716     \providecommand*{\toclevel@subtable}{1}%
1717   }%
1718 }%
1719 }{}

```

### 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:

```
1720 \@ifundefined{XR@addURL}{%
1721 }{%
```

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.

```
1722 \def\xR@addURL#1{\XR@dURL#1{}{}{}{}\\}%
1723 \def\xR@dURL#1#2#3#4#5\{%
1724   {#1}-{#2}%
1725   \if!#4!%
1726   \else
1727     {#3}-{#4}{\XR@URL}%
1728   \fi
1729 }%
1730 }
```

```
1731 \def\Hy@true{true}
1732 \def\Hy@false{false}
```

Providing dummy definitions.

```
1733 \let\literalps@out@gobble
1734 \newcommand\pdfbookmark[3][]{ }
1735 \def\Acrobatmenu#1#2{\leavevmode#2}
1736 \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

```
1737 \let\HyperRaiseLinkHook\@empty
1738 \def\HyperRaiseLinkDefault{\baselineskip}
```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```
1739 \def\Hy@raisedlink#1{%
1740   \ifvmode
1741     #1%
1742   \else
1743     \penalty\@M
1744     \smash{%
1745       \begingroup
1746         \let\HyperRaiseLinkLength\@tempdima
1747         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1748         \HyperRaiseLinkHook
1749       \expandafter\endgroup
1750       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%

```

```

1751 }%
1752 \fi
1753 }

```

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

```

\Hy@RestoreLastskip
1754 \def\Hy@SaveLastskip{%
1755   \let\Hy@RestoreLastskip\relax
1756   \ifvmode
1757     \ifdim\lastskip=\z@
1758       \let\Hy@RestoreLastskip\nobreak
1759     \else
1760       \begingroup
1761         \skip@=-\lastskip
1762         \edef\x{%
1763           \endgroup
1764           \def\noexpand\Hy@RestoreLastskip{%
1765             \noexpand\ifvmode
1766               \noexpand\nobreak
1767               \vskip\the\skip@
1768               \vskip\the\lastskip\relax
1769             \noexpand\fi
1770           }%
1771         }%
1772       \x
1773     \fi
1774   \else
1775     \ifhmode
1776       \ifdim\lastskip=\z@
1777         \let\Hy@RestoreLastskip\nobreak
1778       \else
1779         \begingroup
1780           \skip@=-\lastskip
1781           \edef\x{%
1782             \endgroup
1783             \def\noexpand\Hy@RestoreLastskip{%
1784               \noexpand\ifhmode
1785                 \noexpand\nobreak
1786                 \hskip\the\skip@
1787                 \hskip\the\lastskip\relax
1788               \noexpand\fi
1789             }%
1790           }%
1791         \x
1792       \fi
1793     \fi
1794   \fi
1795 }%

```

## 9 Options

### 9.1 Help macros

```

\Hy@boolkey
1796 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1797 \def\Hy@@boolkey[#1]#2#3{%
1798   \lowercase{\def\Hy@tempa{#3}}%

```

```

1799 \ifx\Hy@tempa\@empty
1800   \let\Hy@tempa\Hy@true
1801 \fi
1802 \ifx\Hy@tempa\Hy@true
1803 \else
1804   \ifx\Hy@tempa\Hy@false
1805   \else
1806     \let\Hy@tempa\relax
1807   \fi
1808 \fi
1809 \ifx\Hy@tempa\relax
1810   \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1811 \else
1812   \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1813   \csname Hy@#2\Hy@tempa\endcsname
1814 \fi
1815 }

```

\Hy@WarnOptionValue

```

1816 \def\Hy@WarnOptionValue#1#2#3{%
1817   \Hy@Warning{%
1818     Unexpected value ‘#1’\MessageBreak
1819     of option ‘#2’ instead of\MessageBreak
1820     #3%
1821   }%
1822 }

```

\Hy@DisableOption

```

1823 \def\Hy@DisableOption#1{%
1824   \@ifundefined{KV@Hyp@#1@default}{%
1825     \define@key{Hyp}{#1}%
1826   }{%
1827     \define@key{Hyp}{#1}[]%
1828   }%
1829   {\Hy@WarnOptionDisabled{#1}}%
1830 }

```

\Hy@WarnOptionDisabled

```

1831 \def\Hy@WarnOptionDisabled#1{%
1832   \Hy@Warning{%
1833     Option ‘#1’ has already been used,\MessageBreak
1834     setting the option has no effect%
1835   }%
1836 }

```

\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.

```

1837 \def\Hy@CheckOptionValue#1#2#3{%
1838   \begingroup
1839   \edef\x{#1}%
1840   \@onelevel@sanitize\x
1841   \let\y=%
1842   \def\do##1##2{%
1843     \def\z{##1}%
1844     \@onelevel@sanitize\z
1845     \ifx\x\z
1846       \let\y=n%

```



```

1847         \let\do\@gobbletwo
1848     \fi
1849 }%
1850 #3%
1851 \ifx\y y%
1852     \def\do##1##2{%
1853         * '##1'%
1854         \ifx\##2\\\else\space(##2)\fi
1855         \MessageBreak
1856     }%
1857     \Hy@Warning{%
1858         Values of option '#2':\MessageBreak
1859         #3%
1860         * An empty value disables the option.\MessageBreak
1861         Unknown value '\x'%
1862     }%
1863 \fi
1864 \endgroup
1865 }

```

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

```

1866 \def\Hy@DefNameKey#1{%
1867     \expandafter\Hy@DefNameKey\csname @#1\endcsname{#1}%
1868 }

```

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

```

1869 \def\Hy@@DefNameKey#1#2#3{%
1870     \define@key{Hyp}{#2}{%
1871         \edef#1{##1}%
1872         \ifx#1\@empty
1873             \else
1874                 \Hy@CheckOptionValue{##1}{#2}{#3}%
1875             \fi
1876     }%
1877     \let#1\@empty
1878 }

```

`\Hy@UseNameKey`

```

1879 \def\Hy@UseNameKey#1#2{%
1880     \ifx#2\@empty
1881     \else
1882         /#1/#2%
1883     \fi
1884 }

```

## 9.2 Defining the options

```

1885 \define@key{Hyp}{implicit}[true]{%
1886     \Hy@boolkey{implicit}{#1}%
1887 }
1888 \define@key{Hyp}{draft}[true]{%
1889     \Hy@boolkey{draft}{#1}%

```

```

1890 }
1891 \define@key{Hyp}{final}[true]{%
1892   \Hy@boolkey{final}{#1}%
1893 }
1894 \let\KV@Hyp@nolinks\KV@Hyp@draft
1895 \define@key{Hyp}{a4paper}[true]{%
1896   \def\special@paper{210mm,297mm}%
1897   \def\Hy@pageheight{842}%
1898 }
1899 \define@key{Hyp}{a5paper}[true]{%
1900   \def\special@paper{148mm,210mm}%
1901   \def\Hy@pageheight{595}%
1902 }
1903 \define@key{Hyp}{b5paper}[true]{%
1904   \def\special@paper{176mm,250mm}%
1905   \def\Hy@pageheight{709}%
1906 }
1907 \define@key{Hyp}{letterpaper}[true]{%
1908   \def\special@paper{8.5in,11in}%
1909   \def\Hy@pageheight{792}%
1910 }
1911 \define@key{Hyp}{legalpaper}[true]{%
1912   \def\special@paper{8.5in,14in}%
1913   \def\Hy@pageheight{1008}%
1914 }
1915 \define@key{Hyp}{executivepaper}[true]{%
1916   \def\special@paper{7.25in,10.5in}%
1917   \def\Hy@pageheight{720}%
1918 }
1919 \define@key{Hyp}{setpagesize}[true]{%
1920   \Hy@boolkey{setpagesize}{#1}%
1921 }
1922 \define@key{Hyp}{debug}[true]{%
1923   \Hy@boolkey{debug}{verbose}{#1}%
1924 }
1925 \define@key{Hyp}{linktocpage}[true]{%
1926   \Hy@boolkey{linktocpage}{#1}%
1927   \ifHy@linktocpage
1928     \let\Hy@linktoc\Hy@linktoc@page
1929   \else
1930     \let\Hy@linktoc\Hy@linktoc@section
1931   \fi
1932 }
1933 \chardef\Hy@linktoc@none=0 %
1934 \chardef\Hy@linktoc@section=1 %
1935 \chardef\Hy@linktoc@page=2 %
1936 \chardef\Hy@linktoc@all=3 %
1937 \ifHy@linktocpage
1938   \let\Hy@linktoc\Hy@linktoc@page
1939 \else
1940   \let\Hy@linktoc\Hy@linktoc@section
1941 \fi
1942 \define@key{Hyp}{linktoc}{%
1943   \@ifundefined{Hy@linktoc@#1}{%
1944     \Hy@Warning{%
1945       Unexpected value ‘#1’ of\MessageBreak
1946       option ‘linktoc’ instead of ‘none’,\MessageBreak

```

```

1947     'section', 'page' or 'all'%
1948   }%
1949 }{%
1950   \expandafter\let\expandafter\Hy@linktoc
1951   \csname Hy@linktoc@#1\endcsname
1952 }%
1953 }
1954 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1955 \let\XR@ext\relax
1956 \define@key{Hyp}{verbose}[true]{%
1957   \Hy@boolkey{verbose}{#1}%
1958 }
1959 \define@key{Hyp}{typexml}[true]{%
1960   \Hy@boolkey{typexml}{#1}%
1961 }

```

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.

```

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

```

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

```

1965 \def\Hy@setbreaklinks#1{%
1966   \csname breaklinks#1\endcsname
1967 }
1968 \def\Hy@breaklinks@unsupported{%
1969   \ifx\Hy@setbreaklinks@gobble
1970     \ifHy@breaklinks
1971       \Hy@WarningNoLine{%
1972         You have enabled option 'breaklinks'.\MessageBreak
1973         But driver '\Hy@driver.def' does not support this.\MessageBreak
1974         Expect trouble with the link areas of broken links%
1975       }%
1976     \fi
1977   \fi
1978 }
1979 \define@key{Hyp}{breaklinks}[true]{%
1980   \Hy@boolkey{breaklinks}{#1}%
1981   \let\Hy@setbreaklinks@gobble
1982 }

```

Determines whether an automatic anchor is put on each page

```

1983 \define@key{Hyp}{pageanchor}[true]{%
1984   \Hy@boolkey{pageanchor}{#1}%
1985 }

```

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.

```

1986 \define@key{Hyp}{plainpages}[true]{%
1987   \Hy@boolkey{plainpages}{#1}%
1988 }

```

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

```

1989 \define@key{Hyp}{naturalnames}[true]{%
1990   \Hy@boolkey{naturalnames}{#1}%

```

1991 }

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

```
1992 \define@key{Hyp}{hypertexnames}[true]{%
1993   \Hy@boolkey{hypertexnames}{#1}%
1994 }
```

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

```
1995 \define@key{Hyp}{nesting}[true]{%
1996   \Hy@boolkey{nesting}{#1}%
1997 }

1998 \define@key{Hyp}{unicode}[true]{%
1999   \Hy@boolkey{unicode}{#1}%
2000   \ifHy@unicode
2001     \def\HyPsd@pdfencoding{unicode}%
2002   \else
2003     \def\HyPsd@pdfencoding{pdfdoc}%
2004   \fi
2005   \HyPsd@LoadUnicode
2006 }

2007 \def\HyPsd@LoadUnicode{%
2008   \@ifundefined{T@PU}{\input{puenc.def}}{}%
2009   \DeclareFontFamily{PU}{pdf}{}%
2010   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2011   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2012   \global\let\HyPsd@LoadUnicode\relax
2013 }

2014 \AtBeginDocument{%
2015   \ifx\HyPsd@LoadUnicode\relax
2016   \else
2017     \def\HyPsd@LoadUnicode{%
2018       \PackageError{hyperref}{%
2019         Unicode support for bookmarks is not available.\MessageBreak
2020         Activate unicode support by using one of the options\MessageBreak
2021         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2022         in the preamble%
2023       }@ehc
2024       \global\let\HyPsd@LoadUnicode\relax
2025       \global\Hy@unicodetrue
2026       \global\let\Hy@unicodetrue\Hy@unicodetrue
2027     }%
2028   \fi
2029 }

2030 \define@key{Hyp}{pdfencoding}{%
2031   \edef\HyPsd@temp{#1}%
2032   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2033     \let\HyPsd@pdfencoding\HyPsd@temp
2034     \Hy@unicodetrue
2035   \else
2036     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2037       \z@
2038     \else
2039       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2040         \z@
2041       \else
2042         \@ne
2043       \fi
```

```

2044         \fi
2045         \let\HyPsd@pdfencoding\HyPsd@temp
2046         \hypersetup{unicode}%
2047         \ifHy@unicode
2048             \def\HyPsd@pdfencoding{#1}%
2049             \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2050                 \HyPsd@LoadStringEnc
2051             \fi
2052         \else
2053             \Hy@Warning{Cannot switch to unicode bookmarks}%
2054             \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2055         \fi
2056     \else
2057         \@onelevel@sanitize\HyPsd@temp
2058         \Hy@Warning{%
2059             Values of option 'pdfencoding':\MessageBreak
2060             'pdfdoc', 'unicode', 'auto'.\MessageBreak
2061             Ignoring unknown value '\HyPsd@temp'%
2062         }%
2063     \fi
2064 \fi
2065 }
2066 \def\HyPsd@pdfencoding@auto{auto}
2067 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2068 \def\HyPsd@pdfencoding@unicode{unicode}
2069 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2070 \def\HyPsd@LoadStringEnc{%
2071     \RequirePackage{stringenc}[2007/06/14]%
2072     \let\HyPsd@LoadStringEnc\relax
2073 }
2074 \AtBeginDocument{%
2075     \@ifpackageloaded{stringenc}{%
2076         \let\HyPsd@LoadStringEnc\relax
2077     }{%
2078         \def\HyPsd@LoadStringEnc{%
2079             \Hy@WarningNoLine{%
2080                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2081                 in the preamble or load the package there%
2082             }%
2083         }%
2084     }%
2085 }
2086 \newif\ifHy@setpdfversion
2087 \define@key{Hyp}{pdfversion}{%
2088     \@ifundefined{Hy@pdfversion@#1}{%
2089         \PackageWarning{hyperref}{%
2090             Unsupported PDF version '#1'.\MessageBreak
2091             Valid values: 1.2 until 1.9%
2092         }%
2093     }{%
2094         \Hy@setpdfversiontrue
2095         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2096     }%
2097 }
2098 \@namedef{Hy@pdfversion@1.2}{2}%
2099 \@namedef{Hy@pdfversion@1.3}{3}%
2100 \@namedef{Hy@pdfversion@1.4}{4}%

```

```

2101 \@namedef{Hy@pdfversion@1.5}{5}%
2102 \@namedef{Hy@pdfversion@1.6}{6}%
2103 \@namedef{Hy@pdfversion@1.7}{7}%
2104 \@namedef{Hy@pdfversion@1.8}{8}%
2105 \@namedef{Hy@pdfversion@1.9}{9}%
2106 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2107 \define@key{Hyp}{hyperref}[true]{%
2108 \define@key{Hyp}{tex4ht}[true]{%
2109   \Hy@texhttrue
2110   \setkeys{Hyp}{colorlinks=true}%
2111   \def\BeforeTeXIVht{\usepackage{color}}%
2112   \def\Hy@driver{htex4ht}%
2113   \def\MaybeStopEarly{%
2114     \typeout{Hyperref stopped early}%
2115     \AfterBeginDocument{%
2116       \PDF@FinishDoc
2117       \gdef\PDF@FinishDoc{}%
2118     }%
2119     \endinput
2120   }%
2121 }
2122 \define@key{Hyp}{pdftex}[true]{%
2123   \def\Hy@driver{hpdftex}%
2124 }
2125 \define@key{Hyp}{nativepdf}[true]{%
2126   \def\Hy@driver{hdvips}%
2127 }
2128 \define@key{Hyp}{dvipdfm}[true]{%
2129   \def\Hy@driver{hdvipdfm}%
2130 }
2131 \define@key{Hyp}{dvipdfmx}[true]{%
2132   \def\Hy@driver{hdvipdfm}%
2133 }
2134 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2135   \expandafter\ifx\csname if#1\expandafter\endcsname
2136     \csname iftrue\endcsname
2137     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2138   \else
2139     \chardef\SpecialDvipdfmxOutlineOpen\z@
2140   \fi
2141 }
2142 \define@key{Hyp}{xetex}[true]{%
2143   \def\Hy@driver{hdvipdfm}%
2144 }
2145 \define@key{Hyp}{pdfmark}[true]{%
2146   \def\Hy@driver{hdvips}%
2147 }
2148 \define@key{Hyp}{dvips}[true]{%
2149   \def\Hy@driver{hdvips}%
2150 }
2151 \define@key{Hyp}{hypertex}[true]{%
2152   \def\Hy@driver{hypertex}%
2153 }
2154 \let\Hy@MaybeStopNow\relax

```

```

2155 \define@key{Hyp}{vtex}[true]{%
2156   \begingroup\expandafter\expandafter\expandafter\endgroup
2157   \expandafter\ifx\csname OpMode\endcsname\relax
2158     \@latex@error{Non-VTeX processor}{}%
2159     \global\let\Hy@MaybeStopNow\endinput
2160     \endinput
2161   \else
2162     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2163     \def\Hy@driver{hvtex}%
2164   \else
2165     \ifnum\OpMode=10\relax
2166       \def\Hy@driver{hvtexhtm}%
2167       \def\MaybeStopEarly{%
2168         \typeout{Hyperref stopped early}%
2169         \AfterBeginDocument{%
2170           \PDF@FinishDoc
2171           \gdef\PDF@FinishDoc{}%
2172         }%
2173       \endinput
2174     }%
2175   \else
2176     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2177     \global\let\Hy@MaybeStopNow\endinput
2178     \endinput
2179   \fi
2180 \fi
2181 \fi
2182 }
2183 \define@key{Hyp}{vtexpdfmark}[true]{%
2184   \begingroup\expandafter\expandafter\expandafter\endgroup
2185   \expandafter\ifx\csname OpMode\endcsname\relax
2186     \@latex@error{Non-VTeX processor}{}%
2187     \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{hvtexmrk}%
2192   \else
2193     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2194     \let\Hy@MaybeStopNow\endinput
2195     \endinput
2196   \fi
2197 \fi
2198 }
2199 \define@key{Hyp}{dviwindo}[true]{%
2200   \def\Hy@driver{hdvwind}%
2201   \setkeys{Hyp}{colorlinks}%
2202   \PassOptionsToPackage{dviwindo}{color}%
2203 }
2204 \define@key{Hyp}{dvipsone}[true]{%
2205   \def\Hy@driver{hdvipson}%
2206 }
2207 \define@key{Hyp}{textures}[true]{%
2208   \def\Hy@driver{htexture}%
2209 }
2210 \define@key{Hyp}{latex2html}[true]{%
2211   \AtBeginDocument{\@latextohtmlX}%

```

```
2212 }
```

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

```
2213 \define@key{Hyp}{ps2pdf}[true]{%
2214   \def\Hy@driver{hdvips}%
2215   \providecommand*\@pdfborder{0 0 1}%
2216 }
```

## 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.

```
2217 \define@key{Hyp}{hyperfigures}[true]{%
2218   \Hy@boolkey[hyperfigures]{figures}{#1}%
2219 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2220 \define@key{Hyp}{hyperfootnotes}[true]{%
2221   \Hy@boolkey[hyperfootnotes]{#1}%
2222 }
```

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

```
2223 \def\back@none{none}
2224 \def\back@section{section}
2225 \def\back@page{page}
2226 \def\back@slide{slide}
2227 \define@key{Hyp}{backref}[section]{%
2228   \lowercase{\def\Hy@tempa{#1}}%
2229   \ifx\Hy@tempa\@empty
2230     \let\Hy@tempa\back@section
2231   \fi
2232   \ifx\Hy@tempa\Hy@false
2233     \let\Hy@tempa\back@none
2234   \fi
2235   \ifx\Hy@tempa\back@slide
2236     \let\Hy@tempa\back@section
2237   \fi
2238   \ifx\Hy@tempa\back@page
2239     \PassOptionsToPackage{hyperpageref}{backref}%
2240     \Hy@backreftrue
2241   \else
2242     \ifx\Hy@tempa\back@section
2243       \PassOptionsToPackage{hyperref}{backref}%
2244       \Hy@backreftrue
2245     \else
2246       \ifx\Hy@tempa\back@none
2247         \Hy@backreffalse
2248       \else
2249         \Hy@WarnOptionValue{#1}{backref}{%
2250           'section', 'slide', 'page', 'none', \MessageBreak
2251           or 'false'}%
2252       \fi
2253     \fi
2254   \fi
2255 }
2256 \define@key{Hyp}{pagebackref}[true]{%
2257   \lowercase{\def\Hy@tempa{#1}}%
2258   \ifx\Hy@tempa\@empty
```



```

2259 \let\Hy@tempa\Hy@true
2260 \fi
2261 \ifx\Hy@tempa\Hy@true
2262 \PassOptionsToPackage{hyperpageref}{backref}%
2263 \Hy@backreftrue
2264 \else
2265 \ifx\Hy@tempa\Hy@false
2266 \Hy@backreffalse
2267 \else
2268 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2269 \fi
2270 \fi
2271 }

```

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

```

2272 \define@key{Hyp}{hyperindex}[true]{%
2273 \Hy@boolkey{hyperindex}{#1}%
2274 }

```

Configuration of encap char.

```

2275 \define@key{Hyp}{encap}[\l]{%
2276 \def\HyInd@EncapChar{#1}%
2277 }

```

## 12 Language options

The \autoref feature depends on the language.

```

2278 \def\HyLang@afrikaans{%
2279 \def\equationautorefname{Vergelyking}%
2280 \def\footnoteautorefname{Voetnota}%
2281 \def\itemautorefname{Item}%
2282 \def\figureautorefname{Figuur}%
2283 \def\tableautorefname{Tabel}%
2284 \def\partautorefname{Deel}%
2285 \def\appendixautorefname{Bylae}%
2286 \def\chapterautorefname{Hoofstuk}%
2287 \def\sectionautorefname{Afdeling}%
2288 \def\subsectionautorefname{Subafdeling}%
2289 \def\subsubsectionautorefname{Subsubafdeling}%
2290 \def\paragraphautorefname{Paragraaf}%
2291 \def\subparagraphautorefname{Subparagraaf}%
2292 \def\FancyVerbLineautorefname{Lyn}%
2293 \def\theoremautorefname{Teorema}%
2294 \def\pageautorefname{Bladsy}%
2295 }
2296 \def\HyLang@english{%
2297 \def\equationautorefname{Equation}%
2298 \def\footnoteautorefname{footnote}%
2299 \def\itemautorefname{item}%
2300 \def\figureautorefname{Figure}%
2301 \def\tableautorefname{Table}%
2302 \def\partautorefname{Part}%
2303 \def\appendixautorefname{Appendix}%
2304 \def\chapterautorefname{chapter}%
2305 \def\sectionautorefname{section}%
2306 \def\subsectionautorefname{subsection}%

```

```

2307 \def\subsubsectionautorefname{subsubsection}%
2308 \def\paragraphautorefname{paragraph}%
2309 \def\subparagraphautorefname{subparagraph}%
2310 \def\FancyVerbLineautorefname{line}%
2311 \def\theoremautorefname{Theorem}%
2312 \def\pageautorefname{page}%
2313 }
2314 \def\HyLang@french{%
2315 \def\equationautorefname{'Equation}%
2316 \def\footnoteautorefname{note}%
2317 \def\itemautorefname{item}%
2318 \def\figureautorefname{Figure}%
2319 \def\tableautorefname{Tableau}%
2320 \def\partautorefname{Partie}%
2321 \def\appendixautorefname{Appendice}%
2322 \def\chapterautorefname{chapitre}%
2323 \def\sectionautorefname{section}%
2324 \def\subsectionautorefname{sous-section}%
2325 \def\subsubsectionautorefname{sous-sous-section}%
2326 \def\paragraphautorefname{paragraphe}%
2327 \def\subparagraphautorefname{sous-paragraphe}%
2328 \def\FancyVerbLineautorefname{ligne}%
2329 \def\theoremautorefname{Th'eor'eme}%
2330 \def\pageautorefname{page}%
2331 }
2332 \def\HyLang@german{%
2333 \def\equationautorefname{Gleichung}%
2334 \def\footnoteautorefname{Fu'ss note}%
2335 \def\itemautorefname{Punkt}%
2336 \def\figureautorefname{Abbildung}%
2337 \def\tableautorefname{Tabelle}%
2338 \def\partautorefname{Teil}%
2339 \def\appendixautorefname{Anhang}%
2340 \def\chapterautorefname{Kapitel}%
2341 \def\sectionautorefname{Abschnitt}%
2342 \def\subsectionautorefname{Unterabschnitt}%
2343 \def\subsubsectionautorefname{Unterunterabschnitt}%
2344 \def\paragraphautorefname{Absatz}%
2345 \def\subparagraphautorefname{Unterabsatz}%
2346 \def\FancyVerbLineautorefname{Zeile}%
2347 \def\theoremautorefname{Theorem}%
2348 \def\pageautorefname{Seite}%
2349 }
2350 \def\HyLang@italian{%
2351 \def\equationautorefname{Equazione}%
2352 \def\footnoteautorefname{nota}%
2353 \def\itemautorefname{punto}%
2354 \def\figureautorefname{Figura}%
2355 \def\tableautorefname{Tabella}%
2356 \def\partautorefname{Parte}%
2357 \def\appendixautorefname{Appendice}%
2358 \def\chapterautorefname{Capitolo}%
2359 \def\sectionautorefname{sezione}%
2360 \def\subsectionautorefname{sottosezione}%
2361 \def\subsubsectionautorefname{sottosottosezione}%
2362 \def\paragraphautorefname{paragrafo}%
2363 \def\subparagraphautorefname{sottoparagrafo}%

```

```

2364 \def\FancyVerbLineautorefname{linea}%
2365 \def\theoremautorefname{Teorema}%
2366 \def\pageautorefname{Pag.\@}%
2367 }
2368 \def\HyLang@magyar{%
2369 \def\equationautorefname{Egyenlet}%
2370 \def\footnoteautorefname{l\'abjegyzet}%
2371 \def\itemautorefname{Elem}%
2372 \def\figureautorefname{'Abra}%
2373 \def\tableautorefname{T\'abl\'azat}%
2374 \def\partautorefname{R\'esz}%
2375 \def\appendixautorefname{F\'uggel\'ek}%
2376 \def\chapterautorefname{fejezet}%
2377 \def\sectionautorefname{szakasz}%
2378 \def\subsectionautorefname{alszakasz}%
2379 \def\subsubsectionautorefname{alalszakasz}%
2380 \def\paragraphautorefname{bekezd\'es}%
2381 \def\subparagraphautorefname{albekezd\'es}%
2382 \def\FancyVerbLineautorefname{sor}%
2383 \def\theoremautorefname{T\'etel}%
2384 \def\pageautorefname{oldal}%
2385 }
2386 \def\HyLang@portuges{%
2387 \def\equationautorefname{Equa\c c\~ao}%
2388 \def\footnoteautorefname{Nota de rodap\'e}%
2389 \def\itemautorefname{Item}%
2390 \def\figureautorefname{Figura}%
2391 \def\tableautorefname{Tabela}%
2392 \def\partautorefname{Parte}%
2393 \def\appendixautorefname{Ap\~endice}%
2394 \def\chapterautorefname{Cap\'itulo}%
2395 \def\sectionautorefname{Se\c c\~ao}%
2396 \def\subsectionautorefname{Subse\c c\~ao}%
2397 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2398 \def\paragraphautorefname{par\'agrafo}%
2399 \def\subparagraphautorefname{subpar\'agrafo}%
2400 \def\FancyVerbLineautorefname{linha}%
2401 \def\theoremautorefname{Teorema}%
2402 \def\pageautorefname{P\'agina}%
2403 }

```

Next commented section for Russian is provided by Olga Lapko.

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

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

```

2404 \def\HyLang@russian{%

```

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

```

2405 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2406 % \def\equationautorefname{%
2407 %     \cyr\cyrv\cyrery\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
2408 % }%

```

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

```

2409 \def\footnoteautorefname{%
2410     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2411 }%

```

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

```

2412 % \def\footnoteautorefname{%
2413 %     \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrh\cyrn\cyro\cyre\ %
2414 %     \cyrp\cyrr\cyri\cyrm\cyre\cyrrh\cyra\cyrn\cyri\cyre
2415 % }%

```

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

```

2416 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2417 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%

```

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

```

2418 \def\itemautorefname{\cyr\cyrp.}%
2419 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

```

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

```

2420 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2421 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%

```

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

```

2422 \def\partautorefname{\cyr\cyrrh.}%
2423 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2424 \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.

```

2425 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2426 % \def\appendixautorefname{%
2427 %     \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
2428 % }%

```

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.

```

2429 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2430 \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.

```

2431 \def\paragraphautorefname{\cyr\cyrp.}%
2432 \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.

```
2433 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2434 % \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.

```
2435 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2436 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2437 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2438 % \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 ...

```
2439 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2440 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2441 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2442 \def\pageautorefname{\cyr\cyrs.}%
2443 }
```

```
2444 \def\HyLang@spanish{%
2445 \def\equationautorefname{Ecuaci'on}%
2446 \def\footnoteautorefname{Nota a pie de p'agina}%
2447 \def\itemautorefname{Elemento}%
2448 \def\figureautorefname{Figura}%
2449 \def\tableautorefname{Tabla}%
2450 \def\partautorefname{Parte}%
2451 \def\appendixautorefname{Ap'endice}%
2452 \def\chapterautorefname{Cap'itulo}%
2453 \def\sectionautorefname{Secci'on}%
2454 \def\subsectionautorefname{Subsecci'on}%
2455 \def\subsubsectionautorefname{Subsubsecci'on}%
2456 \def\paragraphautorefname{P'arrafo}%
2457 \def\subparagraphautorefname{Subp'arrafo}%
2458 \def\FancyVerbLineautorefname{L'inea}%
2459 \def\theoremautorefname{Teorema}%
2460 \def\pageautorefname{P'agina}%
2461 }
```

```
2462 \def\HyLang@vietnamese{%
2463 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
2464 \def\footnoteautorefname{Ch'u th'ich}%
2465 \def\itemautorefname{m\du{c}%
2466 \def\figureautorefname{H'inh}%
2467 \def\tableautorefname{B'h{a}ng}%
2468 \def\partautorefname{Ph'\acircumflex{n}%
2469 \def\appendixautorefname{Ph\du{1}\du{c}%
```

```

2470 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2471 \def\sectionautorefname{m\du{c}}%
2472 \def\subsectionautorefname{m\du{c}}%
2473 \def\subsubsectionautorefname{m\du{c}}%
2474 \def\paragraphautorefname{dj{}\da{n}}%
2475 \def\subparagraphautorefname{dj{}\da{n}}%
2476 \def\FancyVerbLineautorefname{d\'ong}%
2477 \def\theoremautorefname{DJ{}\di{nh l\'y}}%
2478 \def\pageautorefname{Trang}%
2479 }

```

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

```

2480 \def\HyLang@addto#1#2{%
2481   #2%
2482   \@temptokena{#2}%
2483   \ifx#1\relax
2484     \let#1\@empty
2485   \fi
2486   \ifx#1\undefined
2487     \edef#1{\the\@temptokena}%
2488   \else
2489     \toks@\expandafter{#1}%
2490     \edef#1{\the\toks@\the\@temptokena}%
2491   \fi
2492   \@temptokena{}\toks@\@temptokena
2493 }

2494 \def\HyLang@DeclareLang#1#2#3{%
2495   \begingroup
2496     \edef\x##1##2{%
2497       \noexpand\ifx##2\relax
2498         \errmessage{No definitions for language #2' found!}%
2499       \noexpand\fi
2500     \endgroup
2501     \noexpand\define@key{Hyp}{#1}[]{%
2502       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2503       #3%
2504     }%
2505   }%
2506   \expandafter\x\csname extras#1\expandafter\endcsname
2507     \csname HyLang@#2\endcsname
2508 }

2509 \HyLang@DeclareLang{english}{english}{}
2510 \HyLang@DeclareLang{UKenglish}{english}{}
2511 \HyLang@DeclareLang{british}{english}{}
2512 \HyLang@DeclareLang{USenglish}{english}{}
2513 \HyLang@DeclareLang{american}{english}{}
2514 \HyLang@DeclareLang{german}{german}{}
2515 \HyLang@DeclareLang{austrian}{german}{}
2516 \HyLang@DeclareLang{ngerman}{german}{}
2517 \HyLang@DeclareLang{naustrian}{german}{}
2518 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2519 \HyLang@DeclareLang{brazil}{portuges}{}
2520 \HyLang@DeclareLang{brazilian}{portuges}{}
2521 \HyLang@DeclareLang{portuguese}{portuges}{}
2522 \HyLang@DeclareLang{spanish}{spanish}{}
2523 \HyLang@DeclareLang{afrikaans}{afrikaans}{}

```

```

2524 \HyLang@DeclareLang{french}{french}{}
2525 \HyLang@DeclareLang{frenchb}{french}{}
2526 \HyLang@DeclareLang{francais}{french}{}
2527 \HyLang@DeclareLang{acadian}{french}{}
2528 \HyLang@DeclareLang{canadien}{french}{}
2529 \HyLang@DeclareLang{italian}{italian}{}
2530 \HyLang@DeclareLang{magyar}{magyar}{}
2531 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2532 \define@key{Hyp}{vietnamese}[]{}%
2533   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2534   \AtEndOfPackage{%
2535     \ifundefined{T@PU}{}{}%
2536     \input{puvnenc.def}%
2537   }%
2538 }%
2539 }
2540 \define@key{Hyp}{vietnam}[]{}%
2541   \HyLang@addto\extravietnam\HyLang@vietnamese
2542   \AtEndOfPackage{%
2543     \ifundefined{T@PU}{}{}%
2544     \input{puvnenc.def}%
2545   }%
2546 }%
2547 }

```

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

```

2548 \define@key{Hyp}{arabic}[]{}%
2549   \AtEndOfPackage{%
2550     \ifundefined{T@PU}{}{}%
2551     \input{puarenc.def}%
2552   }%
2553 }%
2554 }

```

## 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.

```

2555 \define@key{Hyp}{colorlinks}[true]{}%
2556   \Hy@boolkey{colorlinks}{#1}%
2557 }
2558 \define@key{Hyp}{ocgcolorlinks}[true]{}%
2559   \Hy@boolkey{ocgcolorlinks}{#1}%
2560 }
2561 \AtBeginDocument{%
2562   \begingroup
2563     \ifundefined{OBJ@OCG@view}{}%
2564     \ifHy@ocgcolorlinks
2565       \Hy@Warning{%
2566         Driver does not support ‘ocgcolorlinks’,\MessageBreak
2567         using ‘colorlinks’ instead%
2568       }%
2569     \fi
2570   }{}%
2571 \endgroup
2572 }

```

```

2573 \define@key{Hyp}{frenchlinks}[true]{%
2574   \Hy@boolkey{frenchlinks}{#1}%
2575 }

```

## 14 Bookmarking

```

2576 \define@key{Hyp}{bookmarks}[true]{%
2577   \Hy@boolkey{bookmarks}{#1}%
2578 }

2579 \define@key{Hyp}{bookmarksopen}[true]{%
2580   \Hy@boolkey{bookmarksopen}{#1}%
2581 }

```

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.

```

2582 \let\Hy@bookmarksdepth\c@tocdepth
2583 \define@key{Hyp}{bookmarksdepth}[]{%
2584   \begingroup
2585     \edef\x{#1}%
2586     \ifx\x\empty
2587       \global\let\Hy@bookmarksdepth\c@tocdepth
2588     \else
2589       \@ifundefined{toclevel@\x}{%
2590         \@onelevel@sanitize\x
2591         \edef\y{\expandafter\@car\x\@nil}%
2592         \ifcase 0\expandafter\ifx\y-1\fi
2593           \expandafter\ifnum\expandafter'\y>47 %
2594             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2595           \Hy@Warning{Unknown document division name (\x)}%
2596         \else
2597           \setbox\z@=\hbox{%
2598             \count@=\x
2599             \xdef\Hy@bookmarksdepth{\the\count@}%
2600           }%
2601         \fi
2602       }{%
2603         \setbox\z@=\hbox{%
2604           \count@=\csname toclevel@\x\endcsname
2605           \xdef\Hy@bookmarksdepth{\the\count@}%
2606         }%
2607       }%
2608     \fi
2609   \endgroup
2610 }

```

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

```

2611 \define@key{Hyp}{bookmarksopenlevel}{%
2612   \def\@bookmarksopenlevel{#1}%

```



```

2613 }
2614 \def\@bookmarksopenlevel{\maxdimen}
2615 % 'bookmarkstype' to specify which 'toc' file to mimic
2616 \define@key{Hyp}{bookmarkstype}{%
2617   \def\Hy@bookmarkstype{#1}%
2618 }
2619 \def\Hy@bookmarkstype{toc}

```

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

```

2620 \define@key{Hyp}{bookmarksnumbered}[true]{%
2621   \Hy@boolkey{bookmarksnumbered}{#1}%
2622 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2623 \define@key{Hyp}{CJKbookmarks}[true]{%
2624   \Hy@boolkey{CJKbookmarks}{#1}%
2625 }

2626 \def\Hy@temp#1{%
2627   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2628 }
2629 \def\Hy@@temp#1#2#3{%
2630   \define@key{Hyp}{#2color}{%
2631     \HyColor@HyperrefColor{##1}#1%
2632   }%
2633   \def#1{#3}%
2634 }
2635 \Hy@temp{link}{red}
2636 \Hy@temp{anchor}{black}
2637 \Hy@temp{cite}{green}
2638 \Hy@temp{file}{cyan}
2639 \Hy@temp{url}{magenta}
2640 \Hy@temp{menu}{red}
2641 \Hy@temp{run}{\@filecolor}
2642 \define@key{Hyp}{pagecolor}{%
2643   \Hy@WarningPageColor
2644 }
2645 \def\Hy@WarningPageColor{%
2646   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2647   \global\let\Hy@WarningPageColor\relax
2648 }

2649 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2650 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2651 \let\@baseurl\@empty
2652 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2653 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2654 \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.

```

2655 \let\@pdfpagetransition\relax
2656 \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.

```
2657 \let\pdfpageduration\relax
2658 \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.

```
2659 \newif\ifHy@useHidKey
2660 \Hy@useHidKeyfalse
2661 \define@key{Hyp}{pdfpagehidden}[true]{%
2662   \Hy@boolkey{pdfpagehidden}{#1}%
2663   \ifHy@pdfpagehidden
2664     \global\Hy@useHidKeytrue
2665   \fi
2666 }
```

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).

```
2667 \def\Hy@ColorList{cite,file,link,menu,run,url}
2668 \@for\Hy@temp:=\Hy@ColorList\do{%
2669   \edef\Hy@temp{%
2670     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2671       \noexpand\HyColor@HyperrefBorderColor
2672       {##1}%
2673       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2674       {hyperref}%
2675       {\Hy@temp bordercolor}%
2676     }%
2677   }%
2678   \Hy@temp
2679 }
2680 \define@key{Hyp}{pagebordercolor}{%
2681   \Hy@WarningPageBorderColor
2682 }
2683 \def\Hy@WarningPageBorderColor{%
2684   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2685   \global\let\Hy@WarningPageBorderColor\relax
2686 }
2687 \define@key{Hyp}{pdfhighlight}{\def\pdfhighlight{#1}}
2688 \Hy@DefNameKey{pdfhighlight}{%
2689   \do{/I}{Invert}%
2690   \do{/N}{None}%
2691   \do{/O}{Outline}%
2692   \do{/P}{Push}%
2693 }
2694 \define@key{Hyp}{pdfborder}{\def\pdfborder{#1}}
2695 \define@key{Hyp}{pdfborderstyle}{\def\pdfborderstyle{#1}}
2696 \def\Hy@setpdfborder{%
2697   \ifx\pdfborder\empty
```

```

2698 \else
2699     /Border[\@pdfborder]%
2700 \fi
2701 \ifx\@pdfborderstyle\@empty
2702 \else
2703     /BS<<\@pdfborderstyle>>%
2704 \fi
2705 }
2706 \Hy@DefNameKey{pdfpagemode}{%
2707     \do{UseNone}{}%
2708     \do{UseOutlines}{}%
2709     \do{UseThumbs}{}%
2710     \do{FullScreen}{}%
2711     \do{UseOC}{PDF 1.5}%
2712     \do{UseAttachments}{PDF 1.6}%
2713 }
2714 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2715     \do{UseNone}{}%
2716     \do{UseOutlines}{}%
2717     \do{UseThumbs}{}%
2718     \do{FullScreen}{}%
2719     \do{UseOC}{PDF 1.5}%
2720     \do{UseAttachments}{PDF 1.6}%
2721 }
2722 \Hy@DefNameKey{pdfdirection}{%
2723     \do{L2R}{Left to right}%
2724     \do{R2L}{Right to left}%
2725 }
2726 \Hy@DefNameKey{pdfviewarea}{%
2727     \do{MediaBox}{}%
2728     \do{CropBox}{}%
2729     \do{BleedBox}{}%
2730     \do{TrimBox}{}%
2731     \do{ArtBox}{}%
2732 }
2733 \Hy@DefNameKey{pdfviewclip}{%
2734     \do{MediaBox}{}%
2735     \do{CropBox}{}%
2736     \do{BleedBox}{}%
2737     \do{TrimBox}{}%
2738     \do{ArtBox}{}%
2739 }
2740 \Hy@DefNameKey{pdfprintarea}{%
2741     \do{MediaBox}{}%
2742     \do{CropBox}{}%
2743     \do{BleedBox}{}%
2744     \do{TrimBox}{}%
2745     \do{ArtBox}{}%
2746 }
2747 \Hy@DefNameKey{pdfprintclip}{%
2748     \do{MediaBox}{}%
2749     \do{CropBox}{}%
2750     \do{BleedBox}{}%
2751     \do{TrimBox}{}%
2752     \do{ArtBox}{}%
2753 }
2754 \Hy@DefNameKey{pdfprintscaling}{%

```

```

2755 \do{AppDefault}{}%
2756 \do{None}{}%
2757 }
2758 \Hy@DefNameKey{pdfduplex}{%
2759 \do{Simplex}{}%
2760 \do{DuplexFlipShortEdge}{}%
2761 \do{DuplexFlipLongEdge}{}%
2762 }
2763 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2764 \do{true}{}%
2765 \do{false}{}%
2766 }
2767 \define@key{Hyp}{pdfprintpagerange}{%
2768 \def\@pdfprintpagerange{#1}%
2769 }
2770 \Hy@DefNameKey{pdfnumcopies}{%
2771 \do{2}{two copies}%
2772 \do{3}{three copies}%
2773 \do{4}{four copies}%
2774 \do{5}{five copies}%
2775 }
2776 \define@key{Hyp}{pdfusetitle}[true]{%
2777 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2778 }
2779 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2780 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2781 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2782 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2783 \define@key{Hyp}{pdfcreationdate}{%
2784 \begingroup
2785 \Hy@unicodedefalse
2786 \pdfstringdef\@pdfcreationdate{#1}%
2787 \endgroup
2788 }
2789 \define@key{Hyp}{pdfmoddate}{%
2790 \begingroup
2791 \Hy@unicodedefalse
2792 \pdfstringdef\@pdfmoddate{#1}%
2793 \endgroup
2794 }
2795 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2796 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2797 \define@key{Hyp}{pdfview}{\calculatepdfview#1 \\\}
2798 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2799 \let\setpdflinkmargin\@gobble
2800 \def\calculatepdfview#1 #2\{%
2801 \def\@pdfview{#1}%
2802 \ifx\#2\%
2803 \def\@pdfviewparams{ -32768}%
2804 \else
2805 \def\@pdfviewparams{ #2}%
2806 \fi
2807 }
2808 \begingroup\expandafter\expandafter\expandafter\endgroup
2809 \expandafter\ifx\curname numexpr\endcurname\relax
2810 \def\Hy@number#1{%
2811 \expandafter\@firstofone\expandafter{\number#1}%

```

```

2812 }%
2813 \else
2814   \def\Hy@number#1{%
2815     \the\numexpr#1\relax
2816   }%
2817 \fi
2818 \define@key{Hyp}{pdfstartpage}{%
2819   \ifx\#1\%
2820     \def\@pdfstartpage{%
2821       \else
2822         \edef\@pdfstartpage{\Hy@number{#1}}%
2823       \fi
2824     }%
2825 \define@key{Hyp}{pdfstartview}{%
2826   \ifx\#1\%
2827     \def\@pdfstartview{%
2828       \else
2829         \hypercalcbpdef\@pdfstartview{ /#1 }%
2830       \fi
2831     }
2832 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2833 \define@key{Hyp}{pdftoolbar}[true]{%
2834   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2835 }
2836 \define@key{Hyp}{pdfmenubar}[true]{%
2837   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2838 }
2839 \define@key{Hyp}{pdfwindowui}[true]{%
2840   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2841 }
2842 \define@key{Hyp}{pdffitwindow}[true]{%
2843   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2844 }
2845 \define@key{Hyp}{pdfcenterwindow}[true]{%
2846   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2847 }
2848 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2849   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2850 }
2851 \define@key{Hyp}{pdfa}[true]{%
2852   \Hy@boolkey{pdfa}{#1}%
2853 }
2854 \define@key{Hyp}{pdfnewwindow}[true]{%
2855   \def\Hy@temp{#1}%
2856   \ifx\Hy@temp\empty
2857     \Hy@newwindowsetfalse
2858   \else
2859     \Hy@newwindowsettrue
2860     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2861   \fi
2862 }
2863 \def\Hy@SetNewWindow{%
2864   \ifHy@newwindowset
2865     /NewWindow %
2866     \ifHy@newwindow true\else false\fi
2867   \fi
2868 }

```

```

2869 \Hy@DefNameKey{pdfpagelayout}{%
2870   \do{SinglePage}{}%
2871   \do{OneColumn}{}%
2872   \do{TwoColumnLeft}{}%
2873   \do{TwoColumnRight}{}%
2874   \do{TwoPageLeft}{PDF 1.5}%
2875   \do{TwoPageRight}{PDF 1.5}%
2876 }
2877 \define@key{Hyp}{pdflang}{%
2878   \def\@pdflang{#1}%
2879 }
2880 \define@key{Hyp}{pdfpagelabels}[true]{%
2881   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2882 }
2883 \define@key{Hyp}{pdfescapeform}[true]{%
2884   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2885 }

```

Default values:

```

2886 \def\@linkbordercolor{1 0 0}
2887 \def\@urlbordercolor{0 1 1}
2888 \def\@menubordercolor{1 0 0}
2889 \def\@filebordercolor{0 .5 .5}
2890 \def\@runbordercolor{0 .7 .7}
2891 \def\@citebordercolor{0 1 0}
2892 \def\@pdfhighlight{/I}
2893 \def\@pdftitle{}
2894 \def\@pdfauthor{}
2895 \let\@pdfproducer\relax
2896 \def\@pdfcreator{LaTeX with hyperref package}
2897 \def\@pdfcreationdate{}
2898 \def\@pdfmoddate{}
2899 \def\@pdfsubject{}
2900 \def\@pdfkeywords{}
2901 \def\@pdfpagescrop{}
2902 \def\@pdfstartview{ /Fit }
2903 \def\@pdfstartpage{1}
2904 \def\@pdfprintpagerange{}
2905 \def\@pdflang{}
2906 \let\PDF@SetupDoc\@empty
2907 \let\PDF@FinishDoc\@empty
2908 \let\phantomsection\@empty
2909 \let\special@paper\@empty
2910 \def\HyperDestNameFilter#1{#1}
2911 \@ifundefined{stockwidth}{%
2912   \ifdim\paperwidth>\z@
2913     \ifdim\paperheight>\z@
2914       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2915     \fi
2916   \fi
2917 }{%
2918   \ifdim\stockwidth>\z@
2919     \ifdim\stockheight>\z@
2920       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2921     \fi
2922   \fi
2923 }
2924 \begingroup

```

```

2925 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2926 \dimen@=\x\relax
2927 \ifdim\dimen@>\z@
2928 \else
2929 \dimen@=11in\relax
2930 \Hy@WarningNoLine{%
2931   Height of page (\expandafter\string\x) %
2932   is invalid (\the\x),\MessageBreak
2933   using 11in%
2934 }%
2935 \fi
2936 \dimen@=0.99626401\dimen@
2937 \xdef\Hy@pageheight{\strip@pt\dimen@}%
2938 \endgroup
2939 \def\HyInd@EncapChar{\|}
2940 \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.

```

2941 \let\hyper@normalise\ExecuteOptions
2942 \let\ExecuteOptions\hypersetup
2943 \Hy@RestoreCatcodes
2944 \InputIfFileExists{hyperref.cfg}{-}{-}
2945 \Hy@SetCatcodes
2946 \let\ExecuteOptions\hyper@normalise
2947 \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`.

```

2948 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2949 \@ifpackageloaded{tex4ht}{%
2950   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
2951   \PassOptionsToPackage{tex4ht}{hyperref}%
2952 }%
2953 }{-}
2954 \let\ReadBookmarks\relax
2955 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2956 \AtBeginDocument{%
2957   \ifHy@draft
2958     \let\hyper@@anchor\@gobble
2959     \gdef\hyper@link#1#2#3{#3}%
2960     \let\hyper@anchorstart\@gobble
2961     \let\hyper@anchorend\@empty
2962     \let\hyper@linkstart\@gobbletwo
2963     \let\hyper@linkend\@empty
2964     \def\hyper@linkurl#1#2{#1}%
2965     \def\hyper@linkfile#1#2#3{#1}%
2966     \def\hyper@link@[#1]#2#3{#1}%
2967     \def\Acrobatmenu#1#2{\leavevmode#2}%
2968     \let\PDF@SetupDoc\@empty

```

```

2969 \let\PDF@FinishDoc\@empty
2970 \let\@fifthoffive\@secondoftwo
2971 \let\@secondoffive\@secondoftwo
2972 \let\ReadBookmarks\relax
2973 \let\WriteBookmarks\relax
2974 \Hy@WarningNoLine{ draft mode on}%
2975 \fi
2976 \Hy@DisableOption{draft}%
2977 \Hy@DisableOption{nolinks}%
2978 \Hy@DisableOption{final}%
2979 }

```

## 15.1 PDF/A

```

2980 \Hy@DisableOption{pdfa}
2981 \ifHy@pdfa
2982 \setkeys{Hyp}{pdfversion=1.4}%
2983 \def\Hy@Acrobatmenu#1#2{%
2984 \leavevmode
2985 \beginngroup
2986 \edef\x{#1}%
2987 \@onelevel@sanitize\x
2988 \ifx\x\Hy@NextPage
2989 \let\y=Y%
2990 \else
2991 \ifx\x\Hy@PrevPage
2992 \let\y=Y%
2993 \else
2994 \ifx\x\Hy@FirstPage
2995 \let\y=Y%
2996 \else
2997 \ifx\x\Hy@LastPage
2998 \let\y=Y%
2999 \else
3000 \let\y=N%
3001 \fi
3002 \fi
3003 \fi
3004 \fi
3005 \expandafter\endgroup
3006 \ifx\y Y%
3007 \else
3008 \PackageError{hyperref}{%
3009 PDF/A: Named action ‘#1’ is not permitted%
3010 }\@ehc
3011 {#2}%
3012 \expandafter\@gobble
3013 \fi
3014 }%
3015 \def\Hy@temp#1{%
3016 \expandafter\def\csname Hy@#1\endcsname{#1}%
3017 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3018 }%
3019 \Hy@temp{NextPage}%
3020 \Hy@temp{PrevPage}%
3021 \Hy@temp{FirstPage}%
3022 \Hy@temp{LastPage}%

```



```

3023 \else
3024   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3025 \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.

```

3026 \Hy@nextfalse
3027 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3028 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3029 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3030 \ifHy@next
3031   \let\texttilde~%
3032 \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.

```

3033 \@ifpackageloaded{babel}{%
3034   \@ifpackagelater{babel}{2008/03/16}{%
3035     \def\Hy@PatchLanguageShorthands#1{%
3036       \begingroup
3037         \edef\x{#1}%
3038         \@onelevel@sanitize\x
3039         \def\y{system}%
3040         \@onelevel@sanitize\y
3041       \expandafter\endgroup
3042       \ifx\x\y
3043         \else
3044           \HyOrg@languageshorthands{#1}%
3045         \fi
3046     }%
3047     \AtBeginDocument{%
3048       \begingroup
3049         \toks0=\expandafter{\pdfstringdefPreHook}%
3050         \xdef\pdfstringdefPreHook{%
3051           \let\noexpand\HyOrg@languageshorthands
3052             \noexpand\languageshorthands
3053           \let\noexpand\languageshorthands
3054             \noexpand\Hy@PatchLanguageShorthands
3055           \the\toks0 %
3056           \let\noexpand\languageshorthands
3057             \noexpand\HyOrg@languageshorthands
3058         }%
3059       \endgroup
3060     }%
3061   }{}%
3062 }{}

3063 \ifHy@figures
3064   \Hy@Info{Hyper figures ON}%
3065 \else
3066   \Hy@Info{Hyper figures OFF}%
3067 \fi
3068 \ifHy@nesting
3069   \Hy@Info{Link nesting ON}%

```

```

3070 \else
3071   \Hy@Info{Link nesting OFF}%
3072 \fi
3073 \ifHy@hyperindex
3074   \Hy@Info{Hyper index ON}%
3075 \else
3076   \Hy@Info{Hyper index OFF}%
3077 \fi
3078 \ifHy@plainpages
3079   \Hy@Info{Plain pages ON}%
3080 \else
3081   \Hy@Info{Plain pages OFF}%
3082 \fi
3083 \ifHy@backref
3084   \Hy@Info{Backreferencing ON}%
3085 \else
3086   \Hy@Info{Backreferencing OFF}%
3087 \fi
3088 \ifHy@typexml
3089   \AtEndOfPackage{%
3090     \RequirePackage{color}%
3091     \RequirePackage{nameref}%
3092   }%
3093 \fi
3094 \Hy@DisableOption{typexml}
3095 \ifHy@implicit
3096   \typeout{Implicit mode ON; LaTeX internals redefined}%
3097 \else
3098   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3099   \def\MaybeStopEarly{%
3100     \typeout{Hyperref stopped early}%
3101     \AfterBeginDocument{%
3102       \PDF@FinishDoc
3103       \gdef\PDF@FinishDoc{}%
3104     }%
3105     \endinput
3106   }%
3107   \AtBeginDocument{%
3108     \let\autoref\ref
3109     \let\autopageref\pageref
3110     \ifx\pdfpagemode\@empty
3111       \gdef\pdfpagemode{UseNone}%
3112     \fi
3113     \global\Hy@backreffalse
3114   }%
3115   \AtEndOfPackage{%
3116     \global\let\ReadBookmarks\relax
3117     \global\let\WriteBookmarks\relax
3118   }%
3119 \fi
3120 \Hy@DisableOption{implicit}

```

### 15.3.1 Driver loading

```

3121 \AtEndOfPackage{%
3122   \@ifpackageloaded{tex4ht}{%
3123     \def\Hy@driver{htex4ht}%

```

```

3124 \Hy@texhttrue
3125 }{}%

```

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.

```

3126 \ifx\Hy@driver\@empty
3127 \else
3128 \def\Hy@temp{hpdfTeX}%
3129 \ifpdf
3130 \ifx\Hy@driver\Hy@temp
3131 \else
3132 \Hy@WarningNoLine{%
3133 Wrong driver '\Hy@driver.def';\MessageBreak
3134 pdfTeX is running in PDF mode.\MessageBreak
3135 Forcing driver '\Hy@temp.def'%
3136 }%
3137 \let\Hy@driver\Hy@temp
3138 \fi
3139 \else
3140 \ifx\Hy@driver\Hy@temp
3141 \Hy@WarningNoLine{%
3142 Wrong driver '\Hy@driver.def';\MessageBreak
3143 pdfTeX is not running in PDF mode.\MessageBreak
3144 Using default driver%
3145 }%
3146 \let\Hy@driver\@empty
3147 \fi
3148 \fi
3149 \fi
3150 \ifx\Hy@driver\@empty
3151 \else
3152 \def\Hy@temp{hdvipdfm}%
3153 \ifxetex
3154 \ifx\Hy@driver\Hy@temp
3155 \else
3156 \Hy@WarningNoLine{%
3157 Wrong driver '\Hy@driver.def';\MessageBreak
3158 XeTeX is running.\MessageBreak
3159 Forcing driver '\Hy@temp.def' for XeTeX%
3160 }%
3161 \let\Hy@driver\Hy@temp
3162 \fi
3163 \fi
3164 \fi
3165 \ifx\Hy@driver\@empty
3166 \else
3167 \def\Hy@temp{hvtexhtm}%
3168 \ifvtexhtml
3169 \ifx\Hy@driver\Hy@temp
3170 \else
3171 \Hy@WarningNoLine{%
3172 Wrong driver '\Hy@driver.def';\MessageBreak
3173 VTeX is running in HTML mode.\MessageBreak
3174 Forcing driver '\Hy@temp.def'%
3175 }%
3176 \let\Hy@driver\Hy@temp
3177 \fi
3178 \else

```

```

3179     \ifx\Hy@driver\Hy@temp
3180     \Hy@WarningNoLine{%
3181         Wrong driver ‘\Hy@driver.def’;\MessageBreak
3182         VTeX is not running in HTML mode.\MessageBreak
3183         Using default driver%
3184     }%
3185     \let\Hy@driver\@empty
3186 \fi
3187 \fi
3188 \fi

```

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

```

3189 \ifx\Hy@driver\@empty
3190 \providecommand*{\Hy@defaultdriver}{hypertex}%
3191 \ifpdf
3192 \def\Hy@driver{hpdfTeX}%
3193 \else
3194 \ifxetex
3195 \def\Hy@driver{hdvipdfm}%
3196 \else
3197 \ifvtexhtml
3198 \def\Hy@driver{hvtexhtm}%
3199 \def\MaybeStopEarly{%
3200 \typeout{Hyperref stopped early}%
3201 \AfterBeginDocument{%
3202 \PDF@FinishDoc
3203 \gdef\PDF@FinishDoc{}%
3204 }%
3205 \endinput
3206 }%
3207 \else
3208 \ifvtexpdf
3209 \def\Hy@driver{hvtex}%
3210 \else
3211 \ifvtexps
3212 \def\Hy@driver{hvtex}%
3213 \else
3214 \let\Hy@driver\Hy@defaultdriver
3215 \fi
3216 \fi
3217 \fi
3218 \fi
3219 \fi
3220 \ifx\Hy@driver\Hy@defaultdriver
3221 \def\Hy@temp{hdwind}%
3222 \ifx\Hy@temp\Hy@driver
3223 \setkeys{Hyp}{colorlinks}%
3224 \PassOptionsToPackage{dviwindo}{color}%
3225 \fi
3226 \fi
3227 \typeout{*hyperref using default driver \Hy@driver*}%
3228 \else
3229 \typeout{*hyperref using driver \Hy@driver*}%
3230 \fi
3231 \input{\Hy@driver.def}%
3232 \let\@unprocessedoptions\relax
3233 \Hy@RestoreCatcodes
3234 }

```

```

3235 \newif\ifHy@DvipdfmxOutlineOpen
3236 \begingroup\expandafter\expandafter\endgroup
3237 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3238 \else
3239   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3240     \Hy@DvipdfmxOutlineOpen>true
3241   \fi
3242 \fi
3243 \Hy@DisableOption{tex4ht}
3244 \Hy@DisableOption{pdftex}
3245 \Hy@DisableOption{nativepdf}
3246 \Hy@DisableOption{dvipdfm}
3247 \Hy@DisableOption{dvipdfmx}
3248 \Hy@DisableOption{dvipdfmx-outline-open}
3249 \Hy@DisableOption{pdfmark}
3250 \Hy@DisableOption{dvips}
3251 \Hy@DisableOption{hypertex}
3252 \Hy@DisableOption{vtex}
3253 \Hy@DisableOption{vtexpdfmark}
3254 \Hy@DisableOption{dviwindo}
3255 \Hy@DisableOption{dvipsone}
3256 \Hy@DisableOption{textures}
3257 \Hy@DisableOption{latex2html}
3258 \Hy@DisableOption{ps2pdf}
3259 \Hy@DisableOption{xetex}
3260 \AtEndOfPackage{%
3261   \Hy@DisableOption{pdfversion}%
3262 }

```

### 15.3.2 Bookmarks

```

3263 \def\WriteBookmarks{0}
3264 \def\@bookmarkopenstatus#1{%
3265   \ifHy@bookmarksopen

```

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

```

3266     \ifnum#1<\expandafter\@firstofone\expandafter
3267       {\number\@bookmarkopenlevel} % explicit space
3268   \else
3269     -%
3270   \fi
3271 \else
3272   -%
3273 \fi
3274 }
3275 \ifHy@bookmarks
3276   \Hy@Info{Bookmarks ON}%
3277   \ifx\@pdfpagemode\@empty
3278     \def\@pdfpagemode{UseOutlines}%
3279   \fi
3280 \else
3281   \def\@bookmarkopenstatus#1{%
3282     \Hy@Info{Bookmarks OFF}%
3283     \AtEndOfPackage{%
3284       \global\let\ReadBookmarks\relax
3285       \global\let\WriteBookmarks\relax
3286     }%
3287     \ifx\@pdfpagemode\@empty

```

```

3288 \def\@pdfpagemode{UseNone}%
3289 \fi
3290 \fi
3291 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
3292 \def\Hy@CatcodeWrapper#1{%
3293 \def\Hy@EndWrap{}%
3294 \def\TMP@EnsureCode##1##2{%
3295 \edef\Hy@EndWrap{%
3296 \Hy@EndWrap
3297 \catcode##1 \the\catcode##1\relax
3298 }%
3299 \catcode##1 ##2\relax
3300 }%
3301 \TMP@EnsureCode{10}{12}% ^^J
3302 \TMP@EnsureCode{33}{12}% !
3303 \TMP@EnsureCode{34}{12}% "
3304 \TMP@EnsureCode{36}{3}% $ (math)
3305 \TMP@EnsureCode{38}{4}% & (alignment)
3306 \TMP@EnsureCode{39}{12}% '
3307 \TMP@EnsureCode{40}{12}% (
3308 \TMP@EnsureCode{41}{12}% )
3309 \TMP@EnsureCode{42}{12}% *
3310 \TMP@EnsureCode{43}{12}% +
3311 \TMP@EnsureCode{44}{12}% ,
3312 \TMP@EnsureCode{45}{12}% -
3313 \TMP@EnsureCode{46}{12}% .
3314 \TMP@EnsureCode{47}{12}% /
3315 \TMP@EnsureCode{58}{12}% :
3316 \TMP@EnsureCode{59}{12}% ;
3317 \TMP@EnsureCode{60}{12}% <
3318 \TMP@EnsureCode{61}{12}% =
3319 \TMP@EnsureCode{62}{12}% >
3320 \TMP@EnsureCode{63}{12}% ?
3321 \TMP@EnsureCode{91}{12}% [
3322 \TMP@EnsureCode{93}{12}% ]
3323 \TMP@EnsureCode{94}{7}% ^ (superscript)
3324 \TMP@EnsureCode{95}{8}% _ (subscript)
3325 \TMP@EnsureCode{96}{12}% '
3326 \TMP@EnsureCode{124}{12}% |
3327 \TMP@EnsureCode{126}{13}% ~ (active)
3328 #1\relax
3329 \Hy@EndWrap
3330 }

\HyColor@UseColor expects a macro as argument. It contains the color specifica-
tion.
3331 \AtBeginDocument{%
3332 \ifHy@ocgcolorlinks
3333 \setkeys{Hyp}{colorlinks}%
3334 \ifHy@pdfa
3335 \Hy@Warning{%
3336 PDF/A: Optional Content Groups are prohibited,\MessageBreak
3337 using 'colorlinks' instead of 'ocgcolorlinks'%
3338 }%
3339 \Hy@ocgcolorlinksfalse
3340 \fi
3341 \fi

```

```

3342 \ifHy@ocgcolorlinks
3343 \else
3344   \Hy@DisableOption{ocgcolorlinks}%
3345 \fi
3346 \ifHy@colorlinks
3347   \def\@pdfborder{0 0 0}%
3348   \let\@pdfborderstyle\@empty
3349   \ifHy@typexml
3350   \else
3351     \Hy@CatcodeWrapper{%
3352       \RequirePackage{color}%
3353     }%
3354   \fi
3355   \def\Hy@colorlink#1{%
3356     \begingroup
3357     \HyColor@UseColor#1%
3358   }%
3359   \def\Hy@endcolorlink{\endgroup}%
3360   \Hy@Info{Link coloring ON}%
3361 \else
3362   \ifHy@frenchlinks
3363     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3364     \def\Hy@endcolorlink{\endgroup}%
3365     \Hy@Info{French linking ON}%
3366   \else
for grouping consistency:
3367     \def\Hy@colorlink#1{\begingroup}%
3368     \def\Hy@endcolorlink{\endgroup}%
3369     \Hy@Info{Link coloring OFF}%
3370   \fi
3371 \fi
3372 \Hy@DisableOption{colorlinks}%
3373 \Hy@DisableOption{frenchlinks}%
3374 \ifHy@texht
3375   \long\def\@firstoffive#1#2#3#4#5{#1}%
3376   \long\def\@secondoffive#1#2#3#4#5{#2}%
3377   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3378   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3379   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3380   \providecommand*\@safe@activetrue{}%
3381   \providecommand*\@safe@activesfalse{}%
3382   \def\T@ref#1{%
3383     \Hy@safe@activetrue
3384     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3385     \Hy@safe@activesfalse
3386   }%
3387   \def\T@pageref#1{%
3388     \Hy@safe@activetrue
3389     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3390     \Hy@safe@activesfalse
3391   }%
3392 \else
3393   \ifHy@typexml
3394   \else
3395     \Hy@CatcodeWrapper{%
3396       \RequirePackage{nameref}%
3397     }%

```

```

3398 \fi
3399 \fi
3400 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3401 \DeclareRobustCommand\pageref{%
3402   \@ifstar\@pagerefstar\T@pageref
3403 }%
3404 }
3405 \AfterBeginDocument{%
3406   \ifHy@texht
3407   \else
3408     \Hy@CatcodeWrapper{%
3409       \ReadBookmarks
3410     }%
3411   \fi
3412 }
3413 \ifHy@backref
3414   \RequirePackage{backref}%
3415 \else
3416   \let\Hy@backout\@gobble
3417 \fi
3418 \Hy@DisableOption{backref}
3419 \Hy@DisableOption{pagebackref}
3420 \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.

```

3421 \begingroup
3422   \endlinechar=-1 %
3423   \catcode'\^^A=14 %
3424   \catcode'\^^M\active
3425   \catcode'\%\active
3426   \catcode'\#\active
3427   \catcode'\_\active
3428   \catcode'\$\active
3429   \catcode'\&\active
3430   \gdef\hyper@normalise{^^A
3431     \begingroup
3432     \catcode'\^^M\active
3433     \def^^M{ }^^A
3434     \catcode'\%\active
3435     \let%\@percentchar
3436     \let%\@percentchar
3437     \catcode'\#\active
3438     \def#{\hyper@hash}^^A
3439     \def\#{\hyper@hash}^^A
3440     \@makeother\&^^A
3441     \edef&{\string&}^^A
3442     \edef\&{\string&}^^A
3443     \edef\textunderscore{\string_}^^A
3444     \let\_ \textunderscore

```



```

3445 \catcode'\_active
3446 \let\_textunderscore
3447 \let~\hyper@tilde
3448 \let\~\hyper@tilde
3449 \let\textasciitilde\hyper@tilde
3450 \let\\\@backslashchar
3451 \edef$\string$^^A
3452 \Hy@safe@activetrue
3453 \hyper@n@rmalise
3454 }^^A
3455 \catcode'\#=6 ^^A
3456 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3457 \gdef\hyper@n@rmalise#1#2{^^A
3458 \def\Hy@tempa{#2}^^A
3459 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3460 \Hy@ReturnAfterElseFi{^^A
3461 \hyper@@normalise{#1}^^A
3462 }^^A
3463 \else
3464 \Hy@ReturnAfterFi{^^A
3465 \hyper@@normalise{#1}{#2}^^A
3466 }^^A
3467 \fi
3468 }^^A
3469 \gdef\hyper@@normalise#1#2{^^A
3470 \edef\Hy@tempa{^^A
3471 \endgroup
3472 \noexpand#1{\Hy@RemovePercentCr#2%^M\@nil}^^A
3473 }^^A
3474 \Hy@tempa
3475 }^^A
3476 \gdef\Hy@RemovePercentCr#1%^M#2\@nil{^^A
3477 #1^^A
3478 \ifx\limits#2\limits
3479 \else
3480 \Hy@ReturnAfterFi{^^A
3481 \Hy@RemovePercentCr #2\@nil
3482 }^^A
3483 \fi
3484 }^^A
3485 \endgroup
3486 \providecommand*\hyper@chars{%
3487 \let#\hyper@hash
3488 \let%\@percentchar
3489 \Hy@safe@activetrue
3490 }
3491 \def\hyperlink#1#2{%
3492 \hyper@link{#1}{#2}%
3493 }
3494 \DeclareRobustCommand*\href{%
3495 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3496 }
3497 \def\Hy@href#1{%
3498 \hyper@normalise\href@
3499 }
3500 \begingroup
3501 \catcode'\$=6 %

```

```

3502 \catcode'\#=12 %
3503 \gdef\href@#1{\expandafter\href@split$1##\}%
3504 \gdef\href@split$1#$2#$3\{\%
3505     \hyper@@link{#1}{#2}%
3506 }%
3507 \endgroup

```

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

```

3508 \RequirePackage{url}
3509 \let\HyOrg@url\url
3510 \def\Hurl{\begingroup \Url}
3511 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3512 \def\nolinkurl@#1{\Hurl{#1}}
3513 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3514 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3515 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3516 \providecommand\hyper@image[2]{#2}

3517 \def\hypertarget#1#2{%
3518     \ifHy@nesting
3519         \hyper@@anchor{#1}{#2}%
3520     \else
3521         \hyper@@anchor{#1}{\relax}#2%
3522     \fi
3523 }

```

`\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.

```

3524 \DeclareRobustCommand*\hyperref{\%
3525     \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3526 }
3527 \def\Hy@babelnormalise#1[#2]{%
3528     \begingroup
3529         \Hy@safe@activestrue
3530         \edef\Hy@tempa{%
3531             \endgroup
3532             \noexpand#1[#2]}%
3533     }%
3534     \Hy@tempa
3535 }
3536 \def\@hyperref{\hyper@normalise\@hyperref}
3537 \def\@hyperref#1#2#3{%
3538     \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
3539     \expandafter\tryhyper@link\ref@one\{#1}%
3540 }
3541 \def\tryhyper@link#1\#2{%
3542     \hyper@@link{#2}{#1}%
3543 }

3544 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3545 \def\@hyperdef#1#2#3{%, category, name, text
3546     \ifHy@nesting
3547         \hyper@@anchor{#1.#2}{#3}%
3548     \else

```

```

3549 \hyper@@anchor{#1.#2}{\relax}#3%
3550 \fi
3551 }

```

We also have a need to give a L<sup>A</sup>T<sub>E</sub>X *label* to a hyper reference, to ease the pain of referring to it later.

```

3552 \def\label@hyperref[#1]{%
3553 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3554 }%
3555 \def\label@@hyperref#1#2#3{%
3556 \ifx#1\relax
3557 \protect\G@refundefinedtrue
3558 \latex@warning{%
3559 Hyper reference ‘#2’ on page \thepage \space undefined%
3560 }%
3561 \hyper@@link{}{??}{#3}%
3562 \else
3563 \hyper@@link{\expandafter\@fifthoffive#1}%
3564 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3565 \fi
3566 }
3567 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3568 % anchor text
3569 \@bspack
3570 \if@filesw
3571 \protected@write\@auxout{%
3572 {\string\newlabel{#1}{#2}{#3}{#4}}%
3573 \fi
3574 \@espack
3575 \ifHy@nesting
3576 \hyper@@anchor{#2.#3}{#4}%
3577 \else
3578 \hyper@@anchor{#2.#3}{\relax}#4%
3579 \fi
3580 }

```

## 17 Underlying basic hypertext macros

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

```

3581 \def\hyper@@link{\let\Hy@reserved@a\relax
3582 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3583 }
3584 \def\hyper@link@[#1]#2#3#4{%
3585 \begingroup
3586 \protected@edef\Hy@tempa{#2}%
3587 \Hy@safe@activestrue
3588 \edef\x{#3}%
3589 \ifx\Hy@tempa\@empty
3590 \toks0{\hyper@link{#1}}%
3591 \else
3592 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3593 \fi
3594 \toks2{%

```

```

3595     \Hy@safe@activesfalse
3596     #4%
3597   }%
3598   \edef\Hy@tempa{\the\toks2}%
3599   \edef\x{\endgroup
3600     \ifx\Hy@tempa\@empty
3601       \noexpand\Hy@Warning{Suppressing empty link}%
3602     \else
3603       \the\toks0 {\x}{\the\toks2}%%
3604     \fi
3605   }%
3606   \x
3607 }

```

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.

```

3608 \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.

```

3609   \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3610 }

```

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

```

3611 \def\@pdftempwordfile{file}%
3612 \def\@pdftempwordrun{run}%
3613 \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 :

```

3614   \ifx\#6\%
3615     \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3616   \else
3617     \ifx\#4\%
3618       \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3619     \else

```

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

```

3620     \def\@pdftempa{#4}%
3621     \ifx\@pdftempa\@pdftempwordfile
3622       \expandafter\@hyper@linkfile#7\{#3}{#2}%
3623     \else

```

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

```

3624      \ifx\@pdftempa\@pdftempwordrun
3625      \ifHy@pdfa
3626      \PackageError{hyperref}{%
3627        PDF/A: Launch action is prohibited%
3628      }\@ehc
3629      \begingroup
3630      \leavevmode
3631      #2%
3632      \endgroup
3633      \else
3634      \expandafter\@hyper@launch#7\{#3}{#2}%
3635      \fi
3636      \else

```

otherwise its a URL

```

3637      \hyper@linkurl{#3}{#7\ifx\#2\\\else\hyper@hash#2\fi}%
3638      \fi
3639      \fi
3640      \fi
3641      \fi
3642 }

```

By default, turn run: into file:

```

3643 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3644   \hyper@linkurl{#2}{%
3645     \Hy@linkfileprefix
3646     #1%
3647     \ifx\#3\\%
3648     \else
3649     \hyper@hash
3650     #3%
3651     \fi
3652   }%
3653 }

```

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

```

3654 \def\@hyper@linkfile file:#1\#2#3{%
3655   %file url,link string, name
3656   \filename@parse{#1}%
3657   \ifx\filename@ext\relax
3658     \edef\filename@ext{\XR@ext}%
3659   \fi
3660   \def\use@file{\filename@area\filename@base.\filename@ext}%
3661   \ifx\filename@ext\XR@ext
3662     \hyper@linkfile{#2}{\use@file}{#3}%
3663   \else
3664     \ifx\@baseurl\@empty
3665       \hyper@linkurl{#2}{%
3666         \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
3667       }%
3668     \else
3669       \hyper@linkurl{#2}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
3670     \fi
3671   \fi
3672 }

```

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.

```

3673 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3674 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3675   \ifx\#1\%
3676     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3677   \else
3678     \def\anchor@spot{#2#3}%
3679     \let\put@me@back\@empty
3680     \ifx\relax#2\relax
3681     \else
3682       \ifHy@nesting
3683       \else
3684         \ifcat a\noexpand#2\relax
3685         \else
3686           \ifcat O\noexpand#2 \relax
3687           \else
3688             \typeout{Anchor start is not alphanumeric %
3689             on input line\the\inputlineno%
3690             }%
3691             \let\anchor@spot\@empty
3692             \def\put@me@back{#2#3}%
3693           \fi
3694         \fi
3695       \fi
3696     \fi
3697     \ifHy@activeanchor
3698       \anchor@spot
3699     \else
3700       \hyper@anchor{#1}%
3701     \fi
3702     \expandafter\put@me@back
3703   \fi
3704   \let\anchor@spot\@empty
3705 }
```

## 18 Compatibility with the *AT<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.

```

3706 \let\htmladding\hyperimage
3707 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3708 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3709 \def\htmlref#1#2{% anchor text, label
3710   \label@hyperref[{#2}]{#1}%
3711 }
```

This is really too much. The  $\text{\LaTeX}$ html package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.

```

3712 \def\@@latextohtmlX{%
3713   \let\hhyperref\hyperref
3714   \def\hyperref##1##2##3##4{% anchor text for HTML
3715                                   % text to print before label in print
3716                                   % label
3717                                   % post-label text in print
3718     ##2\ref{##4}##3%
3719   }%
3720 }
```

## 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.

```

3721 \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
3722 \def\HyField@NewFlag#1#2{%
3723   \lowercase{\HyField@NewOption{#2}}%
3724   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3725 }
```

```

\HyField@NewFlagOnly
3726 \def\HyField@NewFlagOnly#1#2{%
3727   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3728 }
```

```

\HyField@NewOption #1: option name
3729 \def\HyField@NewOption#1{%
3730   \expandafter\newif\csname ifFld@#1\endcsname
3731   \define@key{Field}{#1}[true]{%
3732     \lowercase{\Field@boolkey{##1}}{#1}%
3733   }%
3734 }
```

```

\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

```
3735 \def\HyField@NewBitsetFlag#1#2#3#4{%
3736   \begingroup
3737     \count@=#4\relax
3738     \advance\count@\m@ne
3739     \def\x##1{%
3740       \endgroup
3741       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3742       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3743         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3744           (\number#4) #2%
3745         }%
3746       \else
3747         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3748           \csname HyField@#3@##1\endcsname
3749           /#2%
3750         }%
3751       \fi
3752     }%
3753   \expandafter\x\expandafter{\the\count@}%
3754 }
```

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

```
3755 \def\HyField@UseFlag#1#2{%
3756   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3757 }
```

\HyField@@UseFlag

```
3758 \def\HyField@@UseFlag#1#2{%
3759   \bitsetSetValue{HyField@#2}{%
3760     \csname HyField@#2@#1\endcsname
3761   }{%
3762     \csname ifFld@#1\endcsname 1\else 0\fi
3763   }%
3764 }
```

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

```
3765 \def\HyField@SetFlag#1#2{%
3766   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3767 }
```

\HyField@@SetFlag

```
3768 \def\HyField@@SetFlag#1#2{%
3769   \bitsetSetValue{HyField@#2}{%
3770     \csname HyField@#2@#1\endcsname
3771   }{1}%
3772 }
```

\HyField@PrintFlags

```
3773 \def\HyField@PrintFlags#1#2{%
3774   \ifHy@verbose
3775     \begingroup
3776       \let\Hy@temp\@empty
3777       \let\MessageBreak\relax
3778       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
```



```

3779     \bitsetGetSetBitList{HyField@#1}\do{%
3780     \edef\Hy@temp{%
3781     \Hy@temp
3782     \csname HyField@#1\endcsname\MessageBreak
3783     }%
3784     }%
3785 \edef\x{\endgroup
3786 \noexpand\Hy@Info{%
3787     Field flags: %
3788     \expandafter\ifx\@car#1\@nil S\else/\fi
3789     #1 %
3790     \bitsetGetDec{HyField@#1} %
3791     (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3792     \Hy@temp
3793     for #2%
3794     }%
3795     }\x
3796 \fi
3797 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3798 \HyField@NewFlag{Ff}{ReadOnly}{1}
3799 \HyField@NewFlag{Ff}{Required}{2}
3800 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3801 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3802 \HyField@NewFlag{Ff}{Radio}{16}
3803 \HyField@NewFlag{Ff}{Pushbutton}{17}
3804 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3805 \HyField@NewFlag{Ff}{Multiline}{13}
3806 \HyField@NewFlag{Ff}{Password}{14}
3807 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3808 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3809 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3810 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3811 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3812 \HyField@NewFlag{Ff}{Combo}{18}
3813 \HyField@NewFlag{Ff}{Edit}{19}
3814 \HyField@NewFlag{Ff}{Sort}{20}
3815 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3816 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3817 \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.

```

3818 \newif\ifFld@popdown
3819 \define@key{Field}{popdown}[true]{%
3820 \lowercase{\Field@boolkey{#1}}{popdown}%
3821 }

```

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.

```

3822 \HyField@NewFlag{F}{Invisible}{1}
3823 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3824 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3825 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3826 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3827 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3828 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3829 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3830 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3831 \ifHy@pdfa
3832   \def\HyField@PDFAFIWarning#1#2{%
3833     \Hy@Warning{%
3834       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3835       be set to ‘#2’%
3836     }%
3837   }%
3838   \Fld@invisiblefalse
3839   \def\Fld@invisibletrue{%
3840     \HyField@PDFAFIWarning{invisible}{false}%
3841   }%
3842   \Fld@hiddenfalse
3843   \def\Fld@hiddentrue{%
3844     \HyField@PDFAFIWarning{hidden}{false}%
3845   }%
3846   \Fld@printtrue
3847   \def\Fld@printfalse{%
3848     \HyField@PDFAFIWarning{print}{true}%
3849   }%
3850   \Fld@nozoomtrue
3851   \def\Fld@nozoomfalse{%
3852     \HyField@PDFAFIWarning{nozoom}{true}%
3853   }%
3854   \Fld@norotatetrue
3855   \def\Fld@norotatefalse{%
3856     \HyField@PDFAFIWarning{norotate}{true}%
3857   }%
3858   \Fld@noviewfalse
3859   \def\Fld@noviewtrue{%
3860     \HyField@PDFAFIWarning{noview}{false}%
3861   }%
3862 \fi

```

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

```

3863 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3864 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3865 \HyField@NewFlag{Submit}{GetMethod}{4}
3866 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3867 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3868 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3869 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3870 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3871 \HyField@NewFlag{Submit}{CanonicalFormat}{10}

```

```

3872 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3873 \HyField@NewFlag{Submit}{ExclFKey}{12}
3874 \HyField@NewFlag{Submit}{EmbedForm}{14}

3875 \define@key{Field}{export}{%
3876   \lowercase{\def\Hy@temp{#1}}%
3877   \@ifundefined{Fld@export@\Hy@temp}{%
3878     \@onelevel@sanitize\Hy@temp
3879     \PackageError{hyperref}{%
3880       Unknown export format '\Hy@temp'.\MessageBreak
3881       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3882     }\@ehc
3883   }{%
3884     \let\Fld@export\Hy@temp
3885   }%
3886 }
3887 \def\Fld@export{fdf}
3888 \@namedef{Fld@export@fdf}{0}%
3889 \@namedef{Fld@export@html}{1}%
3890 \@namedef{Fld@export@xfdf}{2}%
3891 \@namedef{Fld@export@pdf}{3}%

```

## 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3892 \def\HyField@FlagsSubmit{%
3893   \bitsetReset{HyField@Submit}%
3894   \ifcase\@nameuse{Fld@export@\Fld@export} %
3895     % FDF
3896     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3897     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3898     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3899     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3900     \HyField@UseFlag{Submit}{CanonicalFormat}%
3901     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3902     \HyField@UseFlag{Submit}{ExclFKey}%
3903     \HyField@UseFlag{Submit}{EmbedForm}%
3904   \or % HTML
3905     \HyField@SetFlag{Submit}{ExportFormat}%
3906     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3907     \HyField@UseFlag{Submit}{GetMethod}%
3908     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3909     \HyField@UseFlag{Submit}{CanonicalFormat}%
3910   \or % XFDF
3911     \HyField@SetFlag{Submit}{XFDF}%
3912     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3913     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3914     \HyField@UseFlag{Submit}{CanonicalFormat}%
3915   \or % PDF
3916     \HyField@SetFlag{Submit}{SubmitPDF}%
3917     \HyField@UseFlag{Submit}{GetMethod}%
3918   \fi
3919   \HyField@PrintFlags{Submit}{submit button field}%
3920   \bitsetIsEmpty{HyField@Submit}{%
3921     \def\Fld@submitflags{%
3922     }{%
3923       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3924     }%

```

3925 }

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
3926 \def\HyField@FlagsAnnot#1{%
3927   \bitsetReset{HyField@F}%
3928   \HyField@UseFlag{F}{Invisible}%
3929   \HyField@UseFlag{F}{Hidden}%
3930   \HyField@UseFlag{F}{Print}%
3931   \HyField@UseFlag{F}{NoZoom}%
3932   \HyField@UseFlag{F}{NoRotate}%
3933   \HyField@UseFlag{F}{NoView}%
3934   \HyField@UseFlag{F}{Locked}%
3935   \HyField@UseFlag{F}{ToggleNoView}%
3936   \HyField@UseFlag{F}{LockedContents}%
3937   \HyField@PrintFlags{F}{#1}%
3938   \bitsetIsEmpty{HyField@F}{%
3939     \def\Fld@annotflags{%
3940     }{%
3941       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3942     }%
3943 }
```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
3944 \def\HyField@FlagsPushButton{%
3945   \HyField@FlagsAnnot{push button field}%
3946   \bitsetReset{HyField@Ff}%
3947   \HyField@UseFlag{Ff}{ReadOnly}%
3948   \HyField@UseFlag{Ff}{Required}%
3949   \HyField@UseFlag{Ff}{NoExport}%
3950   \HyField@SetFlag{Ff}{Pushbutton}%
3951   \HyField@PrintFlags{Ff}{push button field}%
3952   \bitsetIsEmpty{HyField@Ff}{%
3953     \def\Fld@flags{%
3954     }{%
3955       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3956     }%
3957 }
```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```
3958 \def\HyField@FlagsCheckBox{%
3959   \HyField@FlagsAnnot{check box field}%
3960   \bitsetReset{HyField@Ff}%
3961   \HyField@UseFlag{Ff}{ReadOnly}%
3962   \HyField@UseFlag{Ff}{Required}%
3963   \HyField@UseFlag{Ff}{NoExport}%
3964   \HyField@PrintFlags{Ff}{check box field}%
3965   \bitsetIsEmpty{HyField@Ff}{%
3966     \def\Fld@flags{%
3967     }{%
3968       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

3969 }%
3970 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

3971 \def\HyField@FlagsRadioButton{%
3972   \HyField@FlagsAnnot{radio button field}%
3973   \bitsetReset{HyField@Ff}%
3974   \HyField@UseFlag{Ff}{ReadOnly}%
3975   \HyField@UseFlag{Ff}{Required}%
3976   \HyField@UseFlag{Ff}{NoExport}%
3977   \HyField@UseFlag{Ff}{NoToggleToOff}%
3978   \HyField@SetFlag{Ff}{Radio}%
3979   \HyField@UseFlag{Ff}{RadiosInUnison}%
3980   \HyField@PrintFlags{Ff}{radio button field}%
3981   \bitsetIsEmpty{HyField@Ff}{%
3982     \def\Fld@flags{%
3983     }{%
3984       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3985     }%
3986 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

3987 \def\HyField@FlagsText{%
3988   \HyField@FlagsAnnot{text field}%
3989   \bitsetReset{HyField@Ff}%
3990   \HyField@UseFlag{Ff}{ReadOnly}%
3991   \HyField@UseFlag{Ff}{Required}%
3992   \HyField@UseFlag{Ff}{NoExport}%
3993   \HyField@UseFlag{Ff}{Multiline}%
3994   \HyField@UseFlag{Ff}{Password}%
3995   \HyField@UseFlag{Ff}{FileSelect}%
3996   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3997   \HyField@UseFlag{Ff}{DoNotScroll}%
3998   \ifFld@comb
3999     \ifcase0\ifFld@multiline
4000       \else\ifFld@password
4001       \else\ifFld@fileselect
4002       \else 1\fi\fi\fi\relax
4003     \PackageError{hyperref}{%
4004       Field option ‘comb’ cannot used together with\MessageBreak
4005       ‘multiline’, ‘password’, or ‘fileselect’%
4006     }\@ehc
4007   \else
4008     \HyField@UseFlag{Ff}{Comb}%
4009   \fi
4010 \fi
4011 \HyField@UseFlag{Ff}{RichText}%
4012 \HyField@PrintFlags{Ff}{text field}%
4013 \bitsetIsEmpty{HyField@Ff}{%
4014   \def\Fld@flags{%
4015   }{%
4016     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

4017 }%
4018 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4019 \def\HyField@FlagsChoice{%
4020   \HyField@FlagsAnnot{choice field}%
4021   \bitsetReset{HyField@Ff}%
4022   \HyField@UseFlag{Ff}{ReadOnly}%
4023   \HyField@UseFlag{Ff}{Required}%
4024   \HyField@UseFlag{Ff}{NoExport}%
4025   \HyField@UseFlag{Ff}{Combo}%
4026   \ifFld@combo
4027     \HyField@UseFlag{Ff}{Edit}%
4028   \fi
4029   \HyField@UseFlag{Ff}{Sort}%
4030   \HyField@UseFlag{Ff}{MultiSelect}%
4031   \ifFld@combo
4032     \ifFld@edit
4033       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4034     \fi
4035   \fi
4036   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4037   \HyField@PrintFlags{Ff}{choice field}%
4038   \bitsetIsEmpty{HyField@Ff}{%
4039     \def\Fld@flags{%
4040     }{%
4041     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4042     }%
4043 }

```

### 19.2 Choice field

4044 \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.

```

4045 \def\HyField@PDFChoices#1{%
4046   \begingroup
4047   \gdef\Fld@choices{%
4048     \def\HyTmp@optlist{%
4049       \let\HyTmp@optitem\relax
4050       \count@=0 %
4051       \kv@parse{#1}{%
4052         \Hy@pdfstringdef\kv@key\kv@key
4053         \ifx\kv@value\relax
4054           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4055             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4056           \else
4057             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4058           \fi
4059         \else
4060           \Hy@pdfstringdef\kv@value\kv@value
4061           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4062         \fi

```

```

4063 \edef\HyTmp@optlist{%
4064 \HyTmp@optlist
4065 \HyTmp@optitem{\the\count@}{\kv@key}0%
4066 }%
4067 \advance\count@ by 1 %
4068 \@gobbletwo
4069 }%
4070 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4071 \ifFld@multiselect
4072 \HyField@@PDFChoices{DV}\Fld@default
4073 \HyField@@PDFChoices{V}\Fld@value
4074 \else
4075 \ifx\Fld@default\relax
4076 \else
4077 \pdfstringdef\Hy@gtemp\Fld@default
4078 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4079 \fi
4080 \ifx\Fld@value\relax
4081 \else
4082 \pdfstringdef\Hy@gtemp\Fld@value
4083 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4084 \fi
4085 \fi
4086 \endgroup
4087 }

```

\HyField@@PDFChoices

```

4088 \def\HyField@@PDFChoices#1#2{%
4089 \ifx#2\relax
4090 \else
4091 \count@=0 %
4092 \def\HyTmp@optitem##1##2##3{%
4093 \def\HyTmp@key{##2}%
4094 \ifx\HyTmp@key\Hy@gtemp
4095 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4096 \HyTmp@optlist
4097 \HyTmp@optitem{##1}-{##2}1%
4098 }%
4099 \let\HyTmp@found=Y%
4100 \else
4101 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4102 \HyTmp@optlist
4103 \HyTmp@optitem{##1}-{##2}##3%
4104 }%
4105 \fi
4106 }%
4107 \expandafter\comma@parse\expandafter{#2}{%
4108 \pdfstringdef\Hy@gtemp\comma@entry
4109 \let\HyTmp@found=N %
4110 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4111 \HyTmp@optlist
4112 \ifx\HyTmp@found Y%
4113 \advance\count@ by 1 %
4114 \else
4115 \@onelevel@sanitize\comma@entry
4116 \PackageWarning{hyperref}{%
4117 \string\ChoiceBox: Ignoring value '\comma@entry',%

```

```

4118         \MessageBreak
4119         it cannot be found in the choices%
4120     }%
4121 \fi
4122 \@gobble
4123 }%
4124 \def\HyTmp@optitem##1##2##3{%
4125     \ifnum##3=1 %
4126         (##2)%
4127     \fi
4128 }%
4129 \ifcase\count@
4130 \or
4131     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4132 \else
4133     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4134     \ifx#1V%
4135         \def\HyTmp@optitem##1##2##3{%
4136             \ifnum##3=1 %
4137                 \@firstofone{ ##1}%
4138             \fi
4139         }%
4140     \edef\HyTmp@optlist{\HyTmp@optlist}%
4141     \xdef\Fld@choices{%
4142         \Fld@choices
4143         /I[\expandafter\@firstofone\HyTmp@optlist]}%
4144     }%
4145 \fi
4146 \fi
4147 \fi
4148 }

```

### 19.3 Forms

\HyField@SetKeys

```

4149 \def\HyField@SetKeys{%
4150     \setkeys{Field}%
4151 }

4152 \newif\ifFld@checked
4153 \newif\ifFld@disabled
4154 \Fld@checkedfalse
4155 \Fld@disabledfalse
4156 \newcount\Fld@menulength
4157 \newdimen\Fld@Width
4158 \newdimen\Fld@charsize
4159 \Fld@charsize=10\p@
4160 \def\Fld@maxlen{0}
4161 \def\Fld@align{0}
4162 \def\Fld@color{0 0 0 rg}
4163 \def\Fld@bcolor{1 1 1}
4164 \def\Fld@bordercolor{1 0 0}
4165 \def\Fld@bordersep{1\p@}
4166 \def\Fld@borderwidth{1}
4167 \def\Fld@borderstyle{S}
4168 \def\Fld@cbsymbol{4}
4169 \def\Fld@rotation{0}

```



```

4170 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4171 \def\endForm{\@endForm}
4172 \newif\ifForm@html
4173 \Form@htmlfalse
4174 \def\Form@boolkey#1#2{%
4175   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4176 }
4177 \define@key{Form}{action}{%
4178   \hyper@normalise\Hy@DefFormAction{#1}%
4179 }
4180 \def\Hy@DefFormAction{\def\Form@action}
4181 \def\enc@html{html}
4182 \define@key{Form}{encoding}{%
4183   \def\Hy@tempa{#1}%
4184   \ifx\Hy@tempa\enc@html
4185     \Form@htmltrue
4186     \def\Fld@export{html}%
4187   \else
4188     \typeout{hyperref: form 'encoding' key set to #1 %
4189       -- unknown type%
4190     }%
4191     \Form@htmlfalse
4192   \fi
4193 }
4194 \define@key{Form}{method}{%
4195   \lowercase{\def\Hy@temp{#1}}%
4196   \@ifundefined{Form@method@\Hy@temp}{%
4197     \@onelevel@sanitize\Hy@temp
4198     \PackageError{hyperref}{%
4199       Unknown method '\Hy@temp'.\MessageBreak
4200       Known values are 'post' and 'get'%
4201     }\@ehc
4202   }{%
4203     \let\Form@method\Hy@temp
4204     \ifcase\@nameuse{Form@method@\Hy@temp} %
4205       \Fld@getmethodfalse
4206     \else
4207       \Fld@getmethodtrue
4208     \fi
4209   }%
4210 }
4211 \def\Form@method{}
4212 \@namedef{Form@method@post}{0}
4213 \@namedef{Form@method@get}{1}
4214 \def\Field@boolkey#1#2{%
4215   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4216 }
4217 \newtoks\Field@toks
4218 \Field@toks={ }%
4219 \def\Field@addtoks#1#2{%
4220   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4221   \@processme
4222 }
4223 \def\Fld@checkequals#1=#2=#3\\{%
4224   \def\@currDisplay{#1}%
4225   \ifx\@#2\\%
4226     \def\@currValue{#1}%

```

```

4227 \else
4228     \def\@currValue{#2}%
4229 \fi
4230 }
4231 \define@key{Field}{loc}{%
4232     \def\Fld@loc{#1}%
4233 }
4234 \define@key{Field}{checked}[true]{%
4235     \lowercase{\Field@boolkey{#1}}{checked}%
4236 }
4237 \define@key{Field}{disabled}[true]{%
4238     \lowercase{\Field@boolkey{#1}}{disabled}%
4239 }
4240 \define@key{Field}{accesskey}{%
4241     \Field@addtoks{accesskey}{#1}%
4242 }
4243 \define@key{Field}{tabkey}{%
4244     \Field@addtoks{tabkey}{#1}%
4245 }
4246 \define@key{Field}{name}{%
4247     \def\Fld@name{#1}%
4248 }
4249 \define@key{Field}{width}{%
4250     \def\Fld@width{#1}%
4251     \Field@Width#1\setbox0=\hbox{m}%
4252 }
4253 \define@key{Field}{maxlen}{%
4254     \def\Fld@maxlen{#1}%
4255 }
4256 \define@key{Field}{menulength}{%
4257     \Fld@menulength=#1\relax
4258 }
4259 \define@key{Field}{height}{%
4260     \def\Fld@height{#1}%
4261 }
4262 \define@key{Field}{charsize}{%
4263     \Fld@charsize#1%
4264 }
4265 \define@key{Field}{borderwidth}{%
4266     \def\Fld@borderwidth{#1}%
4267 }
4268 \define@key{Field}{borderstyle}{%
4269     \def\Fld@borderstyle{#1}%
4270 }
4271 \define@key{Field}{bordersep}{%
4272     \def\Fld@bordersep{#1}%
4273 }
4274 \define@key{Field}{default}{%
4275     \def\Fld@default{#1}%
4276 }
4277 \define@key{Field}{align}{%
4278     \def\Fld@align{#1}%
4279 }
4280 \define@key{Field}{value}{%
4281     \def\Fld@value{#1}%
4282 }
4283 \define@key{Field}{checkboxsymbol}{%

```

```

4284 \def\Fld@cbsymbol{#1}%
4285 }

4286 \define@key{Field}{rotation}{%
4287 \def\Fld@rotation{#1}%
4288 }

4289 \define@key{Field}{backgroundcolor}{%
4290 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4291 }

4292 \define@key{Field}{bordercolor}{%
4293 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4294 }

4295 \define@key{Field}{color}{%
4296 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4297 }

4298 \def\Fld@format@code{}
4299 \def\Fld@validate@code{}
4300 \def\Fld@calculate@code{}
4301 \def\Fld@keystroke@code{}
4302 \def\Fld@onfocus@code{}
4303 \def\Fld@onblur@code{}
4304 \def\Fld@onmousedown@code{}
4305 \def\Fld@onmouseup@code{}
4306 \def\Fld@onenter@code{}
4307 \def\Fld@onexit@code{}
4308 \def\Hy@temp#1{%
4309 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4310 }
4311 \def\Hy@@temp#1#2{%
4312 \ifHy@pdfa
4313 \define@key{Field}{#2}{%
4314 \PackageError{hyperref}{%
4315 PDF/A: Additional action ‘#2’ is prohibited%
4316 }\@ehc
4317 }%
4318 \else
4319 \define@key{Field}{#2}{%
4320 \def#1{##1}%
4321 }%
4322 \fi
4323 }
4324 \Hy@temp{keystroke}
4325 \Hy@temp{format}
4326 \Hy@temp{validate}
4327 \Hy@temp{calculate}
4328 \Hy@temp{onfocus}
4329 \Hy@temp{onblur}
4330 \Hy@temp{onenter}
4331 \Hy@temp{onexit}
4332 \def\Hy@temp#1{%
4333 \define@key{Field}{#1}{%
4334 \Fld@addtoks{#1}{##1}%
4335 }%
4336 }
4337 \Hy@temp{onselect}
4338 \Hy@temp{onchange}
4339 \Hy@temp{ondblclick}

```

```

4340 \Hy@temp{onmousedown}
4341 \Hy@temp{onmouseup}
4342 \Hy@temp{onmouseover}
4343 \Hy@temp{onmousemove}
4344 \Hy@temp{onmouseout}
4345 \Hy@temp{onkeypress}
4346 \Hy@temp{onkeydown}
4347 \Hy@temp{onkeyup}
4348 \ifHy@pdfa
4349   \define@key{Field}{onclick}{%
4350     \PackageError{hyperref}{%
4351       PDF/A: Action 'onclick' is prohibited%
4352     }\@ehc
4353   }%
4354 \else
4355   \define@key{Field}{onclick}{%
4356     \def\Fld@onclick{#1}%
4357     \Field@addtoks{onclick}{#1}%
4358   }%
4359 \fi

4360 \DeclareRobustCommand\TextField{%
4361   \@ifnextchar[{\@TextField}{\@TextField[]}%
4362 }
4363 \DeclareRobustCommand\ChoiceMenu{%
4364   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4365 }
4366 \DeclareRobustCommand\CheckBox{%
4367   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4368 }
4369 \DeclareRobustCommand\PushButton{%
4370   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4371 }
4372 \DeclareRobustCommand\Gauge{%
4373   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4374 }
4375 \DeclareRobustCommand\Submit{%
4376   \@ifnextchar[{\@Submit}{\@Submit[]}%
4377 }
4378 \DeclareRobustCommand\Reset{%
4379   \@ifnextchar[{\@Reset}{\@Reset[]}%
4380 }
4381 \def\LayoutTextField#1#2{% label, field
4382   #1 #2%
4383 }
4384 \def\LayoutChoiceField#1#2{% label, field
4385   #1 #2%
4386 }
4387 \def\LayoutCheckField#1#2{% label, field
4388   #1 #2%
4389 }
4390 \def\LayoutPushButtonField#1{% button
4391   #1%
4392 }
4393 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4394 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4395 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4396 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```

```

4397 \def\MakeButtonField#1{%
4398   \sbox0{%
4399     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4400   }%
4401   \@tempdima\ht0 %
4402   \advance\@tempdima by \Fld@borderwidth bp %
4403   \advance\@tempdima by \Fld@borderwidth bp %
4404   \ht0\@tempdima
4405   \@tempdima\dp0 %
4406   \advance\@tempdima by \Fld@borderwidth bp %
4407   \advance\@tempdima by \Fld@borderwidth bp %
4408   \dp0\@tempdima
4409   \box0\relax
4410 }
4411 \def\DefaultHeightofSubmit{14pt}
4412 \def\DefaultWidthofSubmit{2cm}
4413 \def\DefaultHeightofReset{14pt}
4414 \def\DefaultWidthofReset{2cm}
4415 \def\DefaultHeightofCheckBox{\baselineskip}
4416 \def\DefaultWidthofCheckBox{\baselineskip}
4417 \def\DefaultHeightofChoiceMenu{\baselineskip}
4418 \def\DefaultWidthofChoiceMenu{\baselineskip}
4419 \def\DefaultHeightofText{\baselineskip}
4420 \def\DefaultHeightofTextMultiline{4\baselineskip}
4421 \def\DefaultWidthofText{3cm}
4422 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4423 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4424 \def\DefaultOptionsofPushButton{print}
4425 \def\DefaultOptionsofCheckBox{print}
4426 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
4427 \def\DefaultOptionsofListBox{print}
4428 \def\DefaultOptionsofComboBox{print,edit,sort}
4429 \def\DefaultOptionsofPopdownBox{print}
4430 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

4431 \ifHy@figures
4432   \Hy@Info{Hyper figures ON}%
4433 \else
4434   \Hy@Info{Hyper figures OFF}%
4435 \fi
4436 \ifHy@nesting
4437   \Hy@Info{Link nesting ON}%
4438 \else
4439   \Hy@Info{Link nesting OFF}%
4440 \fi
4441 \ifHy@hyperindex
4442   \Hy@Info{Hyper index ON}%
4443 \else
4444   \Hy@Info{Hyper index OFF}%
4445 \fi
4446 \ifHy@backref
4447   \Hy@Info{backreferencing ON}%
4448 \else

```

```

4449 \Hy@Info{backreferencing OFF}%
4450 \fi
4451 \ifHy@colorlinks
4452 \Hy@Info{Link coloring ON}%
4453 \else
4454 \Hy@Info{Link coloring OFF}%
4455 \fi
4456 \ifHy@ocgcolorlinks
4457 \Hy@Info{Link coloring with OCG ON}%
4458 \else
4459 \Hy@Info{Link coloring with OCG OFF}%
4460 \fi
4461 \ifHy@pdfa
4462 \Hy@Info{PDF/A mode ON}%
4463 \else
4464 \Hy@Info{PDF/A mode OFF}%
4465 \fi

```

## 21 Low-level utility macros

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

```

4466 \edef\hyper@hash{\string#}
4467 \edef\hyper@tilde{\string~}
4468 \edef\hyper@quote{\string"}
4469 \let\@currentHref\@empty
4470 \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.

```

4471 \AfterBeginDocument{%
4472 \Hy@pdfstringtrue
4473 \PDF@SetupDoc
4474 \let\PDF@SetupDoc\@empty
4475 \Hy@DisableOption{pdfpagescrop}%
4476 \Hy@DisableOption{pdfpagemode}%
4477 \Hy@DisableOption{pdfnonfullscreenpagemode}%
4478 \Hy@DisableOption{pdfdirection}%
4479 \Hy@DisableOption{pdfviewarea}%
4480 \Hy@DisableOption{pdfviewclip}%
4481 \Hy@DisableOption{pdfprintarea}%
4482 \Hy@DisableOption{pdfprintclip}%
4483 \Hy@DisableOption{pdfprintscaling}%
4484 \Hy@DisableOption{pdfduplex}%
4485 \Hy@DisableOption{pdfpicktraybypdfsize}%
4486 \Hy@DisableOption{pdfprintpagerange}%
4487 \Hy@DisableOption{pdfnumcopies}%
4488 \Hy@DisableOption{pdfstartview}%
4489 \Hy@DisableOption{pdfstartpage}%
4490 \Hy@DisableOption{pdftoolbar}%
4491 \Hy@DisableOption{pdfmenubar}%
4492 \Hy@DisableOption{pdfwindowui}%
4493 \Hy@DisableOption{pdfwindow}%
4494 \Hy@DisableOption{pdfcenterwindow}%
4495 \Hy@DisableOption{pdfdisplaydoctitle}%
4496 \Hy@DisableOption{pdfpagelayout}%
4497 \Hy@DisableOption{pdflang}%
4498 \Hy@DisableOption{baseurl}%

```

```

4499 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4500 \Hy@pdfstringfalse
4501 }

```

## 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.

```

4502 \def\NoHyper{%
4503   \def\hyper@link@{##1}##2##3##4{##4}%
4504   \def\hyper@@anchor##1{%
4505     \global\let\hyper@livelink\hyper@link
4506     \gdef\hyper@link##1##2##3{##3}%
4507     \def\hyper@anchorstart##1{%
4508       \let\hyper@anchorend\@empty
4509       \def\hyper@linkstart##1##2{%
4510         \let\hyper@linkend\@empty
4511         \def\hyper@linkurl##1##2{##1}%
4512         \def\hyper@linkfile##1##2##3{##1}%
4513         \def\hyper@link@{##1}##2##3{%
4514           \let\Hy@backout\@gobble
4515         }
4516       \def\stop@hyper{%
4517         \def\hyper@link@{##1}##2##3##4{##4}%
4518         \let\Hy@backout\@gobble
4519         \def\hyper@@anchor##1{%
4520           \def\hyper@link##1##2##3{##3}%
4521           \def\hyper@anchorstart##1{%
4522             \let\hyper@anchorend\@empty
4523             \def\hyper@linkstart##1##2{%
4524               \let\hyper@linkend\@empty
4525               \def\hyper@linkurl##1##2{##1}%
4526               \def\hyper@linkfile##1##2##3{##1}%
4527               \def\hyper@link@{##1}##2##3{%
4528                 }
4529             \def\endNoHyper{%
4530               \global\let\hyper@link\hyper@livelink
4531             }
4532           }

```

## 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:

```

4533 \nohyperref
4534 \let\hyper@@anchor\@gobble
4535 \def\hyper@link##1##2##3{##3}%
4536 \let\hyper@anchorstart\@gobble

```

```

4537 \let\hyper@anchorend\@empty
4538 \let\hyper@linkstart\@gobbletwo
4539 \let\hyper@linkend\@empty
4540 \def\hyper@linkurl#1#2{#1}%
4541 \def\hyper@linkfile#1#2#3{#1}%
4542 \def\hyper@link@[#1]#2#3{#1}%
4543 \let\PDF@SetupDoc\@empty
4544 \let\PDF@FinishDoc\@empty
4545 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4546 \def\Acrobatmenu#1#2{\leavevmode#2}
4547 \let\pdfstringdefDisableCommands\@gobbletwo
4548 \let\texorpdfstring\@firstoftwo
4549 \let\pdfbookmark\@undefined
4550 \newcommand\pdfbookmark[3][]{\{}
4551 \let\phantomsection\@empty
4552 \let\hypersetup\@gobble
4553 \let\hyperbaseurl\@gobble
4554 \let\href\@gobble
4555 \let\hyperdef\@gobbletwo
4556 \let\hyperlink\@gobble
4557 \let\hypertarget\@gobble
4558 \def\hyperref{%
4559   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4560 }
4561 \long\def\@gobbleopt[#1]{\{}
4562 \let\hyperpage\@empty
4563 \</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}

```

4564 \*package)
4565 \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.

```

4566 \if@filesw
4567   \ifHy@typexml
4568     \immediate\closeout\@mainaux
4569     \immediate\openout\@mainaux\jobname.aux\relax
4570     \immediate\write\@auxout{<relaxxml>\relax}%
4571   \fi
4572   \immediate\write\@auxout{%
4573     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4574     \global\let\string\oldcontentsline\string\contentsline^^J%
4575     \gdef\string\contentsline%
4576       \string#1\string#2\string#3\string#4{%
4577       \string\oldcontentsline%
4578       {\string#1}{\string#2}{\string#3}}^^J%
4579     \global\let\string\oldnewlabel\string\newlabel^^J%
4580     \gdef\string\newlabel\string#1\string#2{%

```



```

4581      \string\newlabelxx{\string#1}\string#2}^^J%
4582      \gdef\string\newlabelxx%
4583      \string#1\string#2\string#3\string#4\string#5\string#6{%
4584      \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.

```

4585      \string\AtEndDocument{%
4586      \let\string\contentsline\string\oldcontentsline^^J%
4587      \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.

```

4588      \string\else^^J%
4589      \global\let\string\hyper@last\relax^^J%
4590      \string\fi^^J%
4591  }%
4592  \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.

```

4593  \ifx\hyper@last\@undefined
4594    \def\starttoc#1{%
4595      \begingroup
4596      \makeatletter
4597      \IfFileExists{\jobname.#1}{%
4598        \Hy@WarningNoLine{%
4599          old #1 file detected, not used; run LaTeX again%
4600        }%
4601      }{}%
4602      \if@filesw
4603        \expandafter\newwrite\csname tf@#1\endcsname
4604        \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4605      \fi
4606      \@nobreakfalse
4607    \endgroup
4608  }%
4609  \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4610  \fi
4611 }

```

## 25 Title strings

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

```

4612 \ifHy@usetitle
4613   \let\HyOrg@title\title
4614   \let\HyOrg@author\author
4615   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4616   \def\Hy@scanopttitle[#1]{%
4617     \gdef\Hy@title{#1}%
4618     \HyOrg@title[#1]%
4619   }%

```

```

4620 \def\Hy@scantitle#1{%
4621   \gdef\Hy@title{#1}%
4622   \HyOrg@title{#1}%
4623 }%
4624 \def\author{\ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4625 \def\Hy@scanoptauthor[#1]{%
4626   \gdef\Hy@author{#1}%
4627   \HyOrg@author[{#1}]%
4628 }%
4629 \def\Hy@scanauthor#1{%
4630   \gdef\Hy@author{#1}%
4631   \HyOrg@author{#1}%
4632 }%

```

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.

```

4633 \begingroup
4634   \def\process@me#1\@nil#2{%
4635     \expandafter\let\expandafter\x\csname @#2\endcsname
4636     \edef\y{\expandafter\strip@prefix\meaning\x}%
4637     \def\c##1##2\@nil{%
4638       \ifx\\##1\\%
4639         \else
4640           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4641             \expandafter{\x}%
4642         \fi
4643       }%
4644       \expandafter\c\y\relax#1\@nil
4645     }%
4646     \expandafter\process@me\string\@latex@\@nil{title}%
4647     \expandafter\process@me\string\@latex@\@nil{author}%
4648   \endgroup
4649 \fi
4650 \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.

```

4651 \def\Hy@UseMaketitleString#1{%
4652   \@ifundefined{Hy@#1}{\}%
4653   \begingroup
4654     \let\Hy@sav@hook\pdfstringdefPreHook
4655     \pdfstringdefDisableCommands{%
4656       \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4657       \let\newline\\%
4658     }%
4659     \expandafter\ifx\csname @pdf#1\endcsname\@empty
4660       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4661         \csname Hy@#1\endcsname\@empty
4662       }%
4663     \fi

```

```

4664 \global\let\pdfstringdefPreHook\Hy@saved@hook
4665 \endgroup
4666 }%
4667 }
4668 \def\Hy@newline@title#1{ #1}
4669 \def\Hy@newline@author#1{, #1}
4670 \def\Hy@UseMaketitleInfos{%
4671 \Hy@UseMaketitleString{title}%
4672 \Hy@UseMaketitleString{author}%
4673 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

4674 \RequirePackage{atbegshi}[2007/09/09]
4675 \def\Hy@EveryPageHook{}
4676 \def\Hy@EveryPageBoxHook{}
4677 \def\Hy@FirstPageHook{}
4678 \AtBeginShipout{%
4679 \Hy@EveryPageHook
4680 \ifx\Hy@EveryPageBoxHook\@empty
4681 \else
4682 \setbox\AtBeginShipoutBox=\vbox{%
4683 \offinterlineskip
4684 \Hy@EveryPageBoxHook
4685 \box\AtBeginShipoutBox
4686 }%
4687 \fi
4688 }
4689 \AtBeginShipoutFirst{%
4690 \Hy@FirstPageHook
4691 }
4692 \g@addto@macro\Hy@FirstPageHook{%
4693 \PDF@FinishDoc
4694 \gdef\PDF@FinishDoc{}}%
4695 }

```

### 27.1 PDF /PageLabels

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

```

4696 \ifHy@pagelabels
4697 \begingroup\expandafter\expandafter\expandafter\endgroup
4698 \expandafter\ifx\csname thepage\endcsname\relax
4699 \Hy@pagelabelsfalse
4700 \Hy@WarningNoLine{%
4701 Option 'pdfpagelabels' is turned off\MessageBreak
4702 because \string\thepage\space is undefined%
4703 }%
4704 \csname fi\endcsname
4705 \csname iffalse\expandafter\endcsname
4706 \fi

```

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

```
4707 \def\thispdfpagelabel#1{%
4708   \gdef\HyPL@thisLabel{#1}%
4709 }%
4710 \global\let\HyPL@thisLabel\relax
```

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

```
4711 \def\HyPL@Labels{%
```

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

```
4712 \newcount\Hy@abspage
4713 \Hy@abspage=0 %
```

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

```
4714 \def\HyPL@LastType{init}%
4715 \def\HyPL@LastNumber{0}%
4716 \def\HyPL@LastPrefix{%
```

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

```
4717 \def\HyPL@arabic{D}%
4718 \def\HyPL@Roman{R}%
4719 \def\HyPL@roman{r}%
4720 \def\HyPL@Alph{A}%
4721 \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.

```
4722 \def\HyPL@EveryPage{%
4723   \begingroup
4724   \ifx\HyPL@thisLabel\relax
4725     \let\HyPL@page\thepage
4726   \else
4727     \let\HyPL@page\HyPL@thisLabel
4728     \global\let\HyPL@thisLabel\relax
4729   \fi
4730   \let\HyPL@Type\relax
4731   \ifnum\the\c@page>0 %
4732     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4733   \fi
4734   \let\Hy@temp Y%
4735   \ifx\HyPL@Type\HyPL@LastType
4736   \else
4737     \let\Hy@temp N%
4738   \fi
4739   \ifx\HyPL@Type\relax
4740     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4741   \else
4742     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4743   \fi
4744   \ifx\HyPL@Prefix\HyPL@LastPrefix
4745   \else
4746     \let\Hy@temp N%
4747   \fi
4748   \if Y\Hy@temp
4749     \advance\c@page by -1 %
4750     \ifnum\HyPL@LastNumber=\the\c@page\relax
```

```

4751         \else
4752         \let\Hy@temp N%
4753         \fi
4754         \Hy@StepCount\c@page
4755     \fi
4756     \if N\Hy@temp
4757         \ifx\HyPL@Type\relax
4758         \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4759         \else
4760         \HyPL@StorePageLabel{%
4761         \ifx\HyPL@Prefix\@empty
4762         \else
4763         /P(\HyPL@Prefix)%
4764         \fi
4765         /S/\csname HyPL\HyPL@Type\endcsname
4766         \ifnum\the\c@page=1 %
4767         \else
4768         \space/St \the\c@page
4769         \fi
4770     }%
4771     \fi
4772     \fi
4773     \xdef\HyPL@LastNumber{\the\c@page}%
4774     \global\let\HyPL@LastType\HyPL@Type
4775     \global\let\HyPL@LastPrefix\HyPL@Prefix
4776 \endgroup
4777 \Hy@GlobalStepCount\Hy@abspage
4778 }%

```

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

```

4779 \def\HyPL@CheckThePage#1\@nil{%
4780     \HyPL@@CheckThePage{#1}\csname\endcsname\c@page\@nil
4781 }%

```

`\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`.

```

4782 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4783     \def\Hy@tempa{#4}%
4784     \def\Hy@tempb{\csname\endcsname\c@page}%
4785     \ifx\Hy@tempa\Hy@tempb
4786     \expandafter\ifx\csname HyPL#3\endcsname\relax
4787     \else
4788     \def\HyPL@Type{#3}%
4789     \def\HyPL@Prefix{#2}%
4790     \fi
4791     \else
4792     \begingroup
4793     \let\Hy@next\endgroup
4794     \let\HyPL@found\@undefined
4795     \def\arabic{\HyPL@Format{arabic}}%
4796     \def\Roman{\HyPL@Format{Roman}}%
4797     \def\roman{\HyPL@Format{roman}}%
4798     \def\Alph{\HyPL@Format{Alph}}%
4799     \def\alph{\HyPL@Format{alph}}%
4800     \protected@edef\Hy@temp{#1}%

```

```

4801     \ifx\HyPL@found\relax
4802       \toks@{\expandafter{\Hy@temp}}%
4803       \edef\Hy@next{\endgroup
4804         \noexpand\HyPL@@@CheckThePage\the\toks@
4805         \noexpand\HyPL@found\relax\noexpand\@nil
4806       }%
4807     \fi
4808   \Hy@next
4809 \fi
4810 }%

```

**\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`.

```

4811 \def\HyPL@Format#1#2{%
4812   \ifx\HyPL@found\@undefined
4813     \expandafter\ifx\csname c@#2\endcsname\c@page
4814       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4815     \else
4816       \expandafter\noexpand\csname#1\endcsname{#2}%
4817     \fi
4818   \else
4819     \expandafter\noexpand\csname#1\endcsname{#2}%
4820   \fi
4821 }%

```

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

```

4822 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4823   \def\Hy@tempa{#3}%
4824   \def\Hy@tempb{\HyPL@found\relax}%
4825   \ifx\Hy@tempa\Hy@tempb
4826     \def\HyPL@Type{#2}%
4827     \def\HyPL@Prefix{#1}%
4828   \fi
4829 }%

```

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

```

4830 \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`.

```

4831 \def\HyPL@Useless{0<</S/D>>}%
4832 \@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.

```

4833 \def\HyPL@SetPageLabels{%
4834   \@onelevel@sanitize\HyPL@Labels
4835   \ifx\HyPL@Labels\@empty
4836   \else
4837     \ifx\HyPL@Labels\HyPL@Useless
4838     \else
4839       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4840     \fi
4841   \fi
4842 }%

```

```

4843 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4844 \fi

```

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

```

4845 \Hy@DisableOption{pdfpagelabels}
4846 \endpackage

```

### 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

```

4847 \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.

```

4848 \*vTeX
4849 \providecommand*{\XR@ext}{pdf}
4850 \edef\Hy@VTeXversion{%
4851   \ifx\VTeXversion\undefined
4852     \z@
4853   \else
4854     \ifx\VTeXversion\relax
4855       \z@
4856     \else
4857       \VTeXversion
4858     \fi
4859   \fi
4860 }
4861 \begingroup
4862   \ifnum\Hy@VTeXversion<660 %
4863     \gdef\Hy@PutCatalog#1{%
4864       \Hy@WarningNoLine{%
4865         VTeX 6.59g or above required for pdfpagelabels%
4866       }%
4867     }%
4868   \else
4869     \gdef\Hy@PutCatalog#1{%
4870       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4871     }%
4872     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4873       \ifx\#2\%
4874         \else
4875           \immediate\special{!pdfpagelabels #2}%
4876         \fi
4877       }%
4878     \fi
4879   \endgroup
4880 \*vTeX

```

```

4881 \*pdfTeX | vTeX

```

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

```

4882 \ifHy@pagelabels

```

```

4883 \def\HyPL@StorePageLabel#1{%
4884   \toks@\expandafter{\HyPL@Labels}%
4885   \xdef\HyPL@Labels{%
4886     \the\toks@
4887     \the\Hy@abspage<<#1>>%
4888   }%
4889 }%

```

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.

```

4890 \@ifclassloaded{revtex4}{%
4891   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4892 }{%
4893   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4894 }%
4895 \fi
4896 </pdfTeX | vTeX>

```

### 27.1.2 pdfmarkbase, dvipdfm

```

4897 <*pdfmarkbase>
4898 \begingroup
4899   \toks@\expandafter{\Hy@FirstPageHook}%
4900   \xdef\Hy@FirstPageHook{%
4901     \noexpand\headerps@out{%
4902       systemdict /pdfmark known%
4903       {%
4904         userdict /?pdfmark systemdict /exec get put%
4905       }{%
4906         userdict /?pdfmark systemdict /pop get put %
4907         userdict /pdfmark systemdict /cleartomark get put%
4908       }%
4909       ifelse%
4910     }%
4911     \the\toks@
4912   }%
4913 \endgroup
4914 </pdfmarkbase>

```

\Hy@PutCatalog

```

4915 <dvipdfm>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
4916 <*pdfmarkbase>
4917 \def\Hy@PutCatalog#1{%
4918   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4919 }
4920 </pdfmarkbase>
4921 <*pdfmarkbase | dvipdfm>
4922 \ifHy@pagelabels

```

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

```

4923 \def\HyPL@StorePageLabel#1{%
4924   \if@filesw
4925     \begingroup
4926       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4927       \immediate\write\@mainaux{%
4928         \string\HyPL@Entry{\Hy@tempa}%

```



```

4929     }%
4930     \endgroup
4931     \fi
4932 }%

```

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.

```

4933 \AfterBeginDocument{%
4934     \if@filesw
4935         \immediate\write\@mainaux{%
4936             \string\providecommand\string*\string\HyPL@Entry[1]{}%
4937         }%
4938     \fi
4939     \ifx\HyPL@Labels\@empty
4940         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4941     \else
4942         \HyPL@SetPageLabels
4943     \fi
4944     \let\HyPL@Entry\@gobble
4945 }%

```

`\HyPL@Entry`

```

4946 \def\HyPL@Entry#1{%
4947     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4948         \HyPL@Labels
4949         #1%
4950     }%
4951 }%

4952 \fi
4953 </pdfmarkbase | dvipdfm>
4954 <*package>
4955 \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

```

4956 \def\Hy@CounterExists#1{%
4957     \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

4958 \expandafter\ifx\csname c@#1\endcsname\relax
4959 \expandafter\@gobble
4960 \else
4961 \begingroup\expandafter\expandafter\expandafter\endgroup
4962 \expandafter\ifx\csname the#1\endcsname\relax
4963 \expandafter\expandafter\expandafter\@gobble
4964 \else
4965 \expandafter\expandafter\expandafter\@firstofone
4966 \fi
4967 \fi
4968 }
4969 \Hy@CounterExists{section}{%
4970 \newcommand\theHequation{\theHsection.\arabic{equation}}%
4971 }
4972 \Hy@CounterExists{part}{%
4973 \newcommand\theHpart{\arabic{part}}%
4974 }
4975 \@ifundefined{thechapter}{%
4976 \newcommand\theHsection {\arabic{section}}%
4977 \newcommand\theHfigure {\arabic{figure}}%
4978 \newcommand\theHtable {\arabic{table}}%
4979 }{%
4980 \newcommand\theHchapter {\arabic{chapter}}%
4981 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
4982 \newcommand\theHtable {\theHchapter.\arabic{table}}%
4983 \newcommand\theHsection {\theHchapter.\arabic{section}}%
4984 }
4985 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
4986 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4987 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
4988 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4989 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
4990 \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.

```

4991 \let\H@item\item
4992 \newcounter{Item}
4993 \def\theHItem{\arabic{Item}}
4994 \def\item{%
4995 \@hyper@itemfalse
4996 \if@nmbrlist\@hyper@itemtrue\fi
4997 \H@item
4998 }
4999 \newcommand\theHenumi {\theHItem}
5000 \newcommand\theHenumii {\theHItem}
5001 \newcommand\theHenumiii {\theHItem}
5002 \newcommand\theHenumiv {\theHItem}
5003 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5004 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5005 \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.

```

5006 \let\H@refstepcounter\refstepcounter
5007 \edef\name@of@eq{equation}%
5008 \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.

```

5009 \newif\if@hyper@item
5010 \newif\if@skiphyperref
5011 \@hyper@itemfalse
5012 \@skiphyperreffalse
5013 \def\refstepcounter#1{%
5014   \ifHy@pdfstring
5015   \else
5016     \H@refstepcounter{#1}%
5017     \edef\This@name{#1}%
5018     \ifx\This@name\name@of@slide
5019     \else
5020       \if@skiphyperref
5021       \else
5022         \if@hyper@item
5023         \stepcounter{Item}%
5024         \hyper@refstepcounter{Item}%
5025         \@hyper@itemfalse
5026       \else
5027         \hyper@refstepcounter{#1}%
5028       \fi
5029     \fi
5030   \fi
5031 \fi
5032 }

```

AMST<sub>EX</sub> processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

5033 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

5034 \def\hyper@refstepcounter#1{%
5035   \edef\This@name{#1}%
5036   \ifx\This@name\name@of@eq
5037     \@ifundefined{theHequation}{%
5038       \make@stripped@name{\theequation}%
5039       \let\theHequation\newname
5040     }{}%
5041   \fi
5042   \@ifundefined{theH#1}{%
5043     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5044   }{}%
5045   \hyper@makecurrent{#1}%
5046   \ifmeasuring@
5047   \else
5048     \Hy@raisedlink{%
5049       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5050     }%
5051   \fi
5052 }

```

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`.

```

5053 \begingroup\expandafter\expandafter\expandafter\endgroup
5054 \expandafter\ifx\csname chapter\endcsname\relax
5055   \def\Hy@chapterstring{section}%
5056 \else
5057   \def\Hy@chapterstring{chapter}%
5058 \fi
5059 \def\Hy@appendixstring{appendix}
5060 \def\Hy@chapapp{\Hy@chapterstring}
5061 \let\HyOrg@appendix\appendix
5062 \def\appendix{%
5063   \@ifundefined{chapter}%
5064     {\gdef\theHsection{\Alph{section}}}%
5065     {\gdef\theHchapter{\Alph{chapter}}}%
5066   \xdef\Hy@chapapp{\Hy@appendixstring}%
5067   \HyOrg@appendix
5068 }
```

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

```

5069 \def\hyper@makecurrent#1{%
5070   \begingroup
5071     \edef\Hy@param{#1}%
5072     \ifx\Hy@param\Hy@chapterstring
5073       \let\Hy@param\Hy@chapapp
5074     \fi
5075     \ifHy@hypertextnames
5076       \let\@number\@firstofone
5077       \@ifundefined{latin@Alph}{-}{%
5078         \ifx\@Alph\greek@Alph
5079           \def\@Alph{Alph\@arabic}%
5080         \fi
5081       }%
5082       \ifx\@Alph\@Alph@bul
5083         \def\@Alph{Alph\@arabic}%
5084       \fi
5085       \ifx\@alph\@alph@bul
5086         \def\@alph{alph\@arabic}%
5087       \fi
5088     \ifHy@naturalnames
5089       \let\textlatin\@firstofone
5090       \xdef\@currentHlabel{\csname the#1\endcsname}%
5091     \else
5092       \xdef\@currentHlabel{\csname theH#1\endcsname}%
5093     \fi
5094     \xdef\@currentHref{%
5095       \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5096     }%
5097   \else
5098     \Hy@GlobalStepCount\Hy@linkcounter
5099     \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
5100   \fi

```

```

5101 \endgroup
5102 }

5103 \@ifpackageloaded{fancyvrb}{%
5104   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5105     \def\FV@StepLineNo{%
5106       \FV@SetLineNo
5107       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5108       \FV@SetLineNo
5109     }%
5110   }%
5111 }{}

```

## 29 Package lastpage support

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

`\lastpage@putlabel`

```

5112 \AtBeginDocument{%
5113   \@ifclassloaded{revtex4}{%
5114     \@namedef{ver@lastpage.sty}{1994/06/25}%
5115   }{}%
5116   \@ifpackageloaded{lastpage}{%
5117     \ifHy@pageanchor
5118     \else
5119       \Hy@WarningNoLine{%
5120         The \string\pageref{LastPage} link doesn't work\MessageBreak
5121         with disabled option 'pageanchor'%
5122       }%
5123     \fi
5124     \def\lastpage@putlabel{%
5125       \addtocounter{page}{-1}%
5126       \if@filesw
5127         \begingroup
5128           \let\@number\@firstofone
5129           \ifHy@pageanchor
5130             \ifHy@hypertexnames
5131               \ifHy@plainpages
5132                 \def\Hy@temp{\arabic{page}}%
5133               \else
5134                 \Hy@unicodedefalse
5135                 \pdfstringdef\Hy@temp{\thepage}%
5136               \fi
5137             \else
5138               \def\Hy@temp{\the\Hy@pagecounter}%
5139             \fi
5140           \fi
5141           \immediate\write\@auxout{%
5142             \string\newlabel
5143             {LastPage}{-}{\thepage}{-}{%
5144               \ifHy@pageanchor page.\Hy@temp\fi}{-}}%

```

```

5145         }%
5146     \endgroup
5147 \fi
5148 \addtocounter{page}{1}%
5149 }%
5150 \@ifclassloaded{revtex4}{%
5151     \begingroup
5152     \toks@\expandafter{\lastpage@putlabel}%
5153     \edef\x{\endgroup
5154         \def\noexpand\lastpage@putlabel{%
5155             \noexpand\stepcounter{page}%
5156             \the\toks@
5157             \noexpand\addtocounter{page}\noexpand\m@ne
5158         }%
5159     }%
5160     \x
5161 }{}%
5162 }{}%
5163 }
5164 \</package>
5165 \<*check>
5166 \checkpackage{lastpage}[1994/06/25]
5167 \checkcommand\def\lastpage@putlabel{%
5168     \addtocounter{page}{-1}%
5169     \immediate\write\@auxout{%
5170         \string\newlabel{LastPage}{{}\{\thepage}}%
5171     }%
5172     \addtocounter{page}{1}%
5173 }
5174 \</check>
5175 \<*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.

```

5176 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5177 \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:

```

5178 \@ifpackageloaded{titlesec}{%
5179     \def\ttl@Hy@steplink#1{%
5180         \Hy@GlobalStepCount\Hy@linkcounter
5181         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5182         \def\ttl@Hy@saveanchor{%
5183             \Hy@raisedlink{%
5184                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5185             }%
5186         }%
5187     }%

```

```

5188 \def\ttl@Hy@refstepcounter#1{%
5189   \let\ttl@b\Hy@raisedlink
5190   \def\Hy@raisedlink##1{%
5191     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5192   }%
5193   \refstepcounter{#1}%
5194   \let\Hy@raisedlink\ttl@b
5195 }%
5196 }{}

```

Package titletoc support:

```

5197 \@ifpackageloaded{titletoc}{%
5198   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5199 }{}

```

## 32 Package varioref support

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

```

5200 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
5201 \@ifpackageloaded{varioref}{%
5202   \def\vref@pagenum#1#2{%
5203     \@ifundefined{r@#2}{%
5204       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5205     }{}%
5206     \edef#1{\getpagerefnumber{#2}}%
5207   }%
5208 }{}

```

## 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

```

5209 \@ifpackageloaded{longtable}{%
5210   \begingroup
5211     \def\y{\LT@array}%
5212     \@ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5213     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5214       \expandafter\endgroup
5215       \expandafter\def\y[##1]##2{%
5216         \H@refstepcounter{#1}%
5217         \hyper@makecurrent{table}%
5218         \let\Hy@LT@currentHlabel\@currentHlabel
5219         \let\Hy@LT@currentHref\@currentHref
5220         #2\@sharp####4%
5221       }%
5222     }%
5223     \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

5224   \begingroup
5225     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%

```

```

5226 \endgroup
5227 \def\LT@start{%
5228   #1%
5229   \let\@currentHlabel\Hy@LT@currentHlabel
5230   \let\@currentHref\Hy@LT@currentHref
5231   \Hy@raisedlink{%
5232     \hyper@anchorstart{\@currentHref}\hyper@anchorend
5233   }%
5234   \ifvoid\LT@firsthead\copy
5235   #2%
5236   }%
5237 }%
5238 \expandafter\x\LT@start\@nil
5239 }{}

```

## 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.

```

5240 \let\new@refstepcounter\refstepcounter
5241 \let\H@equation\equation
5242 \let\H@endequation\endequation
5243 \@ifpackageloaded{amsmath}{%
5244   \long\def\Hy@temp{%
5245     \incr@eqnum
5246     \mathdisplay@push
5247     \st@rredfalse \global\@eqnswtrue
5248     \mathdisplay{equation}%
5249   }%
5250   \ifx\Hy@temp\equation
5251     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5252       \csname iftrue\endcsname
5253   \else
5254     \long\def\equation{%
5255       \mathdisplay@push
5256       \st@rredfalse \global\@eqnswtrue
5257       \mathdisplay{equation}%
5258       \incr@eqnum
5259     }%
5260     \fi
5261   \fi
5262 }{}%
5263 \def\equation{%
5264   \let\refstepcounter\H@refstepcounter
5265   \H@equation
5266   \@ifundefined{theHequation}{%
5267     \make@stripped@name{\theequation}%
5268     \let\theHequation\newname
5269   }{}%
5270   \hyper@makecurrent{equation}%
5271   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5272   \let\refstepcounter\new@refstepcounter

```



```

5273 }%
5274 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5275 }

```

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.

```

5276 \newif\if@eqnstar
5277 \@eqnstarfalse
5278 \let\H@eqnarray\eqnarray
5279 \let\H@endeqnarray\endeqnarray
5280 \def\eqnarray{%
5281   \let\Hy@reserved@a\relax
5282   \def\@currentHref{}%
5283   \H@eqnarray
5284   \if@eqnstar
5285   \else
5286     \ifx\\ \@currentHref\\%
5287     \else
5288       \@ifundefined{theHequation}{%
5289         \make@stripped@name{\theequation}%
5290         \let\theHequation\newname
5291       }{}%
5292       \hyper@makecurrent{equation}%
5293       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5294     \fi
5295   \fi
5296 }
5297 \def\endeqnarray{%
5298   \H@endeqnarray
5299 }

```

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.

```

5300 \@namedef{eqnarray*}{%
5301   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5302 }
5303 \@namedef{endeqnarray*}{%
5304   \nonumber\endeqnarray\@eqnstarfalse
5305 }

```

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

```

5306 \@ifundefined{subeqnarray}{}{%
5307   \let\H@subeqnarray\subeqnarray
5308   \let\H@endsubeqnarray\endsubeqnarray
5309   \def\subeqnarray{%
5310     \let\Hy@reserved@a\relax
5311     \H@subeqnarray
5312     \@ifundefined{theHequation}{%
5313       \make@stripped@name{\theequation}%
5314       \let\theHequation\newname
5315     }{}%
5316     \hyper@makecurrent{equation}%
5317     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5318   }%
5319   \def\endsubeqnarray{%

```

```

5320 \H@endsubeqnarray
5321 }%
5322 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5323 }

```

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

```

5324 \def\make@stripped@name#1{%
5325 \begingroup
5326 \escapechar\m@ne
5327 \global\let\newname\@empty
5328 \protected@edef\Hy@tempa{#1}%
5329 \edef\@tempb{%
5330 \noexpand\@tfor\noexpand\Hy@tempa:=%
5331 \expandafter\strip@prefix\meaning\Hy@tempa
5332 }%
5333 \@tempb\do{%
5334 \if\Hy@tempa\else
5335 \if\Hy@tempa\else
5336 \xdef\newname{\newname\Hy@tempa}%
5337 \fi
5338 \fi
5339 }%
5340 \endgroup
5341 }

```

Support for amsmath's subequations:

```

5342 \begingroup\expandafter\expandafter\expandafter\endgroup
5343 \expandafter\ifx\csname subequations\endcsname\relax
5344 \else
5345 \let\HyOrg@subequations\subequations
5346 \def\subequations{%
5347 \stepcounter{equation}%
5348 \protected@edef\theHparentequation{%
5349 \@ifundefined{theHequation}\theequation\theHequation
5350 }%
5351 \addtocounter{equation}{-1}%
5352 \HyOrg@subequations
5353 \def\theHequation{\theHparentequation\alph{equation}}%
5354 \ignorespaces
5355 }%
5356 \fi

```

Support for package amsthm (Daniel Müllner):

```

5357 \@ifpackageloaded{amsthm}{%
5358 \def\@thm#1#2#3{%
5359 \ifhmode
5360 \unskip\unskip\par
5361 \fi
5362 \normalfont
5363 \trivlist
5364 \let\thmheadnl\relax
5365 \let\thm@swap\@gobble
5366 \thm@notefont{\fontseries\mddefault\upshape}%
5367 \thm@headpunct{.}% add period after heading
5368 \thm@headsep 5\p@ plus\p@ minus\p@\relax
5369 \thm@space@setup
5370 #1% style overrides
5371 \@topsep \thm@preskip % used by thm head

```

```

5372 \topsepadd \thm@postskip % used by \endparenv
5373 \def\dth@counter{#2}%
5374 \ifx\@empty\dth@counter
5375 \def\@tempa{%
5376 \oparg{\@begintheorem{#3}{}}[]%
5377 }%
5378 \else
5379 \H@refstepcounter{#2}%
5380 \hyper@makecurrent{#2}%
5381 \def\@tempa{%
5382 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
5383 }%
5384 \fi
5385 \@tempa
5386 }%
5387 \dth@everypar={%
5388 \@minipagefalse
5389 \global\@newlistfalse
5390 \@nparitemfalse
5391 \if@inlabel
5392 \global\@inlabelfalse
5393 \begingroup
5394 \setbox\z@\lastbox
5395 \ifvoid\z@
5396 \kern-\itemindent
5397 \fi
5398 \endgroup
5399 \ifx\@empty\dth@counter
5400 \else
5401 \Hy@raisedlink{%
5402 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5403 }%
5404 \fi
5405 \unhbox\@labels
5406 \fi
5407 \if@nobreak
5408 \clubpenalty\@M
5409 \else
5410 \clubpenalty\clubpenalty \everypar{%
5411 \fi
5412 }%
5413 }{}

```

## 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.

```

5414 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5415 \ifHy@hyperfootnotes
5416 \newcounter{Hfootnote}%
5417 \let\H@footnotetext\@footnotetext
5418 \let\H@footnotemark\@footnotemark
5419 \def\@xfootnotenext[#1]{%

```

```

5420 \begingroup
5421 \csname c@\@mpfn\endcsname #1\relax
5422 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5423 \endgroup
5424 \ifx\@footnotetext\@mpfootnotetext
5425 \expandafter\H@\@mpfootnotetext
5426 \else
5427 \expandafter\H@\@footnotetext
5428 \fi
5429 }%
5430 \def\@xfootnotemark[#1]{%
5431 \begingroup
5432 \c@footnote #1\relax
5433 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5434 \endgroup
5435 \H@\@footnotemark
5436 }%
5437 \let\H@\@mpfootnotetext\@mpfootnotetext
5438 \long\def\@mpfootnotetext#1{%
5439 \H@\@mpfootnotetext{%
5440 \ifHy@nesting
5441 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5442 \else
5443 \Hy@raisedlink{%
5444 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5445 }#1%
5446 \fi
5447 }%
5448 }%
5449 \long\def\@footnotetext#1{%
5450 \H@\@footnotetext{%
5451 \ifHy@nesting
5452 \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5453 \else
5454 \Hy@raisedlink{%
5455 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5456 }%
5457 \let\@currentHlabel\Hy@footnote@currentHlabel
5458 \let\@currentHref\Hy@footnote@currentHref
5459 \let\@currentlabelname\@empty
5460 #1%
5461 \fi
5462 }%
5463 }%

```

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.

```

5464 \def\@footnotemark{%
5465 \leavevmode
5466 \ifhmode\edef\@xsf{\the\spacefactor}\nobreak\fi
5467 \stepcounter{Hfootnote}%
5468 \global\let\Hy@saved@currentHlabel\@currentHlabel
5469 \global\let\Hy@saved@currentHref\@currentHref
5470 \hyper@makecurrent{Hfootnote}%
5471 \global\let\Hy@footnote@currentHlabel\@currentHlabel
5472 \global\let\Hy@footnote@currentHref\@currentHref

```

```

5473 \global\let\@currentHlabel\Hy@saved@currentHlabel
5474 \global\let\@currentHref\Hy@saved@currentHref
5475 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5476 \@makefnmark
5477 \hyper@linkend
5478 \ifhmode\spacefactor\@x@sf\fi
5479 \relax
5480 }%

```

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

```

5481 \@ifpackageloaded{longtable}{%
5482   \CheckCommand*{\LT@p@ftntext}[1]{%
5483     \edef\@tempa{%
5484       \the\LT@p@ftn
5485       \noexpand\footnotetext[\the\c@footnote]%
5486     }%
5487     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5488   }%
5489   \long\def\LT@p@ftntext#1{%
5490     \edef\@tempa{%
5491       \the\LT@p@ftn
5492       \begingroup
5493         \noexpand\c@footnote=\the\c@footnote\relax
5494         \noexpand\protected@xdef
5495           \noexpand\@thefnmark{\noexpand\thempfn}%
5496         \noexpand\protected@xdef\noexpand\@thefnmark{%
5497           \noexpand\thempfn
5498         }%
5499         \expandafter\expandafter\expandafter\noexpand
5500         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5501         \expandafter\expandafter\expandafter{%
5502           \expandafter\Hy@footnote@currentHref\expandafter
5503           }\expandafter{\Hy@footnote@currentHlabel}%
5504       }%
5505       \global\LT@p@ftn\expandafter{%
5506         \@tempa{#1}%
5507       }\endgroup
5508     }%
5509   }%
5510   \long\def\Hy@LT@footnotetext#1#2#3{%
5511     \H@@footnotetext{%
5512       \ifHy@nesting
5513         \hyper@@anchor{#1}{#3}%
5514       \else
5515         \Hy@raisedlink{%
5516           \hyper@@anchor{#1}{\relax}%
5517         }%
5518         \def\@currentHlabel{#2}%
5519         \def\@currentHref{#1}%
5520         \let\@currentlabelname\@empty
5521         #3%
5522       \fi
5523     }%
5524   }%
5525 }{}%

```

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

```

5526 \ifpackageloaded{fancyvrb}{%
5527   \def\V@@footnotetext{%
5528     \insert\footins\bgroup
5529     \csname reset@font\endcsname
5530     \footnotesize
5531     \interlinepenalty\interfootnotelinepenalty
5532     \splittopskip\footnotesep
5533     \splitmaxdepth\dp\strutbox
5534     \floatingpenalty \MM
5535     \hsize\columnwidth
5536     \@parboxrestore
5537     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5538     \@makefnintext}%
5539     \rule{\z@}{\footnotesep}%
5540     \bgroup
5541     \aftergroup\V@@@footnotetext
5542     \Hy@raisedlink{%
5543       \hyper@@anchor{\Hy@footnote@currentHref}{\relax}}%
5544     }%
5545     \let\@currentHlabel\Hy@footnote@currentHlabel
5546     \let\@currentHref\Hy@footnote@currentHref
5547     \let\@currentlabelname\@empty
5548     \ignorespaces
5549   }%
5550 }{}%
```

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.

```

5551 \let\HyOrg@maketitle\maketitle
5552 \def\maketitle{%
5553   \let\Hy@saved@footnotemark\@footnotemark
5554   \let\Hy@saved@footnotetext\@footnotetext
5555   \let\@footnotemark\H@@footnotemark
5556   \let\@footnotetext\H@@footnotetext
5557   \@ifnextchar[\Hy@maketitle@optarg{% ]
5558     \HyOrg@maketitle
5559     \Hy@maketitle@end
5560   }%
5561 }%
5562 \def\Hy@maketitle@optarg[#1]{%
5563   \HyOrg@maketitle[#1]%
5564   \Hy@maketitle@end
5565 }%
5566 \def\Hy@maketitle@end{%
5567   \ifx\@footnotemark\H@@footnotemark
5568     \let\@footnotemark\Hy@saved@footnotemark
5569     \fi
5570   \ifx\@footnotetext\H@@footnotetext
5571     \let\@footnotetext\Hy@saved@footnotetext
5572     \fi
5573 }%
```

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

```

5574 \def\realfootnote{%
5575   \@ifnextchar[\@xfootnote{%
5576     \stepcounter{\@mpfn}%
```

```

5577 \protected@xdef\@thefnmark{\thempfn}%
5578 \H@@footnotemark\H@@footnotetext
5579 }%
5580 }%

5581 \fi
5582 \Hy@DisableOption{hyperfootnotes}

5583 </package>
5584 <*check>
5585 \checklatex
5586 \checkcommand\def\@xfootnotenext[#1]{%
5587 \begingroup
5588 \csname c@\mpfn\endcsname #1\relax
5589 \unrestored@protected@xdef\@thefnmark{\thempfn}%
5590 \endgroup
5591 \@footnotetext
5592 }
5593 \checkcommand\def\@xfootnotemark[#1]{%
5594 \begingroup
5595 \c@footnote #1\relax
5596 \unrestored@protected@xdef\@thefnmark{\thefnmark{\thefootnote}}%
5597 \endgroup
5598 \@footnotemark
5599 }
5600 \checkcommand\def\@footnotemark{%
5601 \leavevmode
5602 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5603 \@makefnmark
5604 \ifhmode\spacefactor\@x@sf\fi
5605 \relax
5606 }
5607 </check>
5608 <*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.

```

5609 \def\caption{%
5610 \ifx\@captype\@undefined
5611 \latexerror{\noexpand\caption outside float}\@ehd
5612 \expandafter\@gobble
5613 \else
5614 \H@refstepcounter\@captype
5615 \let\Hy@tempa\@caption
5616 \ifundefined{float@caption}{%
5617 }{%
5618 \expandafter\ifx\csname @float@c@\@captype\endcsname
5619 \float@caption
5620 \let\Hy@tempa\Hy@float@caption
5621 \fi
5622 }%
5623 \expandafter\@firstofone
5624 \fi
5625 {\@dblarg{\Hy@tempa\@captype}}%
5626 }

```

```

5627 \long\def\@caption#1[#2]#3{%
5628   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5629     \csname iftrue\endcsname
5630     \global\let\@currentHref\hc@currentHref
5631   \else
5632     \hyper@makecurrent{\@capttype}%
5633   \fi
5634   \def\@currentlabelname{#2}%
5635   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5636     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5637   }%
5638   \begingroup
5639     \@parboxrestore
5640     \if@minipage
5641       \setminipage
5642     \fi
5643     \normalsize
5644     \expandafter\ifx\csname if@capstart\expandafter\endcsname
5645       \csname iftrue\endcsname
5646       \global\@capstartfalse
5647       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5648     \else
5649       \@makecaption{\csname fnum@#1\endcsname}{%
5650         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5651     \ifHy@nesting
5652       \hyper@@anchor{\@currentHref}{#3}%
5653     \else
5654       \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5655     \fi
5656   }%
5657 \fi
5658 \par
5659 \endgroup
5660 }

```

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.

```

5661 \let\Hy@float@caption\@caption
5662 \@ifpackageloaded{float}{%
5663   \def\Hy@float@caption{%
5664     \ifx\Hy@float@currentHref\@undefined
5665       \hyper@makecurrent{\@capttype}%
5666       \global\let\Hy@float@currentHref\@currentHref
5667     \else
5668       \let\@currentHref\Hy@float@currentHref
5669     \fi
5670     \float@caption
5671   }%
5672   \let\HyOrg@float@makebox\float@makebox
5673   \renewcommand{\float@makebox}[1]{%
5674     \HyOrg@float@makebox{%
5675       #1\relax
5676       \ifx\Hy@float@currentHref\@undefined
5677       \else
5678         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5679       \global\let\Hy@float@currentHref\@undefined

```



```

5680     \fi
5681   }%
5682 }%
5683 }{}

5684 </package>
5685 <*check>
5686 \checklatex[1999/06/01 - 2000/06/01]
5687 \checkcommand\def\caption{%
5688   \ifx\@capytype\@undefined
5689     \latexerror{\noexpand\caption outside float}\@ehd
5690     \expandafter\@gobble
5691   \else
5692     \refstepcounter\@capytype
5693     \expandafter\@firstofone
5694   \fi
5695   {\@dblarg{\@caption\@capytype}}}%
5696 }
5697 \checkcommand\long\def\@caption#1[#2]#3{%
5698   \par
5699   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5700     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5701   \begingroup
5702     \@parboxrestore
5703     \if@minipage
5704       \setminipage
5705     \fi
5706     \normalsize
5707     \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5708   \endgroup
5709 }
5710 </check>
5711 <*package>

```

## 37 Bibliographic references

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

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

```

5712 \def\hyper@natlinkstart#1{%
5713   \Hy@backout{#1}%
5714   \hyper@linkstart{cite}{cite.#1}%
5715   \def\hyper@nat@current{#1}%
5716 }
5717 \def\hyper@natlinkend{%
5718   \hyper@linkend
5719 }
5720 \def\hyper@natlinkbreak#1#2{%
5721   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5722 }
5723 \def\hyper@natanchorstart#1{%

```

```

5724 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5725 }
5726 \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.

```

5727 \ifundefined{NAT@parse}{%
5728   \providecommand*\@extra@binfo{}%
5729   \providecommand*\@extra@b@citeb{}%
5730   \def\bibcite#1#2{%
5731     \@newl@bel{b}{#1\@extra@binfo}{%
5732       \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5733     }%
5734   }%
5735   \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.”.

```

5736 \let\Hy@bibcite\bibcite
5737 \begingroup
5738   \ifundefined{bbl@cite@choice}{}{%
5739     \g@addto@macro\bbl@cite@choice{%
5740       \let\bibcite\Hy@bibcite
5741     }%
5742   }%
5743 \endgroup

```

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

```

5744 \providecommand*\@BIBLABEL{\@biblabel}%
5745 \def\@lbibitem[#1]#2{%
5746   \@skiphyperreftrue
5747   \H@item[%
5748     \ifx\Hy@raisedlink\@empty
5749       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5750       \@BIBLABEL{#1}%
5751       \hyper@anchorend
5752     \else
5753       \Hy@raisedlink{%
5754         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5755       }%
5756       \@BIBLABEL{#1}%
5757     \fi
5758     \hfill
5759   ]%
5760   \@skiphyperreffalse
5761   \if@filesw
5762     \begingroup
5763       \let\protect\noexpand
5764       \immediate\write\@auxout{%
5765         \string\bibcite{#2}{#1}%
5766       }%
5767     \endgroup
5768   \fi
5769   \ignorespaces
5770 }%

```

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

```

5771 \def\@bibitem#1{%
5772   \@skiphyperreftrue\H@item\@skiphyperreffalse
5773   \Hy@raisedlink{%
5774     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5775   }%
5776   \if@filesw
5777     \begingroup
5778       \let\protect\noexpand
5779       \immediate\write\@auxout{%
5780         \string\bibcite{#1}{\the\value{\@listctr}}}%
5781       }%
5782     \endgroup
5783   \fi
5784   \ignorespaces
5785 }%
5786 }{}

5787 </package>
5788 <*check>
5789 \checklatex
5790 \checkcommand\def\@lbibitem[#1]#2{%
5791   \item[\@biblabel{#1}\hfill]%
5792   \if@filesw
5793     {%
5794       \let\protect\noexpand
5795       \immediate\write\@auxout{%
5796         \string\bibcite{#2}{#1}%
5797       }%
5798     }%
5799   \fi
5800   \ignorespaces
5801 }
5802 \checkcommand\def\@bibitem#1{%
5803   \item
5804   \if@filesw
5805     \immediate\write\@auxout{%
5806       \string\bibcite{#1}{\the\value{\@listctr}}}%
5807     }%
5808   \fi
5809   \ignorespaces
5810 }
5811 </check>
5812 <*package>

```

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

```

5813 \@ifclassloaded{revtex}{%
5814   \Hy@Info{*** compatibility with revtex **** }%
5815   \def\revtex@checking#1#2{%
5816     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5817     \expandafter\def\csname b@#1\endcsname{#2}%
5818     \@SetMaxRnhefLabel{#1}%
5819     \expandafter\let\csname b@#1\endcsname\T@temp
5820   }%

```

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

```

5821 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
5822 \providecommand*{\@extra@b@citeb}{}%
5823 \def\CITEX[#1]#2{%
5824   \let\@citea\@empty
5825   \leavevmode
5826   \unskip
5827   $~{%
5828     \scriptstyle
5829     \CITE{%
5830       \@for\@citeb:=#2\do{%
5831         \@citea
5832         \def\@citea{,\penalty\@m\ }%
5833         \edef\@citeb{\expandafter\@firstofone\@citeb}%
5834         \if@filesw
5835           \immediate\write\@auxout{\string\citation{\@citeb}}%
5836         \fi
5837         \ifundefined{b@\@citeb\extra@b@citeb}{}%
5838         \mbox{\reset@font\bfseries ?}%
5839         \G@refundefinedtrue
5840         \latex@warning{%
5841           Citation '\@citeb' on page \thepage \space undefined%
5842         }%
5843       }%
5844       {\csname b@\@citeb\extra@b@citeb\endcsname}%
5845     }%
5846   }%
5847 }{#1}%
5848 }$%
5849 }%

```

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.

```

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

```

## 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.

```

5873 \ifpackageloaded{harvard}{%
5874   \AtBeginDocument{%
5875     \Hy@Info{*** compatibility with harvard *** }%
5876     \Hy@raiselinksfalse
5877     \def\harvardcite#1#2#3#4{%
5878       \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
5879       \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
5880       \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
5881       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5882     }%
5883     \def\HAR@citetoaux#1{%
5884       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5885       \ifHy@backref
5886         \ifx\@empty\@currentlabel
5887         \else
5888           \@bsphack
5889           \if@filesw
5890             \protected@write\@auxout{}{%
5891               \string\writefile{brf}{%
5892                 \string\backcite{#1}{%
5893                   {\thepage}{\@currentlabel}{\@currentHref}%
5894                 }%
5895               }%
5896             }%
5897           \fi
5898           \@esphack
5899         \fi
5900       \fi
5901     }%
5902     \def\harvarditem{%
5903       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
5904     }%
5905     \def\@harvarditem[#1]#2#3#4#5\par{%
5906       \item[]%
5907       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5908       \if@filesw
5909         \begingroup
5910           \def\protect##1{\string ##1\space}%
5911           \ifthenelse{\equal{#1}{\null}}{%
5912             {\def\next{{#4}{#2}{#3}}}%
5913             {\def\next{{#4}{#2}{#1}{#3}}}%
5914             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5915           \endgroup
5916         \fi
5917       \protect\hspace*{-\labelwidth}%
5918       \protect\hspace*{-\labelsep}%
5919       \ignorespaces
5920       #5%
5921       \ifHy@backref

```

```

5922         \newblock
5923         \backref{\csname br@#4\endcsname}%
5924     \fi
5925     \par
5926 }%

```

`\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`:

```

5927     \long\def\HAR@checkcitations#1#2#3#4{%
5928         \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
5929         \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5930         \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
5931         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5932         \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
5933         \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5934         \else
5935             \@tempswatrue
5936         \fi
5937     \else
5938         \@tempswatrue
5939     \fi
5940 \else
5941     \@tempswatrue
5942 \fi
5943 }%
5944 }%

5945 }{}

```

## 37.2 Package chicago

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

```

5946 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

5947 \def\citeN{%
5948     \def\@citesep{-1000}%
5949     \def\@cite##1##2{##1}%
5950     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5951     \@citedata@opt
5952 }%

```

`\shortciteN`

```

5953 \def\shortciteN{%
5954     \def\@citesep{-1000}%
5955     \def\@cite##1##2{##1}%
5956     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5957     \@citedata@opt
5958 }%

```

`\@citedata@opt`

```

5959 \def\@citedata@opt{%
5960     \let\@cite@opt\@empty
5961     \@ifnextchar [{%
5962         \@tempswatrue

```

```

5963     \@citedatax@opt
5964   }{%
5965     \@tempwafalse
5966     \@citedatax[]%
5967   }%
5968 }%

\@citedatax@opt

5969 \def\@citedatax@opt[#1]{%
5970   \def\@cite@opt{, #1}%
5971   \@citedatax[#1]}%
5972 }%

5973 }{}

```

## 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.

```

5974 \def\Hy@EveryPageAnchor{%
5975   \Hy@DistillerDestFix
5976   \ifHy@pageanchor
5977     \ifHy@hypertextnames
5978     \ifHy@plainpages
5979       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5980     \else
5981       \begingroup
5982         \let\@number\@firstofone
5983         \Hy@unicodedefalse
5984         \pdfstringdef\@theH@page{\thepage}%
5985       \endgroup
5986       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@theH@page}}%
5987     \fi
5988   \else
5989     \Hy@GlobalStepCount\Hy@pagecounter
5990     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5991   \fi
5992   \vbox to 0pt{%
5993     \kern\voffset
5994     \kern\topmargin
5995     \kern-1bp\relax
5996     \hbox to 0pt{%
5997       \kern\hoffset
5998       \kern\ifodd\value{page}%
5999         \oddsidemargin
6000       \else
6001         \evensidemargin
6002       \fi
6003       \kern-1bp\relax
6004       \Hy@TempPageAnchor
6005       \hss
6006     }%

```

```

6007      \vss
6008    }%
6009  \fi
6010}
6011\g@addto@macro\Hy@EveryPageBoxHook{%
6012  \Hy@EveryPageAnchor
6013}

```

## 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.

```

6014 \beginingroup\expandafter\expandafter\expandafter\endgroup
6015 \expandafter\ifx\csname chapter\endcsname\relax
6016   \def\toclevel@part{0}%
6017 \else
6018   \def\toclevel@part{-1}%
6019 \fi
6020 \def\toclevel@chapter{0}
6021 \def\toclevel@section{1}
6022 \def\toclevel@subsection{2}
6023 \def\toclevel@subsubsection{3}
6024 \def\toclevel@paragraph{4}
6025 \def\toclevel@subparagraph{5}
6026 \def\toclevel@figure{0}
6027 \def\toclevel@table{0}
6028 \@ifpackageloaded{listings}{%
6029   \providecommand*\theHlstlisting{\thelstlisting}%
6030   \providecommand*\toclevel@lstlisting{0}%
6031 }{}
6032 \@ifpackageloaded{listing}{%
6033   \providecommand*\theHlisting{\thelisting}%
6034   \providecommand*\toclevel@listing{0}%
6035 }{}
6036 \def\addcontentsline#1#2#3{% toc extension, type, tag
6037   \begingroup
6038     \let\label@gobble
6039     \let\textlatin@firstofone
6040     \ifx\@currentHref@empty
6041       \Hy@Warning{%
6042         No destination for bookmark of \string\addcontentsline,%
6043         \MessageBreak destination is added%
6044       }%
6045     \phantomsection
6046   \fi
6047   \expandafter\ifx\csname toclevel@#2\endcsname\relax
6048     \begingroup
6049       \def\Hy@tempa{#1}%
6050       \ifx\Hy@tempa\Hy@bookmarkstype
6051         \Hy@WarningNoLine{%
6052           bookmark level for unknown #2 defaults to 0%
6053         }%
6054       \else
6055         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6056       \fi

```



```

6057 \endgroup
6058 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6059 \fi
6060 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
6061 \Hy@writebookmark{\csname the#2\endcsname}%
6062 {#3}%
6063 {\@currentHref}%
6064 {\Hy@toplevel}%
6065 {#1}%
6066 \ifHy@verbose
6067 \def\Hy@tempa{#3}%
6068 \@onelevel@sanitize\Hy@tempa
6069 \typeout{pdfTeX: bookmark at \the\inputlineno: %
6070 {\csname the#2\endcsname}%
6071 {\Hy@tempa}%
6072 {\@currentHref}%
6073 {\Hy@toplevel}%
6074 {#1}%
6075 }%
6076 \fi
6077 \addtocontents{#1}{%
6078 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6079 }%
6080 \endgroup
6081 }
6082 \def\contentsline#1#2#3#4{%
6083 \ifx\#4\%
6084 \csname l@#1\endcsname{#2}{#3}%
6085 \else
6086 \ifcase\Hy@linktoc % none
6087 \csname l@#1\endcsname{#2}{#3}%
6088 \or % section
6089 \csname l@#1\endcsname{%
6090 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6091 }{#3}%
6092 \or % page
6093 \csname l@#1\endcsname{#2}{#3}%
6094 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6095 }%
6096 \else % all
6097 \csname l@#1\endcsname{%
6098 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6099 }{#3}%
6100 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6101 }%
6102 \fi
6103 \fi
6104 }
6105 </package>
6106 <*check>
6107 \checklatex
6108 \checkcommand\def\addcontentsline#1#2#3{%
6109 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6110 }
6111 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6112 </check>
6113 <*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.

```
6114 \let\H@definecounter\@definecounter
6115 \def\@definecounter#1{%
6116   \H@definecounter{#1}%
6117   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6118 }
```

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.

```
6119 \let\H@newctr\@newctr
6120 \def\@newctr#1[#2]{%
6121   \H@newctr#1[#2]%
6122   \expandafter\def\csname theH#1\endcsname{%
6123     \csname the\@ifundefined{theH#2}-{H}#2\endcsname.\arabic{#1}%
6124   }%
6125 }
```

## 41 AMS $\LaTeX$ compatibility

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

Version 6.77p uses a patch by Ross Moore.

```
6126 \ifpackageloaded{amsmath}{%
6127   \def\Hy@make@anchor{%
6128     \Hy@GlobalStepCount\Hy@linkcounter
6129     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6130     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6131   }%
6132   \def\Hy@make@df@tag@@#1{%
6133     \gdef\df@tag{%
6134       \maketag@@@{\Hy@make@anchor#1}%
6135       \def\@currentlabel{#1}%
6136     }%
6137   }%
6138   \def\Hy@make@df@tag@@@#1{%
6139     \gdef\df@tag{%
6140       \tagform@{\Hy@make@anchor#1}%
6141       \toks@{\xp{p}equation{#1}}%
6142       \edef\@currentlabel{\the\toks@}%
6143     }%
6144   }%
6145   \let\HyOrg@make@df@tag@@\make@df@tag@@
6146   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
6147   \let\make@df@tag@@\Hy@make@df@tag@@
6148   \let\make@df@tag@@@ \Hy@make@df@tag@@@
6149 }{}
```

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

```
6150 \ifpackagewith{hyperref}{pdf $\TeX$ }{%
```

```

6151 \let\H@seteqlabel\@seteqlabel
6152 \def\@seteqlabel#1{%
6153   \H@seteqlabel{#1}%
6154   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6155   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6156 }%
6157 }{}

```

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.

```

6158 \let\HyOrg@addtoreset\@addtoreset
6159 \def\@addtoreset#1#2{%
6160   \HyOrg@addtoreset{#1}{#2}%
6161   \expandafter\xdef\csname theH#1\endcsname{%
6162     \expandafter\noexpand
6163     \csname the\@ifundefined{theH#2}{H#2\endcsname
6164     .\noexpand\the\noexpand\value{#1}%
6165   }%
6166 }

```

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

```

6167 </package>
6168 <*check>
6169 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6170 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6171   \@ifundefined{c#2}{\@nocounterr{#2}}{%
6172     \@ifundefined{c#3}{\@nocnterr{#3}}{%
6173       \@addtoreset{#2}{#3}%
6174       \@xp\xdef\csname the#2\endcsname{%
6175         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6176       }%
6177     }%
6178   }%
6179 }%
6180 </check>
6181 <*package>
6182 \@ifpackageloaded{amsmath}{%
6183   \@ifpackagelater{amsmath}{1999/12/14}{%
6184     \renewcommand*\numberwithin[3][\arabic]{%
6185       \@ifundefined{c#2}{\@nocounterr{#2}}{%
6186         \@ifundefined{c#3}{\@nocnterr{#3}}{%
6187           \HyOrg@addtoreset{#2}{#3}%
6188           \@xp\xdef\csname the#2\endcsname{%

```

```

6189         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6190     }%
6191     \exp\xdef\csname theH#2\endcsname{%
6192         \exp\@nx
6193         \csname the\@ifundefined{theH#3}{H#3\endcsname
6194         .\@nx#1{#2}%
6195     }%
6196 }%
6197 }%
6198 }%
6199 }{%
6200     \Hy@WarningNoLine{%
6201         \string\numberwithin\space of package ‘amsmath’ %
6202         only fixed\MessageBreak
6203         for version 2000/06/06 v2.12 or newer%
6204     }%
6205 }%
6206 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6207 \ifHy@figures
6208   \let\Hy@Gin@setfile\Gin@setfile
6209   \def\Gin@setfile#1#2#3{%
6210     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6211   }%
6212 \fi
6213 \Hy@DisableOption{hyperfigures}

```

## 43 hyperindex entries

Internal command names are prefixed with \HyInd@.

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

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

```

6214 \ifHy@hyperindex
6215   \def\HyInd@ParenLeft{(%}
6216   \def\HyInd@ParenRight{)%}
6217   \Hy@nextfalse
6218   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6219   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6220   \begingroup
6221     \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
6222   \lowercase{\endgroup
6223     \ifHy@next
6224       \let\HyInd@org@wrindex\@wrindex
6225       \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6226       \def\HyInd@wrindex#1#2|#3|#4\{\%

```

```

6227     \ifx\|#3\|
6228         \HyInd@org@wrindex{#1}{#2|hyperpage}%
6229     \else
6230         \def\Hy@temp@A{#3}%
6231         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6232             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6233             \relax
6234         \HyInd@org@wrindex{#1}{#2|#3}%
6235     \else
6236         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6237     \fi
6238 \fi
6239 }%
6240 \else
6241     \def\@wrindex#1{\@wrindex#1||\|}%
6242     \def\@wrindex#1|#2|#3\|{%
6243         \if@filesw
6244             \ifx\|#2\|
6245                 \protected@write\@indexfile{}\{%
6246                     \string\indexentry{#1|hyperpage}{\thepage}%
6247                 }%
6248             \else
6249                 \def\Hy@temp@A{#2}%
6250                 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6251                     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6252                     \relax
6253                 \protected@write\@indexfile{}\{%
6254                     \string\indexentry{#1|#2}{\thepage}%
6255                 }%
6256             \else
6257                 \protected@write\@indexfile{}\{%
6258                     \string\indexentry{#1|#2hyperpage}{\thepage}%
6259                 }%
6260             \fi
6261         \fi
6262     \fi
6263 \endgroup
6264 \@esphack
6265 }%
6266 \fi
6267 }%
6268 \fi
6269 \Hy@DisableOption{hyperindex}
6270 \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.

```
6271 \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.

```

6272 \def\hyperpage#1{%
6273     \HyInd@hyperpage#1\nohyperpage{}\@nil
6274 }
6275 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6276     \HyInd@@hyperpage{#1}%
6277     #2%

```

```

6278 \def\Hy@temp{#3}%
6279 \ifx\Hy@temp\@empty
6280 \else
6281   \Hy@ReturnAfterFi{%
6282     \HyInd@hyperpage#3\@nil
6283   }%
6284 \fi
6285 }
6286 \def\HyInd@hyperpage#1{\@hyperpage#1----\}
6287 \def\@hyperpage#1--#2--#3\{\%
6288 \ifx\#2\%
6289   \@commahyperpage{#1}%
6290 \else
6291   \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6292 \fi
6293 }
6294 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6295 \def\@commahyperpage#1, #2,#3\{\%
6296 \ifx\#2\%
6297   \HyInd@pagelink{#1}%
6298 \else
6299   \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6300 \fi
6301 }

```

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

```

6302 \def\HyInd@pagelink#1{%
6303   \begingroup
6304     \toks@={}%
6305     \HyInd@removespaces#1 \@nil
6306   \endgroup
6307 }
6308 \def\HyInd@removespaces#1 #2\@nil{%
6309   \toks@=\expandafter{\the\toks@#1}%
6310   \ifx\#2\%
6311     \edef\x{\the\toks@}%
6312     \ifx\x\@empty
6313     \else
6314       \hyperlink{page.\the\toks@}{\the\toks@}%
6315     \fi
6316   \else
6317     \Hy@ReturnAfterFi{%
6318       \HyInd@removespaces#2\@nil
6319     }%
6320 \fi
6321 }

```

## 44 Compatibility with foiltex

```

6322 \@ifclassloaded{foils}{%
6323   \providecommand*\ext@table{lot}%
6324   \providecommand*\ext@figure{lof}%
6325 }{}

```

## 45 Compatibility with seminar slide package

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

```
6326 \@ifclassloaded{seminar}{%
6327   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6328 }{%
6329   \Hy@seminarslidesfalse
6330 }
6331 \@ifpackageloaded{slidesec}{%
6332   \newcommand\theHslidesection {\arabic{slidesection}}%
6333   \newcommand\theHslidesubsection{%
6334     \theHslidesection.\arabic{slidesubsection}}%
6335   }%
6336   \def\slide@heading[#1]#2{%
6337     \H@refstepcounter{slidesection}%
6338     \@addtoreset{slidesubsection}{slidesection}%
6339     \addtocontents{los}{%
6340       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6341       {\@SCTR}{\slideheading.\theslidesection}}%
6342   }%
6343   \def\Hy@tempa{#2}%
6344   \ifx\Hy@tempa\@empty
6345   \else
6346     {%
6347       \edef\@currentlabel{%
6348         \csname p@slidesection\endcsname\theslidesection
6349       }%
6350       \makeslideheading{#2}%
6351     }%
6352   \fi
6353   \gdef\theslideheading{#1}%
6354   \gdef\theslidesubheading{}%
6355   \ifHy@bookmarksnumbered
6356     \def\Hy@slidetitle{\theslidesection\space #1}%
6357   \else
6358     \def\Hy@slidetitle{#1}%
6359   \fi
6360   \ifHy@hypertextnames
6361     \ifHy@naturalnames
6362       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6363       \Hy@writebookmark
6364         {\theslidesection}%
6365         {\Hy@slidetitle}%
6366         {slideheading.\theslidesection}%
6367         {1}%
6368         {toc}%
6369     \else
6370       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6371       \Hy@writebookmark
6372         {\theslidesection}%
6373         {\Hy@slidetitle}%
6374         {slideheading.\theHslidesection}%
6375         {1}%
6376         {toc}%
6377     \fi
6378   \else
```

```

6379 \Hy@GlobalStepCount\Hy@linkcounter
6380 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6381 \Hy@writebookmark
6382 {\theslidesubsection}%
6383 {\Hy@slidetitle}%
6384 {slideheading.\the\Hy@linkcounter}%
6385 {1}%
6386 {toc}%
6387 \fi
6388 }%
6389 \def\slide@subheading[#1]#2{%
6390 \H@refstepcounter{slidesubsection}%
6391 \addtocontents{los}{%
6392 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6393 {\@SCTR}{slideheading.\theslidesubsection}%
6394 }%
6395 \def\Hy@tempa{#2}%
6396 \ifx\Hy@tempa\@empty
6397 \else
6398 {%
6399 \edef\@currentlabel{%
6400 \csname p@slidesubsection\endcsname\theslidesubsection
6401 }%
6402 \makeslidesubheading{#2}%
6403 }%
6404 \fi
6405 \gdef\theslidesubheading{#1}%
6406 \ifHy@bookmarksnumbered
6407 \def\Hy@slidetitle{\theslidesubsection\space #1}%
6408 \else
6409 \def\Hy@slidetitle{#1}%
6410 \fi
6411 \ifHy@hypertextnames
6412 \ifHy@naturalnames
6413 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6414 \Hy@writebookmark
6415 {\theslidesubsection}%
6416 {\Hy@slidetitle}%
6417 {slideheading.\theslidesubsection}%
6418 {2}%
6419 {toc}%
6420 \else
6421 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6422 \Hy@writebookmark
6423 {\theslidesubsection}%
6424 {\Hy@slidetitle}%
6425 {slideheading.\theHslidesubsection}%
6426 {2}%
6427 {toc}%
6428 \fi
6429 \else
6430 \Hy@GlobalStepCount\Hy@linkcounter
6431 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6432 \Hy@writebookmark
6433 {\theslidesubsection}%
6434 {\Hy@slidetitle}%
6435 {slideheading.\the\Hy@linkcounter}%

```



```

6436         {1}%
6437         {toc}%
6438     \fi
6439 }%
6440 \providecommand*{\listslidenam}{List of Slides}%
6441 \def\listofslides{%
6442     \section*{%
6443         \listslidenam
6444         \@mkboth{%
6445             \expandafter\MakeUppercase\listslidenam
6446         }{%
6447             \expandafter\MakeUppercase\listslidenam
6448         }%
6449     }%
6450     \def\l@slide##1##2##3##4{%
6451         \slide@undottedcline{%
6452             \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
6453         }{}%
6454     }%
6455     \let\l@subslide\l@slide
6456     \@startlos
6457 }%
6458 \def\slide@contents{%
6459     \def\l@slide##1##2##3##4{%
6460         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6461     }%
6462     \let\l@subslide\@gobblefour
6463     \@startlos
6464 }%
6465 \def\Slide@contents{%
6466     \def\l@slide##1##2##3##4{%
6467         \ifcase\lslide@flag
6468             \message{##1 ** \the\c@slidesection}%
6469             \ifnum##1>\c@slidesection
6470                 \def\lslide@flag{1}%
6471                 {%
6472                     \large
6473                     \slide@ccline{%
6474                         \slidenumberline{$\rightarrow\bullet$}%
6475                         {\hyperlink{##4}{##2}}}%
6476                     }{##3}%
6477                 }%
6478             \else
6479                 {%
6480                     \large
6481                     \slide@ccline{%
6482                         \slidenumberline{$\surd\;\bullet$}%
6483                         {\hyperlink{##4}{##2}}}%
6484                     }{##3}%
6485                 }%
6486             \fi
6487         \or
6488             \def\lslide@flag{2}%
6489             {%
6490                 \large
6491                 \slide@ccline{%
6492                     \slidenumberline{$\bullet$}%

```

```

6493         {\hyperlink{##4}{##2}}%
6494     }{##3}%
6495 }%
6496 \or
6497 {%
6498     \large
6499     \slide@ccline{%
6500         \slidenumberline{$\bullet$}%
6501         {\hyperlink{##4}{##2}}%
6502     }{##3}%
6503 }%
6504 \fi
6505 }%
6506 \def\l@subslide##1##2##3##4{%
6507     \ifnum\lslide@flag=1 %
6508         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6509     \fi
6510 }%
6511 \def\lslide@flag{0}%
6512 \@startlos
6513 }%
6514 }{}

```

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.)

```

6515 \ifHy@texht
6516     \expandafter\endinput
6517 \fi
6518 \let\real@setref\@setref
6519 \def\@setref#1#2#3{% csname, extract group, refname
6520     \ifx#1\relax
6521         \protect\G@refundefinedtrue
6522         \nfss@text{\reset@font\bfseries ??}%
6523         \@latex@warning{%
6524             Reference ‘#3’ on page \thepage \space undefined%
6525         }%
6526     \else
6527         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6528     \fi
6529 }

```

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

```

6530 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6531     \begingroup
6532         \toks0={\hyper@@link{#5}{#4}}%
6533         \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6534         \edef\x{\endgroup
6535             \the\toks0 {\the\toks1 }%
6536         }%
6537     \x
6538 }
6539 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6540     \ifx#1\relax
6541         \protect\G@refundefinedtrue
6542         \nfss@text{\reset@font\bfseries ??}%
6543         \@latex@warning{%

```

```

6544      Reference ‘#3’ on page \thepage \space undefined%
6545    }%
6546  \else
6547    \protect\hyper@@link
6548      {\expandafter\@fifthoffive#1}%
6549      {page.\expandafter\@secondoffive#1}%
6550      {\expandafter\@secondoffive#1}%
6551  \fi
6552 }

6553 </package>
6554 <*check>
6555 \checklatex
6556 \checkcommand\def\@setref#1#2#3{%
6557   \ifx#1\relax
6558     \protect\G@refundefinedtrue
6559     \nfss@text{\reset@font\bfseries ??}%
6560     \@latex@warning{%
6561       Reference ‘#3’ on page \thepage\space undefined%
6562     }%
6563   \else
6564     \expandafter#2#1\null
6565   \fi
6566 }
6567 </check>
6568 <*package>

```

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

```

6569 \def\HyRef@StarSetRef#1{%
6570   \begingroup
6571     \Hy@safe@activestrue
6572     \edef\x{#1}%
6573     \@onelevel@sanitize\x
6574     \edef\x{\endgroup
6575       \noexpand\HyRef@@StarSetRef
6576       \expandafter\noexpand\csname r@\x\endcsname{\x}%
6577     }%
6578   \x
6579 }
6580 \def\HyRef@@StarSetRef#1#2#3{%
6581   \ifx#1\@undefined
6582     \let#1\relax
6583   \fi
6584   \real@setref#1#3{#2}%
6585 }
6586 \def\@refstar#1{%
6587   \HyRef@StarSetRef{#1}\@firstoffive
6588 }
6589 \def\@pagerefstar#1{%
6590   \HyRef@StarSetRef{#1}\@secondoffive
6591 }
6592 \AtBeginDocument{%
6593   \@ifpackageloaded{varioref}{%
6594     \def\@Refstar#1{%
6595       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6596     }%
6597     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```

```

6598     \MakeUppercase#1%
6599   }%
6600   \DeclareRobustCommand*\Ref}{\Ref}{%
6601     \@ifstar\@Refstar\HyRef@Ref
6602   }%
6603   \def\HyRef@Ref#1{%
6604     \hyperref[#{1}]{\Ref*{#1}}%
6605   }%
6606   \def\Vr@f#1{%
6607     \leavevmode\unskip\vref@space
6608     \hyperref[#{1}]{%
6609       \Ref*{#1}%
6610       \let\vref@space\nobreakspace
6611       \@vpageref[\unskip]{#1}%
6612     }%
6613   }%
6614   \def\vr@f#1{%
6615     \leavevmode\unskip\vref@space
6616     \begingroup
6617       \let\T@pageref\@pagerefstar
6618       \hyperref[#{1}]{%
6619         \ref*{#1}%
6620         \vpageref[\unskip]{#1}%
6621       }%
6622     \endgroup
6623   }%
6624 }{}%
6625 }
6626 \DeclareRobustCommand*\autopageref}{%
6627   \@ifstar{%
6628     \HyRef@autopagerefname\pageref*%
6629   }\HyRef@autopageref
6630 }
6631 \def\HyRef@autopageref#1{%
6632   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6633 }
6634 \def\HyRef@autopagerefname{%
6635   \@ifundefined{pageautorefname}{%
6636     \@ifundefined{pagename}{%
6637       \Hy@Warning{No autoref name for ‘page’}%
6638     }{%
6639       \pagename\nobreakspace
6640     }%
6641   }{%
6642     \pageautorefname\nobreakspace
6643   }%
6644 }
6645 \DeclareRobustCommand*\autoref}{%
6646   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@link}%
6647 }
6648 \def\HyRef@autoref#1#2{%
6649   \begingroup
6650     \Hy@safe@activetrue
6651     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6652   \endgroup
6653 }
6654 \def\HyRef@autosetref#1#2#3{% link command, csname, refname

```

```

6655 \HyRef@ShowKeysRef{#2}%
6656 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6657 \edef\HyRef@thisref{%
6658 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6659 }%
6660 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6661 \Hy@safe@activesfalse
6662 #3{%
6663 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6664 }{%
6665 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6666 }{%
6667 \HyRef@currentHtag
6668 \expandafter\@firstoffive#1\@empty\@empty\@empty
6669 \null
6670 }%
6671 \else
6672 \protect\G@refundefinedtrue
6673 \nfss@text{\reset@font\bfseries ??}%
6674 \@latex@warning{%
6675 Reference ‘#2’ on page \thepage\space undefined%
6676 }%
6677 \fi
6678 }
6679 \def\HyRef@testreftype#1.#2\{%
6680 \@ifundefined{#1autorefname}{%
6681 \@ifundefined{#1name}{%
6682 \HyRef@StripStar#1\*\@nil{#1}%
6683 \@ifundefined{\HyRef@name autorefname}{%
6684 \@ifundefined{\HyRef@name name}{%
6685 \def\HyRef@currentHtag{%
6686 \Hy@Warning{No autoref name for ‘#1’}%
6687 }{%
6688 \edef\HyRef@currentHtag{%
6689 \expandafter\noexpand\csname\HyRef@name name\endcsname
6690 \noexpand~%
6691 }%
6692 }%
6693 }{%
6694 \edef\HyRef@currentHtag{%
6695 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6696 \noexpand~%
6697 }%
6698 }%
6699 }{%
6700 \edef\HyRef@currentHtag{%
6701 \expandafter\noexpand\csname#1name\endcsname
6702 \noexpand~%
6703 }%
6704 }%
6705 }{%
6706 \edef\HyRef@currentHtag{%
6707 \expandafter\noexpand\csname#1autorefname\endcsname
6708 \noexpand~%
6709 }%
6710 }%
6711 }

```

```

6712 \def\HyRef@StripStar#1*\#2\@nil#3{%
6713   \def\HyRef@name{#2}%
6714   \ifx\HyRef@name\HyRef@CaseStar
6715     \def\HyRef@name{#1}%
6716   \else
6717     \def\HyRef@name{#3}%
6718   \fi
6719 }
6720 \def\HyRef@CaseStar{*\\}
6721 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6722 \let\HyRef@ShowKeysRef\@gobble
6723 \def\HyRef@ShowKeysInit{%
6724   \begingroup\expandafter\expandafter\expandafter\endgroup
6725   \expandafter\ifx\csname SK@@label\endcsname\relax
6726   \else
6727     \ifx\SK@ref\@empty
6728     \else
6729       \def\HyRef@ShowKeysRef{%
6730         \SK@\SK@@ref
6731       }%
6732     \fi
6733   \fi
6734 }
6735 \@ifpackageloaded{showkeys}{%
6736   \HyRef@ShowKeysInit
6737 }{%
6738   \AtBeginDocument{%
6739     \@ifpackageloaded{showkeys}{%
6740       \HyRef@ShowKeysInit
6741     }{%
6742     }%
6743 }

```

Defaults for the names that \autoref uses.

```

6744 \providecommand*{\AMSautorefname}{\equationautorefname}
6745 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6746 \providecommand*{\Itemautorefname}{\itemautorefname}
6747 \providecommand*{\itemautorefname}{item}
6748 \providecommand*{\equationautorefname}{Equation}
6749 \providecommand*{\footnoteautorefname}{footnote}
6750 \providecommand*{\itemautorefname}{item}
6751 \providecommand*{\figureautorefname}{Figure}
6752 \providecommand*{\tableautorefname}{Table}
6753 \providecommand*{\partautorefname}{Part}
6754 \providecommand*{\appendixautorefname}{Appendix}
6755 \providecommand*{\chapterautorefname}{chapter}
6756 \providecommand*{\sectionautorefname}{section}
6757 \providecommand*{\subsectionautorefname}{subsection}
6758 \providecommand*{\subsubsectionautorefname}{subsubsection}
6759 \providecommand*{\paragraphautorefname}{paragraph}
6760 \providecommand*{\subparagraphautorefname}{subparagraph}
6761 \providecommand*{\FancyVerbLineautorefname}{line}
6762 \providecommand*{\theoremautorefname}{Theorem}
6763 \providecommand*{\pageautorefname}{page}

```

6764  $\langle$ /package $\rangle$

## 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.

$\backslash$ Hy@pstringdef Therefore such strings should be passed through  $\backslash$ 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 $\TeX$  offers  $\backslash$ pdfescapestring.

```
6765  $\langle$ *pdf $\TeX$  | dvipdfm | vtex | pdfmarkbase | dviwindo $\rangle$ 
6766 \RequirePackage{pdf $\TeX$ cmds}[2007/11/11]
6767 \begingroup\expandafter\expandafter\expandafter\endgroup
6768 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6769   \begingroup
6770     \catcode'\|=0 %
6771     \@makeother\| %
6772   \@firstofone{\endgroup
6773     |def|Hy@pstringdef#1#2{%
6774       |begingroup
6775         |edef~{|string~}%
6776         |xdef|Hy@gtemp{#2}%
6777       |endgroup
6778       |let#1|Hy@gtemp
6779       |@onelevel@sanitize#1%
6780       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6781       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6782       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6783     }%
6784     |def|Hy@ExchangeBackslash#1\#2|@nil{%
6785       #1%
6786       |ifx|\#2\| %
6787       |else
6788         \| %
6789         |Hy@ReturnAfterFi{%
6790           |Hy@ExchangeBackslash#2|@nil
6791         }%
6792       |fi
6793     }%
6794   }%
6795   \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6796     #1%
6797     \ifx\#2\| %
6798     \else
6799       \@backslashchar(%
6800       \Hy@ReturnAfterFi{%
6801         \Hy@ExchangeLeftParenthesis#2\@nil
6802       }%
6803     \fi
6804   }%
6805   \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6806     #1%
6807     \ifx\#2\| %
```

```

6808 \else
6809 \backslashchar)%
6810 \Hy@ReturnAfterFi{%
6811 \Hy@ExchangeRightParenthesis#2\@nil
6812 }%
6813 \fi
6814 }%
6815 \else
6816 \def\Hy@pstringdef#1#2{%
6817 \begingroup
6818 \edef~{\string~}%
6819 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6820 \endgroup
6821 \let#1\Hy@gtemp
6822 }%
6823 \fi
6824 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

6825 <*pdfTeX>
6826 \providecommand*{\XR@ext}{pdf}
6827 \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, 2005-08-08: `\pdfminorversion`

```

6828 \let\Hy@pdfminorversion\relax
6829 \begingroup\expandafter\expandafter\expandafter\endgroup
6830 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6831 \begingroup\expandafter\expandafter\expandafter\endgroup
6832 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6833 \else
6834 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6835 \fi
6836 \else
6837 \def\Hy@pdfminorversion{\pdfminorversion}%
6838 \fi
6839 \@ifundefined{Hy@pdfminorversion}{%
6840 \PackageInfo{hyperref}{%
6841 PDF version is not set, because pdfTeX is too old (<1.10a)%
6842 }%
6843 }{%
6844 \ifHy@ocgcolorlinks
6845 \ifnum\Hy@pdfminorversion<5 %
6846 \setkeys{Hyp}{pdfversion=1.5}%
6847 \fi
6848 \fi
6849 \ifHy@setpdfversion
6850 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6851 \else
6852 \Hy@pdfminorversion=\Hy@pdfversion\relax
6853 \fi

```



```

6854 \PackageInfo{hyperref}{%
6855 \expandafter\string\Hy@pdfminorversion
6856 :=\number\Hy@pdfversion\space
6857 }%
6858 \fi
6859 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6860 }
6861 \Hy@DisableOption{pdfversion}%

6862 \ifHy@ocgcolorlinks
6863 \immediate\pdfobj{%
6864 <<%
6865 /Type/OCG%
6866 /Name(View)%
6867 /Usage<<%
6868 /Print<<%
6869 /PrintState/OFF%
6870 >>%
6871 /View<<%
6872 /ViewState/ON%
6873 >>%
6874 >>%
6875 >>%
6876 }%
6877 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6878 \immediate\pdfobj{%
6879 <<%
6880 /Type/OCG%
6881 /Name(Print)%
6882 /Usage<<%
6883 /Print<<%
6884 /PrintState/ON%
6885 >>%
6886 /View<<%
6887 /ViewState/OFF%
6888 >>%
6889 >>%
6890 >>%
6891 }%
6892 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6893 \immediate\pdfobj{%
6894 [%
6895 \OBJ@OCG@view\space\OBJ@OCG@print
6896 ]%
6897 }%
6898 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6899 \pdfcatalog{%
6900 /OCProperties<<%
6901 /OCGs \OBJ@OCGs
6902 /D<<%
6903 /OFF[\OBJ@OCG@print]%
6904 /AS[%
6905 <<%
6906 /Event/View%
6907 /OCGs \OBJ@OCGs
6908 /Category[/View]%
6909 >>%
6910 <<%

```

```

6911         /Event/Print%
6912         /OCGs \OBJ@OCGs
6913         /Category[/Print]%
6914     >>%
6915     <<%
6916         /Event/Export%
6917         /OCGs \OBJ@OCGs
6918         /Category[/Print]%
6919     >>%
6920     ]%
6921     >>%
6922     >>%
6923 }%
6924 \begingroup
6925   \edef\x{\endgroup
6926     \pdfpageresources{%
6927       /Properties<<%
6928       /OCView \OBJ@OCG@view
6929       /OCPrint \OBJ@OCG@print
6930     >>%
6931   }%
6932 }%
6933 \x
6934 \AtBeginDocument{%
6935   \def\Hy@colorlink#1{%
6936     \begingroup
6937       \ifHy@ocgcolorlinks
6938         \def\Hy@ocgcolor{#1}%
6939         \setbox0=\color@hbox
6940       \else
6941         \HyColor@UseColor#1%
6942       \fi
6943   }%
6944   \def\Hy@endcolorlink{%
6945     \ifHy@ocgcolorlinks
6946       \color@endbox
6947     \mbox{%
6948       \pdfliteral page{/OC/OCPrint BDC}%
6949       \rlap{\copy0}%
6950       \pdfliteral page{EMC/OC/OCView BDC}%
6951     \begingroup
6952       \expandafter\HyColor@UseColor\Hy@ocgcolor
6953       \box0 %
6954     \endgroup
6955     \pdfliteral page{EMC}%
6956   }%
6957   \fi
6958 \endgroup
6959 }%
6960 }%
6961 \else
6962   \Hy@DisableOption{ocgcolorlinks}%
6963 \fi

```

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

```

6964 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6965 \ifx\pdfstartlink\undefined% less than version 14
6966   \let\pdfstartlink\pdfannotlink

```

```

6967 \let\pdflinkmargin\@tempdima
6968 \let\pdfxform\pdfform
6969 \let\pdflastxform\pdfastform
6970 \let\pdfrefxform\pdfreform
6971 \else
6972 \pdflinkmargin1pt %
6973 \fi

```

First set up the default linking

```
6974 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

6975 \def\new@pdflink#1{%
6976   \ifHy@verbose
6977     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6978   \fi
6979   \Hy@SaveLastskip
6980   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
6981   \Hy@DestName\Hy@pstringDest\@pdfview
6982   \Hy@RestoreLastskip
6983 }
6984 \let\pdf@endanchor\@empty

```

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

```

6985 \def\Hy@DestName#1#2{%
6986   \pdfdest name{#1}#2\relax
6987 }

```

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.

```

6988 \providecommand*\@pdfborder{0 0 1}
6989 \providecommand*\@pdfborderstyle{}
6990 \def\Hy@undefinedname{UNDEFINED}
6991 \def\find@pdflink#1#2{%
6992   \leavevmode
6993   \protected@edef\Hy@testname{#2}%
6994   \ifx\Hy@testname\@empty
6995     \let\Hy@testname\Hy@undefinedname
6996   \else
6997     \Hy@pstringdef\Hy@testname{%
6998       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
6999     }%
7000   \fi
7001   \Hy@StartlinkName{%
7002     \ifHy@pdfa /F 4\fi
7003     \Hy@setpdfborder
7004     \ifx\@pdfhighlight\@empty
7005       \else
7006         /H\@pdfhighlight
7007       \fi
7008     \ifx\CurrentBorderColor\relax
7009       \else
7010         /C[\CurrentBorderColor]%
7011       \fi
7012   }\Hy@testname

```

```

7013 \expandafter\Hy@colorlink\csname @#1color\endcsname
7014 }
7015 \def\Hy@StartlinkName#1#2{%
7016 \pdfstartlink attr{#1}goto name{#2}\relax
7017 }
7018 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7019 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7020 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7021 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7022 \def\hyper@linkstart#1#2{%
7023 \ifundefined{#@#1bordercolor}{%
7024 \let\CurrentBorderColor\relax
7025 }{%
7026 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7027 }%
7028 \find@pdflink{#1}{#2}%
7029 }
7030 \def\hyper@linkend{\close@pdflink}
7031 \def\hyper@link#1#2#3{%
7032 \ifundefined{#@#1bordercolor}{%
7033 \let\CurrentBorderColor\relax
7034 }{%
7035 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7036 }%
7037 \find@pdflink{#1}{#2}#3%
7038 \close@pdflink
7039 }
7040 \let\CurrentBorderColor\@linkbordercolor
7041 \def\hyper@linkurl#1#2{%
7042 \begingroup
7043 \Hy@pstringdef\Hy@pstringURI{#2}%
7044 \hyper@chars
7045 \leavevmode
7046 \pdfstartlink
7047 attr{%
7048 \Hy@setpdfborder
7049 \ifx\@pdfhighlight\@empty
7050 \else
7051 /H\@pdfhighlight
7052 \fi
7053 \ifx\@urlbordercolor\relax
7054 \else
7055 /C[\@urlbordercolor]%
7056 \fi
7057 }%
7058 user{%
7059 /Subtype/Link%
7060 \ifHy@pdfa /F 4\fi
7061 /A<<%
7062 /Type/Action%
7063 /S/URI%
7064 /URI(\Hy@pstringURI)%
7065 >>%
7066 }%
7067 \relax
7068 \Hy@colorlink\@urlcolor#1%
7069 \close@pdflink

```

```

7070 \endgroup
7071 }
7072 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7073 \begingroup
7074 \Hy@pstringdef\Hy@pstringF{#2}%
7075 \Hy@pstringdef\Hy@pstringD{#3}%
7076 \leavevmode
7077 \pdfstartlink
7078 attr{%
7079 \Hy@setpdfborder
7080 \ifx\@pdfhighlight\@empty
7081 \else
7082 /H\@pdfhighlight
7083 \fi
7084 \ifx\@filebordercolor\relax
7085 \else
7086 /C[\@filebordercolor]%
7087 \fi
7088 }%
7089 user {%
7090 /Subtype/Link%
7091 \ifHy@pdfa /F 4\fi
7092 /A<{%
7093 /F(\Hy@pstringF)%
7094 /S/GoToR%
7095 \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}

```

```

7096 \ifx\#3\%
7097 /D[0 \@pdfstartview]%
7098 \else
7099 /D(\Hy@pstringD)%
7100 \fi
7101 >>%
7102 }%
7103 \relax
7104 \Hy@colorlink\@filecolor#1%
7105 \close@pdflink
7106 \endgroup
7107 }
7108 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7109 \begingroup
7110 \Hy@pstringdef\Hy@pstringF{#1}%
7111 \Hy@pstringdef\Hy@pstringP{#3}%
7112 \leavevmode
7113 \pdfstartlink
7114 attr{%
7115 \Hy@setpdfborder

```

```

7116     \ifx\@pdfhighlight\@empty
7117     \else
7118         /H\@pdfhighlight
7119     \fi
7120     \ifx\@runbordercolor\relax
7121     \else
7122         /C[\@runbordercolor]%
7123     \fi
7124 }%
7125 user {%
7126     /Subtype/Link%
7127     \ifHy@pdfa /F 4\fi
7128     /A<<%
7129         /F(\Hy@pstringF)%
7130         /S/Launch%
7131         \Hy@SetNewWindow
7132         \ifx\#3\%
7133         \else
7134             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7135         \fi
7136     >>%
7137 }%
7138 \relax
7139 \Hy@colorlink\@runcolor#2%
7140 \close@pdflink
7141 \endgroup
7142 }

```

\@pdfproducer

```

7143 \ifx\@pdfproducer\relax
7144 \begin{group}\expandafter\expandafter\expandafter\end{group}
7145 \expandafter\ifx\csname luatexversion\endcsname\relax
7146     \def\@pdfproducer{pdfTeX}%
7147     \ifx\@eTeXversion\@undefined
7148     \else
7149         \ifx\@eTeXversion\relax
7150         \else
7151             \ifnum\@eTeXversion>0 %
7152                 \def\@pdfproducer{pdfTeX}%
7153             \fi
7154         \fi
7155     \fi
7156     \ifx\pdfTeXversion\@undefined
7157     \else
7158         \ifnum\pdfTeXversion<100 %
7159             \edef\@pdfproducer{%
7160                 \@pdfproducer
7161                 \the\pdfTeXversion.\pdfTeXrevision
7162             }%
7163         \else
7164             \ifnum\pdfTeXversion<130 %
7165                 \edef\@pdfproducer{%
7166                     \@pdfproducer-
7167                     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7168                     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7169                     \pdfTeXrevision
7170                 }%

```

```

7171         \else
7172         \ifnum\pdfTeXversion<140 %
7173         \else
7174         \def\@pdfproducer{pdfTeX}%
7175         \fi
7176         \edef\@pdfproducer{%
7177         \@pdfproducer-
7178         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7179         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7180         \pdfTeXrevision
7181         }%
7182         \fi
7183     \fi
7184 \fi
7185 \else
7186 \begingroup
7187 \count@=\luatexversion
7188 \divide\count@ by 100 %
7189 \edef\x{\the\count@}%
7190 \count@=-\x\relax
7191 \multiply\count@ by 100 %
7192 \advance\count@ by \luatexversion
7193 \edef\x{\endgroup
7194 \def\noexpand\@pdfproducer{%
7195     LuaTeX-\x.\the\count@.\luatexrevision
7196     }%
7197     }%
7198 \x
7199 \fi
7200 \fi

```

\PDF@SetupDox

```

7201 \def\PDF@SetupDoc{%
7202 \ifx\@pdfpagescrop\@empty
7203 \else
7204 \edef\process@me{%
7205 \pdfpagesattr={%
7206 /CropBox[\@pdfpagescrop]%
7207 \expandafter\ifx\expandafter\the\pdfpagesattr\%
7208 \else
7209 ^^J\the\pdfpagesattr
7210 \fi
7211 }%
7212 }%
7213 \process@me
7214 \fi
7215 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7216 \pdfcatalog{%
7217 /PageMode/\@pdfpagemode
7218 \ifx\@baseurl\@empty
7219 \else
7220 /URI<</Base(\Hy@pstringB)>>%
7221 \fi
7222 }%
7223 \ifx\@pdfstartpage\@empty
7224 \else
7225 \ifx\@pdfstartview\@empty

```

```

7226     \else
7227         openaction goto page\@pdfstartpage{\@pdfstartview}%
7228     \fi
7229 \fi
7230 \edef\Hy@temp{%
7231     \ifHy@toolbar\else /HideToolbar true\fi
7232     \ifHy@menubar\else /HideMenubar true\fi
7233     \ifHy@windowui\else /HideWindowUI true\fi
7234     \ifHy@fitwindow /FitWindow true\fi
7235     \ifHy@centerwindow /CenterWindow true\fi
7236     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7237     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7238     \Hy@UseNameKey{Direction}\@pdfdirection
7239     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7240     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7241     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7242     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7243     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7244     \Hy@UseNameKey{Duplex}\@pdfduplex
7245     \ifx\@pdfpicktraybypdfsize\@empty
7246     \else
7247         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7248     \fi
7249     \ifx\@pdfprintpagerange\@empty
7250     \else
7251         /PrintPageRange[\@pdfprintpagerange]%
7252     \fi
7253     \ifx\@pdfnumcopies\@empty
7254     \else
7255         /NumCopies \@pdfnumcopies
7256     \fi
7257 }%
7258 \pdfcatalog{%
7259     \ifx\Hy@temp\@empty
7260     \else
7261         /ViewerPreferences<<\Hy@temp>>%
7262     \fi
7263     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7264     \ifx\@pdflang\@empty
7265     \else
7266         /Lang(\@pdflang)%
7267     \fi
7268 }%
7269 }

```

\PDF@FinishDoc

```

7270 \def\PDF@FinishDoc{%
7271     \Hy@UseMaketitleInfos
7272     \pdfinfo{%
7273         /Author(\@pdfauthor)%
7274         /Title(\@pdftitle)%
7275         /Subject(\@pdfsubject)%
7276         /Creator(\@pdfcreator)%
7277         \ifx\@pdfcreationdate\@empty
7278         \else
7279             /CreationDate(\@pdfcreationdate)%
7280         \fi

```



```

7281 \ifx\@pdfmoddate\@empty
7282 \else
7283 /ModDate(\@pdfmoddate)%
7284 \fi
7285 \ifx\@pdfproducer\relax
7286 \else
7287 /Producer(\@pdfproducer)%
7288 \fi
7289 /Keywords(\@pdfkeywords)%
7290 }%
7291 \Hy@DisableOption{pdfauthor}%
7292 \Hy@DisableOption{pdftitle}%
7293 \Hy@DisableOption{pdfsubject}%
7294 \Hy@DisableOption{pdfcreator}%
7295 \Hy@DisableOption{pdfcreationdate}%
7296 \Hy@DisableOption{pdfmoddate}%
7297 \Hy@DisableOption{pdfproducer}%
7298 \Hy@DisableOption{pdfkeywords}%
7299 }

```

`\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`.

```

7300 \def\hyper@pagetransition{%
7301 \ifx\@pdfpagetransition\relax
7302 \else
7303 \expandafter\Hy@RemoveTransPageAttr
7304 \the\pdfpageattr^^J/Trans{>>\END
7305 \ifx\@pdfpagetransition\@empty
7306 \else
7307 \edef\@processme{%
7308 \global\pdfpageattr{%
7309 \the\pdfpageattr
7310 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7311 }%
7312 }%
7313 \@processme
7314 \fi
7315 \fi
7316 }

```

`\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.

```

7317 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7318 \ifx\#2\%
7319 \global\pdfpageattr{#1}%
7320 \else
7321 \Hy@RemoveTransPageAttr#1#4\END
7322 \fi
7323 }

```

`\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`.

```

7324 \def\hyper@pageduration{%
7325   \ifx\@pdfpageduration\relax
7326   \else
7327     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7328     \ifx\@pdfpageduration\@empty
7329     \else
7330       \edef\@processme{%
7331         \global\pdfpageattr{%
7332           \the\pdfpageattr
7333           ^^J/Dur \@pdfpageduration\space
7334         }%
7335       }%
7336       \@processme
7337     \fi
7338   \fi
7339 }

```

**\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.

```

7340 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7341   \ifx\#2\%
7342     \global\pdfpageattr{#1}%
7343   \else
7344     \Hy@RemoveDurPageAttr#1#4\END
7345   \fi
7346 }

```

**\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).

```

7347 \def\hyper@pagehidden{%
7348   \ifHy@useHidKey
7349     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7350     \ifHy@pdfpagehidden
7351       \edef\@processme{%
7352         \global\pdfpageattr{%
7353           \the\pdfpageattr
7354           ^^J/Hid true % SPACE
7355         }%
7356       }%
7357       \@processme
7358     \fi
7359   \fi
7360 }

```

**\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.

```

7361 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7362   \ifx\#2\%
7363     \global\pdfpageattr{#1}%
7364   \else
7365     \Hy@RemoveHidPageAttr#1#4\END

```

```

7366 \fi
7367 }

7368 \g@addto@macro\Hy@EveryPageHook{%
7369 \hyper@pagetransition
7370 \hyper@pageduration
7371 \hyper@pagehidden
7372 }

7373 \AtBeginDocument{%
7374 \ifHy@setpagesize
7375 \expandafter\@firstofone
7376 \else
7377 \expandafter\@gobble
7378 \fi
7379 {%
7380 \@ifclassloaded{seminar}{%
7381 \setlength{\pdfhorigin}{1truein}%
7382 \setlength{\pdfvorigin}{1truein}%
7383 \ifportrait
7384 \ifdim\paperwidth=\z@
7385 \else
7386 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7387 \fi
7388 \ifdim\paperheight=\z@
7389 \else
7390 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7391 \fi
7392 \else
7393 \ifdim\paperheight=\z@
7394 \else
7395 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7396 \fi
7397 \ifdim\paperwidth=\z@
7398 \else
7399 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7400 \fi
7401 \fi
7402 }{%
7403 \@ifundefined{stockwidth}{%
7404 \ifdim\paperwidth=\z@
7405 \else
7406 \setlength{\pdfpagewidth}{\paperwidth}%
7407 \fi
7408 \ifdim\paperheight=\z@
7409 \else
7410 \setlength{\pdfpageheight}{\paperheight}%
7411 \fi
7412 }{%
7413 \ifdim\stockwidth=\z@
7414 \else
7415 \setlength{\pdfpagewidth}{\stockwidth}%
7416 \fi
7417 \ifdim\stockheight=\z@
7418 \else
7419 \setlength{\pdfpageheight}{\stockheight}%
7420 \fi
7421 }%
7422 }%

```

```

7423 }%
7424 \Hy@DisableOption{setpagesize}%
7425 }
7426 \def\Acrobatmenu#1#2{%
7427 \Hy@Acrobatmenu{#1}{#2}{%
7428 \pdfstartlink
7429 attr{%
7430 \Hy@setpdfborder
7431 \ifx\@pdfhighlight\@empty
7432 \else
7433 /H\@pdfhighlight
7434 \fi
7435 \ifx\@menubordercolor\relax
7436 \else
7437 /C[\@menubordercolor]%
7438 \fi
7439 }%
7440 user{%
7441 /Subtype/Link%
7442 \ifHy@pdfa /F 4\fi
7443 /A<<%
7444 /S/Named/N/#1%
7445 >>%
7446 }%
7447 \relax
7448 \Hy@colorlink\@menucolor#2%
7449 \close@pdflink
7450 }%
7451 }
7452 \</pdfTeX>
7453 \<*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.

```

7454 \providecommand*{\XR@ext}{dvi}
7455 \def\PDF@FinishDoc{}
7456 \def\PDF@SetupDoc{%
7457   \ifx\@baseurl\@empty
7458   \else
7459     \special{html:<base href="\@baseurl">}%
7460   \fi
7461 }
7462 \def\hyper@anchor#1{%
7463   \Hy@SaveLastskip
7464   \begingroup
7465     \let\protect=\string
7466     \hyper@chars
7467     \special{html:<a name=%
7468       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7469   \endgroup
7470   \Hy@activeanchortrue
7471   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7472   \special{html:</a>}%
7473   \Hy@activeanchorfalse
7474   \Hy@RestoreLastskip
7475 }
7476 \def\hyper@anchorstart#1{%
7477   \Hy@SaveLastskip
7478   \begingroup
7479     \hyper@chars
7480     \special{html:<a name=%
7481       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7482   \endgroup
7483   \Hy@activeanchortrue
7484 }
7485 \def\hyper@anchorend{%
7486   \special{html:</a>}%
7487   \Hy@activeanchorfalse
7488   \Hy@RestoreLastskip
7489 }
7490 \def\@urltype{url}
7491 \def\hyper@linkstart#1#2{%
7492   \expandafter\Hy@colorlink\csname @#1color\endcsname
7493   \def\Hy@tempa{#1}%
7494   \ifx\Hy@tempa\@urltype
7495     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7496   \else
7497     \begingroup
7498       \hyper@chars
7499       \special{html:<a href=%
7500         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
7501     \endgroup
7502   \fi
7503 }
```

```

7504 \def\hyper@linkend{%
7505   \special{html:</a>}}%
7506   \Hy@endcolorlink
7507 }
7508 \def\hyper@linkfile#1#2#3{%
7509   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7510 }
7511 \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.

```

7512   \leavevmode
7513   \ifHy@raiselinks
7514     \setbox\@tempboxa=\color@hbox #1\color@endbox
7515     \@linkdim\dp\@tempboxa
7516     \lower\@linkdim\hbox{%
7517       \hyper@chars
7518       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7519     }%
7520     \Hy@colorlink\@urlcolor#1%
7521     \@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).

```

7522     \advance\@linkdim by -6.5\p@
7523     \raise\@linkdim\hbox{\special{html:</a>}}%
7524     \Hy@endcolorlink
7525   \else
7526     \begingroup
7527       \hyper@chars
7528       \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7529       \Hy@colorlink\@urlcolor#1%
7530       \special{html:</a>}}%
7531       \Hy@endcolorlink
7532     \endgroup
7533   \fi
7534 }

```

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

```

7535 \def\hyper@link#1#2#3{%
7536   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
7537 }
7538 \def\hyper@image#1#2{%
7539   \begingroup
7540     \hyper@chars
7541     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7542   \endgroup
7543 }
7544 </hypertext>
7545 <*dviwindo>

```

## 46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or

after loading the hyperref package if the default `c:/netscape/netscape` is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

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

```

7546 \providecommand*\XR@ext}{dvi}
7547 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7548 \def\hyper@anchor#1{%
7549   \Hy@SaveLastskip
7550   \begingroup
7551     \let\protect=\string
7552     \special{mark: #1}%
7553   \endgroup
7554   \Hy@activeanchortrue
7555   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7556   \Hy@activeanchorfalse
7557   \Hy@RestoreLastskip
7558 }
7559 \def\hyper@anchorstart#1{%
7560   \Hy@SaveLastskip
7561   \special{mark: #1}%
7562   \Hy@activeanchortrue
7563 }
7564 \def\hyper@anchorend{%
7565   \Hy@activeanchorfalse
7566   \Hy@RestoreLastskip
7567 }
7568 \def\hyper@linkstart#1#2{%
7569   \expandafter\Hy@colorlink\csname @#1color\endcsname
7570   \special{button: %
7571     10000000 %
7572     \number\baselineskip\space
7573     #2%
7574   }%
7575 }
7576 \def\hyper@linkend{%
7577   \Hy@endcolorlink
7578 }
7579 \def\hyper@link#1#2#3{%
7580   \setbox\@tempboxa=\color@hbox #3\color@endbox
7581   \leavevmode
7582   \ifHy@raiselinks
7583     \@linkdim\dp\@tempboxa
7584     \lower\@linkdim\hbox{%
7585       \special{button: %
7586         \number\wd\@tempboxa\space
7587         \number\ht\@tempboxa\space
7588         #2%
7589       }%
7590       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7591       \Hy@endcolorlink
7592     }%
7593     \@linkdim\ht\@tempboxa
7594     \advance\@linkdim by -6.5\p@

```

```

7595     \raise\@linkdim\hbox{}%
7596 \else
7597     \special{button: %
7598     \number\wd\@tempboxa\space
7599     \number\ht\@tempboxa\space
7600     #2%
7601     }%
7602     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7603     \Hy@endcolorlink
7604 \fi
7605 }
7606 \def\hyper@linkurl#1#2{%
7607     \begingroup
7608     \hyper@chars
7609     \leavevmode
7610     \setbox\@tempboxa=\color@hbox #1\color@endbox
7611     \ifHy@raiselinks
7612         \@linkdim\dp\@tempboxa
7613         \lower\@linkdim\hbox{%
7614             \special{button: %
7615             \number\wd\@tempboxa\space
7616             \number\ht\@tempboxa\space
7617             launch: \wwwbrowser\space
7618             #2%
7619             }%
7620             \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7621             }%
7622             \@linkdim\ht\@tempboxa
7623             \advance\@linkdim by -6.5\p@
7624             \raise\@linkdim\hbox{}}%
7625     \else
7626         \special{button: %
7627         \number\wd\@tempboxa\space
7628         \number\ht\@tempboxa\space
7629         launch: \wwwbrowser\space
7630         #2%
7631         }%
7632         \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7633     \fi
7634 \endgroup
7635 }
7636 \def\hyper@linkfile#1#2#3{%
7637     \begingroup
7638     \hyper@chars
7639     \leavevmode
7640     \setbox\@tempboxa=\color@hbox #1\color@endbox
7641     \ifHy@raiselinks
7642         \@linkdim\dp\@tempboxa
7643         \lower\@linkdim\hbox{%
7644             \special{button: %
7645             \number\wd\@tempboxa\space
7646             \number\ht\@tempboxa\space
7647             #3,%
7648             file: #2%
7649             }%
7650             \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7651             }%

```



```

7652      \@linkdim\ht\@tempboxa
7653      \advance\@linkdim by -6.5\p@
7654      \raise\@linkdim\hbox{}%
7655  \else
7656      \special{button: %
7657          \number\wd\@tempboxa\space
7658          \number\ht\@tempboxa\space
7659          #3,%
7660          file: #2%
7661      }%
7662      \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7663  \fi
7664 \endgroup
7665 }
7666 \ifx\@pdfproducer\relax
7667 \def\@pdfproducer{dviwindo + Distiller}%
7668 \fi
7669 \def\PDF@FinishDoc{%
7670 \Hy@UseMaketitleInfos
7671 \special{PDF: Keywords \@pdfkeywords}%
7672 \special{PDF: Title \@pdftitle}%
7673 \special{PDF: Creator \@pdfcreator}%
7674 \ifx\@pdfcreationdate\@empty
7675 \else
7676 \special{PDF: CreationDate \@pdfcreationdate}%
7677 \fi
7678 \ifx\@pdfmoddate\@empty
7679 \else
7680 \special{PDF: ModDate \@pdfmoddate}%
7681 \fi
7682 \special{PDF: Author \@pdfauthor}%
7683 \ifx\@pdfproducer\relax
7684 \else
7685 \special{PDF: Producer \@pdfproducer}%
7686 \fi
7687 \special{PDF: Subject \@pdfsubject}%
7688 \Hy@DisableOption{pdfauthor}%
7689 \Hy@DisableOption{pdftitle}%
7690 \Hy@DisableOption{pdfsubject}%
7691 \Hy@DisableOption{pdfcreator}%
7692 \Hy@DisableOption{pdfcreationdate}%
7693 \Hy@DisableOption{pdfmoddate}%
7694 \Hy@DisableOption{pdfproducer}%
7695 \Hy@DisableOption{pdfkeywords}%
7696 }
7697 \def\PDF@SetupDoc{%
7698 \ifx\@baseurl\@empty
7699 \else
7700 \special{PDF: Base \@baseurl}%
7701 \fi
7702 \ifx\@pdfpagescrop\@empty\else
7703 \special{PDF: BBox \@pdfpagescrop}%
7704 \fi
7705 \def\Hy@temp{}%
7706 \ifx\@pdfstartpage\@empty
7707 \else
7708 \ifx\@pdfstartview\@empty

```

```

7709     \else
7710         \edef\Hy@temp{%
7711             ,Page=\@pdfstartpage
7712             ,View=\@pdfstartview
7713         }%
7714     \fi
7715 \fi
7716 \edef\Hy@temp{%
7717     \noexpand\pdfmark{%
7718         pdfmark=/DOCVIEW,%
7719         PageMode=/\@pdfpagemode
7720     }\Hy@temp
7721 }%
7722 }%
7723 \Hy@temp
7724 \ifx\@pdfpagescrop\@empty
7725 \else
7726     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7727 \fi
7728 \edef\Hy@temp{%
7729     \ifHy@toolbar\else /HideToolbar true\fi
7730     \ifHy@menubar\else /HideMenubar true\fi
7731     \ifHy>windowui\else /HideWindowUI true\fi
7732     \ifHy@fitwindow /FitWindow true\fi
7733     \ifHy@centerwindow /CenterWindow true\fi
7734     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7735     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7736     \Hy@UseNameKey{Direction}\@pdfdirection
7737     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7738     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7739     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7740     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7741     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7742     \Hy@UseNameKey{Duplex}\@pdfduplex
7743     \ifx\@pdfpicktraybypdfsize\@empty
7744     \else
7745         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7746     \fi
7747     \ifx\@pdfprintpagerange\@empty
7748     \else
7749         /PrintPageRange[\@pdfprintpagerange]%
7750     \fi
7751     \ifx\@pdfnumcopies\@empty
7752     \else
7753         /NumCopies \@pdfnumcopies
7754     \fi
7755 }%
7756 \pdfmark{pdfmark=/PUT,%
7757     Raw={%
7758         \string{Catalog}\string}<<%
7759         \ifx\Hy@temp\@empty
7760         \else
7761             /ViewerPreferences<<\Hy@temp>>%
7762         \fi
7763         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7764         \ifx\@pdflang\@empty
7765         \else

```

```

7766         /Lang(\@pdflang)%
7767         \fi
7768         >>%
7769     }%
7770 }%
7771 }
7772 </dviwindo>
7773 <*dvipdfm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7774 \providecommand*{\XR@ext}{pdf}
7775 \Hy@setbreaklinks{true}
7776 \newsavebox{\pdfm@box}
7777 \def\@pdfm@mark#1{\special{pdf:#1}}
7778 \def\@pdfm@dest#1{%
7779     \Hy@SaveLastskip
7780     \begingroup
7781     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7782     \def\x{XYZ}%
7783     \ifx\x\@pdfview
7784         \def\x{XYZ @xpos @ypos null}%
7785     \else
7786         \def\x{FitH}%
7787         \ifx\x\@pdfview
7788             \def\x{FitH @ypos}%
7789         \else
7790             \def\x{FitBH}%
7791             \ifx\x\@pdfview
7792                 \def\x{FitBH @ypos}%
7793             \else
7794                 \def\x{FitV}%
7795                 \ifx\x\@pdfview
7796                     \def\x{FitV @xpos}%
7797                 \else
7798                     \def\x{FitBV}%
7799                     \ifx\x\@pdfview
7800                         \def\x{FitBV @xpos}%
7801                     \else
7802                         \def\x{Fit}%
7803                         \ifx\x\@pdfview
7804                             \let\x\@pdfview
7805                         \else
7806                             \def\x{FitB}%
7807                             \ifx\x\@pdfview
7808                                 \let\x\@pdfview
7809                             \else
7810                                 \def\x{FitR}%
7811                                 \ifx\x\@pdfview
7812                                     \Hy@Warning{'pdfview=FitR' is not supported}%
7813                                     \def\x{XYZ @xpos @ypos null}%
7814                                 \else
7815                                     \@onelevel@sanitize\@pdfview
7816                                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7817                                     \def\x{XYZ @xpos @ypos null}%
7818                                 \fi

```

```

7819             \fi
7820             \fi
7821         \fi
7822     \fi
7823 \fi
7824 \fi
7825 \fi
7826 \pdfmark{dest (\Hy@pstringDest) [@thispage /\x]}%
7827 \endgroup
7828 \Hy@RestoreLastskip
7829 }
7830 \providecommand*\pdfview{XYZ}
7831 \providecommand*\pdfborder{0 0 1}
7832 \providecommand*\pdfborderstyle{}
7833 \def\hyper@anchor#1{%
7834     \pdfmark{dest{#1}}%
7835 }
7836 \def\hyper@anchorstart#1{%
7837     \Hy@activeanchortrue
7838     \pdfmark{dest{#1}}%
7839 }
7840 \def\hyper@anchorend{%
7841     \Hy@activeanchorfalse
7842 }
7843 \ifHy@ocgcolorlinks
7844     \def\OBJ@OCG@view{@OCG@view}%
7845     \pdfmark{%
7846         obj \OBJ@OCG@view <<%
7847             /Type/OCG%
7848             /Name(View)%
7849             /Usage<<%
7850             /Print<<%
7851             /PrintState/OFF%
7852             >>%
7853             /View<<%
7854             /ViewState/ON%
7855             >>%
7856         >>%
7857     }%
7858 \pdfmark{close \OBJ@OCG@view}%
7859 \def\OBJ@OCG@print{@OCG@print}%
7860 \pdfmark{%
7861     obj \OBJ@OCG@print <<%
7862         /Type/OCG%
7863         /Name(Print)%
7864         /Usage<<%
7865         /Print<<%
7866         /PrintState/ON%
7867         >>%
7868         /View<<%
7869         /ViewState/OFF%
7870         >>%
7871     >>%
7872 }%
7873 \pdfmark{close \OBJ@OCG@print}%

```

```

7876 \def\OBJ@OCGs{@OCGs}%
7877 \@pdfm@mark{%
7878   obj \OBJ@OCGs [%
7879     \OBJ@OCG@view\space\OBJ@OCG@print
7880   ]%
7881 }%
7882 \@pdfm@mark{close \OBJ@OCGs}%
7883 \@pdfm@mark{%
7884   put @catalog <<%
7885     /OCProperties<<%
7886     /OCGs \OBJ@OCGs
7887     /D<<%
7888     /OFF[\OBJ@OCG@print]%
7889     /AS[%
7890       <<%
7891         /Event/View%
7892         /OCGs \OBJ@OCGs
7893         /Category[/View]%
7894       >>%
7895       <<%
7896         /Event/Print%
7897         /OCGs \OBJ@OCGs
7898         /Category[/Print]%
7899       >>%
7900       <<%
7901         /Event/Export%
7902         /OCGs \OBJ@OCGs
7903         /Category[/Print]%
7904       >>%
7905     ]%
7906   >>%
7907 >>%
7908 >>%
7909 }%
7910 \AtBeginShipout{%
7911   \setbox\AtBeginShipoutBox=\hbox{%
7912     \copy\AtBeginShipoutBox
7913     \@pdfm@mark{%
7914       put @resources <<%
7915         /Properties<<%
7916         /OCView \OBJ@OCG@view
7917         /OCPrint \OBJ@OCG@print
7918       >>%
7919     >>%
7920   }%
7921 }%
7922 }%
7923 \AtBeginDocument{%
7924   \def\Hy@colorlink#1{%
7925     \begingroup
7926     \ifHy@ocgcolorlinks
7927       \def\Hy@ocgcolor{#1}%
7928       \setbox0=\color@hbox
7929     \else
7930       \HyColor@UseColor#1%
7931     \fi
7932   }%

```

```

7933 \def\Hy@endcolorlink{%
7934 \ifHy@ocgcolorlinks
7935 \color@endbox
7936 \mbox{%
7937 \@pdfm@mark{content /OC/OCPrint BDC}%
7938 \rlap{\copy0}%
7939 \@pdfm@mark{content EMC/OC/OCView BDC}%
7940 \begingroup
7941 \expandafter\HyColor@UseColor\Hy@ocgcolor
7942 \box0 %
7943 \endgroup
7944 \@pdfm@mark{content EMC}%
7945 }%
7946 \fi
7947 \endgroup
7948 }%
7949 }%
7950 \else
7951 \Hy@DisableOption{ocgcolorlinks}%
7952 \fi

7953 \def\Hy@undefinedname{UNDEFINED}
7954 \def\hyper@linkstart#1#2{%
7955 \protected@edef\Hy@testname{#2}%
7956 \ifx\Hy@testname\@empty
7957 \let\Hy@testname\Hy@undefinedname
7958 \else
7959 \Hy@pstringdef\Hy@testname{%
7960 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7961 }%
7962 \fi
7963 \@pdfm@mark{%
7964 bann<<%
7965 /Type/Annot%
7966 /Subtype/Link%
7967 \ifHy@pdfa /F 4\fi
7968 \Hy@setpdfborder
7969 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7970 \else
7971 /C[\csname @#1bordercolor\endcsname]%
7972 \fi
7973 /A<<%
7974 /S/GoTo%
7975 /D(\Hy@testname)%
7976 >>%
7977 >>%
7978 }%
7979 \expandafter\Hy@colorlink\csname @#1color\endcsname
7980 }
7981 \def\hyper@linkend{%
7982 \Hy@endcolorlink
7983 \@pdfm@mark{eann}%
7984 }
7985 \def\hyper@link#1#2#3{%
7986 \hyper@linkstart{#1}{#2}#3\hyper@linkend
7987 }
7988 \def\hyper@linkfile#1#2#3{%
7989 \Hy@pstringdef\Hy@pstringF{#2}%

```

```

7990 \Hy@pstringdef\Hy@pstringD{#3}%
7991 \leavevmode
7992 \@pdfm@mark{%
7993   bann<<%
7994     /Type/Annot%
7995     /Subtype/Link%
7996     \ifHy@pdfa /F 4\fi
7997     \Hy@setpdfborder
7998     \ifx\@filebordercolor\relax
7999     \else
8000     /C[\@filebordercolor]%
8001     \fi
8002     /A<<%
8003     /S/GoToR%
8004     /F(\Hy@pstringF)%
8005     /D\ifx\#3\@0\@pdfstartview\else(\Hy@pstringD)\fi
8006     \Hy@SetNewWindow
8007   >>%
8008   >>%
8009 }%
8010 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8011 \@pdfm@mark{eann}%
8012 }
8013 \def\hyper@linkurl#1#2{%
8014   \Hy@pstringdef\Hy@pstringURI{#2}%
8015   \leavevmode
8016   \@pdfm@mark{%
8017     bann<<%
8018       /Type/Annot%
8019       /Subtype/Link%
8020       \ifHy@pdfa /F 4\fi
8021       \Hy@setpdfborder
8022       \ifx\@urlbordercolor\relax
8023       \else
8024       /C[\@urlbordercolor]%
8025       \fi
8026       /A<<%
8027       /S/URI%
8028       /URI(\Hy@pstringURI)%
8029     >>%
8030     >>%
8031   }%
8032   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8033   \@pdfm@mark{eann}%
8034 }
8035 \def\Acrobatmenu#1#2{%
8036   \Hy@Acrobatmenu{#1}{#2}{%
8037     \@pdfm@mark{%
8038       bann<<%
8039         /Type/Annot%
8040         /Subtype/Link%
8041         \ifHy@pdfa /F 4\fi
8042         /A<<%
8043         /S/Named%
8044         /N/#1%
8045       >>%
8046       \Hy@setpdfborder

```

```

8047         \ifx\@menubordercolor\relax
8048         \relax
8049         /C[\@menubordercolor]%
8050     \fi
8051     >>%
8052 }%
8053 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8054 \@pdfm@mark{eann}%
8055 }%
8056 }
8057 \ifx\@pdfproducer\relax
8058 \def\@pdfproducer{dvipdfm}%

```

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

```

8059 \begingroup\expandafter\expandafter\expandafter\endgroup
8060 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8061 \else
8062 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8063 \fi
8064 \fi
8065 \def\PDF@FinishDoc{%
8066 \Hy@UseMaketitleInfos
8067 \@pdfm@mark{%
8068 docinfo<<%
8069 /Title(\@pdftitle)%
8070 /Subject(\@pdfsubject)%
8071 /Creator(\@pdfcreator)%
8072 \ifx\@pdfcreationdate\@empty
8073 \else
8074 /CreationDate(\@pdfcreationdate)%
8075 \fi
8076 \ifx\@pdfmoddate\@empty
8077 \else
8078 /ModDate(\@pdfmoddate)%
8079 \fi
8080 /Author(\@pdfauthor)%
8081 \ifx\@pdfproducer\relax
8082 \else
8083 /Producer(\@pdfproducer)%
8084 \fi
8085 /Keywords(\@pdfkeywords)%
8086 >>%
8087 }%
8088 \Hy@DisableOption{pdfauthor}%
8089 \Hy@DisableOption{pdftitle}%
8090 \Hy@DisableOption{pdfsubject}%
8091 \Hy@DisableOption{pdfcreator}%
8092 \Hy@DisableOption{pdfcreationdate}%
8093 \Hy@DisableOption{pdfmoddate}%
8094 \Hy@DisableOption{pdfproducer}%
8095 \Hy@DisableOption{pdfkeywords}%
8096 }
8097 \def\PDF@SetupDoc{%
8098 \edef\Hy@temp{%
8099 \ifHy@toolbar\else /HideToolbar true\fi
8100 \ifHy@menubar\else /HideMenubar true\fi
8101 \ifHy>windowui\else /HideWindowUI true\fi

```



```

8102 \ifHy@fitwindow /FitWindow true\fi
8103 \ifHy@centerwindow /CenterWindow true\fi
8104 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8105 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8106 \Hy@UseNameKey{Direction}\@pdfdirection
8107 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8108 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8109 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8110 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8111 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8112 \Hy@UseNameKey{Duplex}\@pdfduplex
8113 \ifx\@pdfpicktraybypdfsize\@empty
8114 \else
8115 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8116 \fi
8117 \ifx\@pdfprintpagerange\@empty
8118 \else
8119 /PrintPageRange[\@pdfprintpagerange]%
8120 \fi
8121 \ifx\@pdfnumcopies\@empty
8122 \else
8123 /NumCopies \@pdfnumcopies
8124 \fi
8125 }%
8126 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8127 \@pdfm@mark{%
8128 docview<<%
8129 \ifx\@pdfstartpage\@empty
8130 \else
8131 \ifx\@pdfstartview\@empty
8132 \else
8133 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8134 \fi
8135 \fi
8136 \ifx\@baseurl\@empty
8137 \else
8138 /URI<</Base(\Hy@pstringB)>>%
8139 \fi
8140 /PageMode/\@pdfpagemode
8141 \ifx\Hy@temp\@empty
8142 \else
8143 /ViewerPreferences<<\Hy@temp>>%
8144 \fi
8145 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8146 \ifx\@pdflang\@empty
8147 \else
8148 /Lang(\@pdflang)%
8149 \fi
8150 >>%
8151 }%
8152 \ifx\@pdfpagescrop\@empty
8153 \else
8154 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8155 \fi
8156 }
8157 \AtBeginShipoutFirst{%
8158 \ifx\special@paper\@empty\else

```

```

8159 \ifHy@setpagesize
8160 \special{papersize=\special@paper}%
8161 \fi
8162 \fi
8163 \Hy@DisableOption{setpagesize}%
8164 }
8165 </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.

```

8166 <*vtexhtml>
8167 \providecommand*{\XR@ext}{htm}
8168 \RequirePackage{vtexhtml}
8169 \newif\if@Localurl
8170 \def\PDF@FinishDoc{}
8171 \def\PDF@SetupDoc{%
8172 \ifx\@baseurl\@empty
8173 \else
8174 \special{!direct <base href="\@baseurl">}%
8175 \fi
8176 }
8177 \def\@urltype{url}
8178 \def\hyper@link#1#2#3{%
8179 \leavevmode
8180 \special{!direct <a href=%
8181 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8182 #3%
8183 \special{!direct </a>}%
8184 }
8185 \def\hyper@linkurl#1#2{%
8186 \begingroup
8187 \hyper@chars
8188 \leavevmode
8189 \MathBSuppress=1\relax
8190 \special{!direct <a href=%
8191 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8192 #1%
8193 \MathBSuppress=0\relax
8194 \special{!direct </a>}%
8195 \endgroup
8196 }
8197 \def\hyper@linkfile#1#2#3{%
8198 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
8199 }
8200 \def\hyper@linkstart#1#2{%
8201 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8202 \@Localurltrue
8203 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8204 \else
8205 \@Localurlfalse
8206 \begingroup
8207 \hyper@chars
8208 \special{!aref \HyperDestNameFilter{#2}}%
8209 \endgroup
8210 \fi

```

```

8211 }
8212 \def\hyper@linkend{%
8213   \if@Localurl
8214     \special{!endaref}%
8215   \else
8216     \special{!direct </a>}%
8217   \fi
8218 }
8219 \def\hyper@anchorstart#1{%
8220   \Hy@SaveLastskip
8221   \begingroup
8222     \hyper@chars
8223     \special{!aname #1}%
8224     \special{!direct <a name=%
8225       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8226   \endgroup
8227   \Hy@Activeanchortrue
8228 }
8229 \def\hyper@anchorend{%
8230   \special{!direct </a>}%
8231   \Hy@Activeanchorfalse
8232   \Hy@RestoreLastskip
8233 }
8234 \def\hyper@anchor#1{%
8235   \Hy@SaveLastskip
8236   \begingroup
8237     \let\protect=\string
8238     \hyper@chars
8239     \leavevmode
8240     \special{!aname #1}%
8241     \special{!direct <a name=%
8242       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8243   \endgroup
8244   \Hy@Activeanchortrue
8245   \bgroup\anchor@spot\egroup
8246   \special{!direct </a>}%
8247   \Hy@Activeanchorfalse
8248   \Hy@RestoreLastskip
8249 }
8250 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8251 \def\@endForm{}
8252 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8253   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8254 }
8255 \def\@TextField[#1]#2{% parameters, label
8256   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8257 }
8258 \def\@CheckBox[#1]#2{% parameters, label
8259   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8260 }
8261 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8262   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8263 }
8264 \def\@PushButton[#1]#2{% parameters, label
8265   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8266 }
8267 \def\@Reset[#1]#2{%

```

```

8268 \typeout{Sorry, TeXpider does not yet support FORMs}%
8269 }
8270 \def\@Submit[#1]#2{%
8271 \typeout{Sorry, TeXpider does not yet support FORMs}%
8272 }
8273 \</vtexhtml>
8274 \<vtx>

```

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

```

8275 \ifx\mediaheight\@undefined
8276 \else
8277 \ifx\mediaheight\relax
8278 \else
8279 \ifHy@setpagesize
8280 \providecommand*\VTeXInitMediaSize{%
8281 \ifundefined{stockwidth}{%
8282 \ifdim\paperheight>0pt %
8283 \setlength\mediaheight\paperheight
8284 \fi
8285 \ifdim\paperheight>0pt %
8286 \setlength\mediawidth\paperwidth
8287 \fi
8288 }{%
8289 \ifdim\stockheight>0pt %
8290 \setlength\mediaheight\stockheight
8291 \fi
8292 \ifdim\stockwidth>0pt %
8293 \setlength\mediawidth\stockwidth
8294 \fi
8295 }%
8296 }%
8297 \AtBeginDocument{\VTeXInitMediaSize}%
8298 \fi
8299 \Hy@DisableOption{setpagesize}%
8300 \fi
8301 \fi

```

Older versions of VTeX require xyz in lower case.

```

8302 \providecommand*\@pdfview{xyz}
8303 \providecommand*\@pdfborder{0 0 1}
8304 \providecommand*\@pdfborderstyle{}
8305 \let\CurrentBorderColor\@linkbordercolor
8306 \def\hyper@anchor#1{%
8307 \Hy@SaveLastskip
8308 \begingroup
8309 \let\protect=\string
8310 \hyper@chars
8311 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8312 \endgroup
8313 \Hy@activeanchortrue
8314 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8315 \Hy@activeanchorfalse
8316 \Hy@RestoreLastskip
8317 }
8318 \def\hyper@anchorstart#1{%
8319 \Hy@SaveLastskip

```

```

8320 \begingroup
8321   \hyper@chars
8322   \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8323 \endgroup
8324 \Hy@activeanchortrue
8325 }
8326 \def\hyper@anchorend{%
8327   \Hy@activeanchorfalse
8328   \Hy@RestoreLastskip
8329 }
8330 \def\@urltype{url}
8331 \def\Hy@undefinedname{UNDEFINED}
8332 \def\hyper@linkstart#1#2{%
8333   \Hy@pstringdef\Hy@pstringURI{#2}%
8334   \expandafter\Hy@colorlink\csname @#1color\endcsname
8335   \@ifundefined{#1bordercolor}{%
8336     \let\CurrentBorderColor\relax
8337   }{%
8338     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8339   }%
8340   \def\Hy@tempa{#1}%
8341   \ifx\Hy@tempa\@urltype
8342     \special{!%
8343       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8344       a=<%
8345         \ifHy@pdfa /F 4\fi
8346         \Hy@setpdfborder
8347         \ifx\CurrentBorderColor\relax
8348         \else
8349           /C [\CurrentBorderColor]%
8350         \fi
8351       >%
8352     }%
8353   \else
8354     \protected@edef\Hy@testname{#2}%
8355     \ifx\Hy@testname\@empty
8356       \let\Hy@testname\Hy@undefinedname
8357     \fi
8358     \special{!%
8359       aref \expandafter\HyperDestNameFilter
8360         \expandafter{\Hy@testname};%
8361       a=<%
8362         \ifHy@pdfa /F 4\fi
8363         \Hy@setpdfborder
8364         \ifx\CurrentBorderColor\relax
8365         \else
8366           /C [\CurrentBorderColor]%
8367         \fi
8368       >%
8369     }%
8370   \fi
8371 }
8372 \def\hyper@linkend{%
8373   \special{!endaref}%
8374   \Hy@endcolorlink
8375 }
8376 \def\hyper@linkfile#1#2#3{%

```

```

8377 \leavevmode
8378 \special{!%
8379   aref <%
8380     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8381     f=#2>#3;%
8382     a=<%
8383       \ifHy@pdfa /F 4\fi
8384       \Hy@setpdfborder
8385       \ifx\@filebordercolor\relax
8386       \else
8387         /C [\@filebordercolor]%
8388       \fi
8389     >%
8390   }%
8391   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8392   \special{!endaref}%
8393 }
8394 \def\hyper@linkurl#1#2{%
8395   \begingroup
8396     \Hy@pstringdef\Hy@pstringURI{#2}%
8397     \hyper@chars
8398     \leavevmode
8399     \special{!%
8400       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8401       a=<%
8402         \ifHy@pdfa /F 4\fi
8403         \Hy@setpdfborder
8404         \ifx\@urlbordercolor\relax
8405         \else
8406           /C [\@urlbordercolor]%
8407         \fi
8408       >%
8409     }%
8410     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8411     \special{!endaref}%
8412   \endgroup
8413 }
8414 \def\hyper@link#1#2#3{%
8415   \@ifundefined{@#1bordercolor}{%
8416     \let\CurrentBorderColor\relax
8417   }{%
8418     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8419   }%
8420   \leavevmode
8421   \protected@edef\Hy@testname{#2}%
8422   \ifx\Hy@testname\@empty
8423     \let\Hy@testname\Hy@undefinedname
8424   \fi
8425   \special{!%
8426     aref \expandafter\HyperDestNameFilter
8427         \expandafter{\Hy@testname};%
8428     a=<%
8429       \ifHy@pdfa /F 4\fi
8430       \Hy@setpdfborder
8431       \ifx\CurrentBorderColor\relax
8432       \else
8433         /C [\CurrentBorderColor]%

```

```

8434 \fi
8435 >%
8436 }%
8437 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8438 \special{!endaref}%
8439 }
8440 \def\hyper@image#1#2{%
8441 \hyper@linkurl{#2}{#1}%
8442 }
8443 \def\@hyper@launch run:#1\#2#3{%
8444 \Hy@pstringdef\Hy@pstringF{#1}%
8445 \Hy@pstringdef\Hy@pstringP{#3}%
8446 \leavevmode
8447 \special{!aref %
8448 <u=%
8449 /Type/Action%
8450 /S/Launch%
8451 /F(\Hy@pstringF)%
8452 \Hy@SetNewWindow
8453 \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8454 >;%
8455 a=<%
8456 \ifHy@pdfa /F 4\fi
8457 \Hy@setpdfborder
8458 \ifx\@runbordercolor\relax
8459 \else
8460 /C[\@runbordercolor]%
8461 \fi
8462 >%
8463 }%
8464 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8465 \special{!endaref}%
8466 }
8467 \def\Acrobatmenu#1#2{%
8468 \Hy@Acrobatmenu{#1}{#2}{%
8469 \special{!%
8470 aref <u=/S /Named /N /#1>;%
8471 a=<%
8472 \ifHy@pdfa /F 4\fi
8473 \Hy@setpdfborder
8474 \ifx\@menubordercolor\relax
8475 \else
8476 /C[\@menubordercolor]%
8477 \fi
8478 >%
8479 }%
8480 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8481 \special{!endaref}%
8482 }%
8483 }

```

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

The code below makes sense for VTeX 7.02 or later.

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

```

8484 \ifnum\Hy@VTeXversion<702 %
8485 \else
8486 \def\hyper@pagetransition{%
8487 \ifx\@pdfpagetransition\relax

```

```

8488 \else
8489 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8490 \else
8491 \hvtex@parse@trans\@pdfpagetransition
8492 \fi
8493 \fi
8494 }%

```

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

Syntax of VT<sub>E</sub>X \special{!trans <transition\_effect>}:

```

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

```

Transition codes:

```

8495 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8496 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8497 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8498 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8499 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8500 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8501 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8502 \def\hvtex@par@dimension{/Dm}%
8503 \def\hvtex@par@direction{/Di}%
8504 \def\hvtex@par@duration{/D}%
8505 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8506 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8507 \def\hvtex@gettoken#1 #2\@nil{%
8508 \edef\hvtex@token{#1}%
8509 \edef\hvtex@buffer{#2}%
8510 }%
8511 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8512 \let\hvtex@trans@code\@empty
8513 \let\hvtex@param@dimension\@empty
8514 \let\hvtex@param@direction\@empty

```



```

8515 \let\hvtex@param@duration\@empty
8516 \let\hvtex@param@motion\@empty
8517 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8518 \hvtex@gettoken
8519 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8520 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8521 \else
8522 \hvtex@gettoken
8523 \fi
8524 \fi
8525 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8526 \hvtex@trans@params
8527 }%

```

Reentrant macro to parse optional parameters.

```

8528 \def\hvtex@trans@params{%
8529 \ifx\hvtex@buffer\@empty
8530 \else
8531 \hvtex@gettoken
8532 \let\hvtex@trans@par\hvtex@token
8533 \ifx\hvtex@buffer\@empty
8534 \else
8535 \hvtex@gettoken
8536 \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.

```

8537 \let\hvtex@param@duration\hvtex@token
8538 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8539 \expandafter\edef\expandafter\hvtex@param@motion
8540 \expandafter{\expandafter\@gobble\hvtex@token}%
8541 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8542 \expandafter\edef\expandafter\hvtex@param@dimension
8543 \expandafter{\expandafter\@gobble\hvtex@token}%
8544 \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).

```

8545 \let\hvtex@param@direction\hvtex@token
8546 \fi\fi\fi\fi
8547 \fi
8548 \fi
8549 \ifx\hvtex@buffer\@empty
8550 \let\next\hvtex@produce@trans
8551 \else
8552 \let\next\hvtex@trans@params
8553 \fi
8554 \next
8555 }%

```

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

```

8556 \def\hvtex@produce@trans{%
8557   \let\vtex@trans@special\@empty
8558   \if S\hvtex@trans@code
8559     \edef\vtex@trans@special{\hvtex@trans@code
8560       \hvtex@param@dimension\hvtex@param@motion}%
8561   \else\if B\hvtex@trans@code
8562     \edef\vtex@trans@special{%
8563       \hvtex@trans@code\hvtex@param@dimension
8564     }%
8565   \else\if X\hvtex@trans@code
8566     \edef\vtex@trans@special{%
8567       \hvtex@trans@code\hvtex@param@motion
8568     }%
8569   \else\if W\hvtex@trans@code
8570     \edef\vtex@trans@special{%
8571       \hvtex@trans@code\hvtex@param@direction
8572     }%
8573   \else\if D\hvtex@trans@code
8574     \let\vtex@trans@special\hvtex@trans@code
8575   \else\if R\hvtex@trans@code
8576     \let\vtex@trans@special\hvtex@trans@code
8577   \else\if G\hvtex@trans@code
8578     \edef\vtex@trans@special{%
8579       \hvtex@trans@code\hvtex@param@direction
8580     }%
8581   \fi\fi\fi\fi\fi\fi
8582   \ifx\vtex@trans@special\@empty
8583   \else
8584     \ifx\hvtex@param@duration\@empty
8585     \else
8586       \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8587     \multiply\dimen@\@m
8588     \edef\vtex@trans@special{%
8589       \vtex@trans@special,\strip@pt\dimen@
8590     }%
8591   \fi

```

And all the mess is just for this.

```

8592   \special{!trans \vtex@trans@special}%
8593   \fi
8594 }%

8595 \def\hyper@pageduration{%
8596   \ifx\@pdfpageduration\relax
8597   \else
8598     \ifx\@pdfpageduration\@empty
8599     \special{!duration-}%
8600   \else
8601     \special{!duration \@pdfpageduration}%
8602   \fi
8603   \fi
8604 }%
8605 \def\hyper@pagehidden{%
8606   \ifHy@useHidKey

```

```

8607     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8608   \fi
8609 }%
8610 \g@addto@macro\Hy@EveryPageBoxHook{%
8611   \hyper@pagetransition
8612   \hyper@pageduration
8613   \hyper@pagehidden
8614 }%
8615 \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

```

8616 \ifx\@pdfproducer\relax
8617   \def\@pdfproducer{VTeX}%
8618   \ifnum\Hy@VTeXversion>\z@
8619     \count@\VTeXversion
8620     \divide\count@ 100 %
8621     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8622     \multiply\count@ -100 %
8623     \advance\count@\VTeXversion
8624     \edef\@pdfproducer{%
8625       \@pdfproducer
8626       .\ifnum\count@<10 0\fi\the\count@
8627       \ifx\VTeXOS\@undefined\else
8628         \ifnum\VTeXOS>0 %
8629           \ifnum\VTeXOS<6 %
8630             \space(%
8631             \ifcase\VTeXOS
8632               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8633             \fi
8634           )%
8635         \fi
8636       \fi
8637     \fi
8638     ,\space
8639     \ifnum\OpMode=\@one PDF\else PS\fi
8640     \space backend%
8641     \ifx\gexmode\@undefined\else
8642       \ifnum\gexmode>\z@\space with GeX\fi
8643     \fi
8644   }%
8645 \fi
8646 \fi

```

Current `!pdfinfo` key syntax:

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

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

```

8647 \def\PDF@SetupDoc{%
8648   \ifx\@pdfpagescrop\@empty
8649   \else
8650     \special{!pdfinfo b=<\@pdfpagescrop>}%
8651   \fi
8652   \ifx\@pdfstartpage\@empty
8653   \else
8654     \ifx\@pdfstartview\@empty
8655     \else
8656       \special{!onopen Page\@pdfstartpage}%
8657     \fi
8658   \fi
8659   \special{!pdfinfo p=</\@pdfpagemode>}%
8660   \ifx\@baseurl\@empty
8661   \else
8662     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8663   \fi
8664   \special{!pdfinfo v=<<<%
8665     \ifHy@toolbar\else /HideToolbar true\fi
8666     \ifHy@menubar\else /HideMenubar true\fi
8667     \ifHy@windowui\else /HideWindowUI true\fi
8668     \ifHy@fitwindow /FitWindow true\fi
8669     \ifHy@centerwindow /CenterWindow true\fi
8670     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8671     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8672     \Hy@UseNameKey{Direction}\@pdfdirection
8673     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8674     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8675     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8676     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8677     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8678     \Hy@UseNameKey{Duplex}\@pdfduplex
8679     \ifx\@pdfpicktraybypdfsize\@empty
8680     \else
8681       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8682     \fi
8683     \ifx\@pdfprintpagerange\@empty
8684     \else
8685       /PrintPageRange[\@pdfprintpagerange]%
8686     \fi
8687     \ifx\@pdfnumcopies\@empty
8688     \else
8689       /NumCopies \@pdfnumcopies

```

```

8690 \fi
8691 >>>}%
8692 \ifx\@pdfpagelayout\@empty
8693 \else
8694 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8695 \fi
8696 }%
8697 \def\PDF@FinishDoc{%
8698 \Hy@UseMaketitleInfos
8699 \special{!pdfinfo a=<\@pdfauthor>}%
8700 \special{!pdfinfo t=<\@pdftitle>}%
8701 \special{!pdfinfo s=<\@pdfsubject>}%
8702 \special{!pdfinfo c=<\@pdfcreator>}%
8703 \ifx\@pdfproducer\relax
8704 \else
8705 \special{!pdfinfo r=<\@pdfproducer>}%
8706 \fi
8707 \special{!pdfinfo k=<\@pdfkeywords>}%
8708 \Hy@DisableOption{pdfauthor}%
8709 \Hy@DisableOption{pdftitle}%
8710 \Hy@DisableOption{pdfsubject}%
8711 \Hy@DisableOption{pdfcreator}%
8712 \Hy@DisableOption{pdfcreationdate}%
8713 \Hy@DisableOption{pdfmoddate}%
8714 \Hy@DisableOption{pdfproducer}%
8715 \Hy@DisableOption{pdfkeywords}%
8716 }
8717 </vtx>

```

## 46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

8718 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8719 <package>\providecommand*\Hy@DistillerDestFix{}
8720 <*pdfmark | dviwindo>
8721 \def\Hy@DistillerDestFix{%
8722 \begingroup
8723 \let\x\literalps@out

```

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

```

8724 \ifnum \@ifundefined{OpMode}{0}{}%
8725 \@ifundefined{gexmode}{0}{%
8726 \ifnum\gexmode>0 \OpMode\else 0\fi
8727 }}>1 %
8728 \def\x##1{%
8729 \immediate\special{!=##1}%
8730 }%
8731 \fi

```

```

8732 \x{%
8733 /product where{%
8734   pop %
8735   product(Distiller)search{%
8736     pop pop pop %
8737     version(.)search{%
8738       exch pop exch pop%
8739       (3011)eq{%
8740         gsave %
8741         newpath 0 0 moveto closepath clip%
8742         /Courier findfont 10 scalefont setfont %
8743         72 72 moveto(.)show %
8744         grestore%
8745       }if%
8746     }{pop}ifelse%
8747   }{pop}ifelse%
8748 }if%
8749 }%
8750 \endgroup
8751 }
8752 </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

```

```

8753 <*pdfmark>
8754 \Hy@breaklinks@unsupported
8755 \def\hyper@anchor#1{%
8756   \Hy@SaveLastskip
8757   \begingroup
8758     \pdfmark[\anchor@spot]{%
8759       pdfmark=/DEST,%
8760       linktype=anchor,%
8761       View=/\@pdfview \@pdfviewparams,%
8762       DestAnchor={#1}%
8763     }%
8764   \endgroup
8765   \Hy@RestoreLastskip
8766 }
8767 \@ifundefined{hyper@anchorstart}{-}{\endinput}
8768 \def\hyper@anchorstart#1{%
8769   \Hy@SaveLastskip
8770   \literalps@out{H.S}%
8771   \xdef\hyper@currentanchor{#1}%
8772   \Hy@activeanchortrue

```

```

8773 }
8774 \def\hyper@anchorend{%
8775   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8776   \pdfmark{%
8777     pdfmark=/DEST,%
8778     linktype=anchor,%
8779     View=/\@pdfview \@pdfviewparams,%
8780     DestAnchor=\hyper@currentanchor,%
8781   }%
8782   \Hy@activeanchorfalse
8783   \Hy@RestoreLastskip
8784 }
8785 \def\hyper@linkstart#1#2{%
8786   \ifHy@breaklinks
8787   \else
8788     \leavevmode\hbox\bgroup
8789     \fi
8790     \expandafter\Hy@colorlink\csname @#1color\endcsname
8791     \literalps@out{H.S}%
8792     \xdef\hyper@currentanchor{#2}%
8793     \gdef\hyper@currentlinktype{#1}%
8794 }
8795 \def\hyper@linkend{%
8796   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8797   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8798     \let\Hy@tempcolor\relax
8799   }{%
8800     \edef\Hy@tempcolor{%
8801       \csname @\hyper@currentlinktype bordercolor\endcsname
8802     }%
8803   }%
8804   \pdfmark{%
8805     pdfmark=/ANN,%
8806     linktype=link,%
8807     Subtype=/Link,%
8808     PDFAMlags=4,%
8809     Dest=\hyper@currentanchor,%
8810     AcroHighlight=\@pdfhighlight,%
8811     Border=\@pdfborder,%
8812     BorderStyle=\@pdfborderstyle,%
8813     Color=\Hy@tempcolor,%
8814     Raw=H.B%
8815   }%
8816   \Hy@endcolorlink
8817   \ifHy@breaklinks
8818   \else
8819     \egroup
8820   \fi
8821 }

```

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.

```

8822 \begingroup
8823   \catcode'P=12 %
8824   \catcode'T=12 %
8825   \lowercase{\endgroup
8826   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```

```

8827 }
8828 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8829 \def\hyper@pagetransition{%
8830   \ifx\@pdfpagetransition\relax
8831   \else
8832     \ifx\@pdfpagetransition\@empty
8833       % 1. Does an old entry have to be deleted?
8834       % 2. If 1=yes, how to delete?
8835     \else
8836       \pdfmark{%
8837         pdfmark=/PUT,%
8838         Raw={%
8839           \string{ThisPage\string}%
8840           <</Trans << /S /\@pdfpagetransition\space >> >>%
8841         }%
8842       }%
8843     \fi
8844   \fi
8845 }

```

\hyper@pageduration

```

8846 \def\hyper@pageduration{%
8847   \ifx\@pdfpageduration\relax
8848   \else
8849     \ifx\@pdfpageduration\@empty
8850       % 1. Does an old entry have to be deleted?
8851       % 2. If 1=yes, how to delete?
8852     \else
8853       \pdfmark{%
8854         pdfmark=/PUT,%
8855         Raw={%
8856           \string{ThisPage\string}%
8857           <</Dur \@pdfpageduration>>%
8858         }%
8859       }%
8860     \fi
8861   \fi
8862 }

```

\hyper@pagehidden

```

8863 \def\hyper@pagehidden{%
8864   \ifHy@useHidKey
8865     \pdfmark{%
8866       pdfmark=/PUT,%
8867       Raw={%
8868         \string{ThisPage\string}%
8869         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8870       }%
8871     }%
8872   \fi
8873 }

8874 \g@addto@macro\Hy@EveryPageBoxHook{%
8875   \hyper@pagetransition
8876   \hyper@pageduration

```



```

8877 \hyper@pagehidden
8878 }

8879 \def\hyper@image#1#2{%
8880 \hyper@linkurl{#2}{#1}%
8881 }

8882 \def\Hy@undefinedname{UNDEFINED}
8883 \def\hyper@link#1#2#3{%
8884 \@ifundefined{#1bordercolor}{%
8885 \let\Hy@tempcolor\relax
8886 }{%
8887 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8888 }%
8889 \begingroup
8890 \protected@edef\Hy@testname{#2}%
8891 \ifx\Hy@testname\@empty
8892 \let\Hy@testname\Hy@undefinedname
8893 \fi
8894 \pdfmark[{#3}]{%
8895 Color=\Hy@tempcolor,%
8896 linktype={#1},%
8897 AcroHighlight=\@pdfhighlight,%
8898 Border=\@pdfborder,%
8899 BorderStyle=\@pdfborderstyle,%
8900 pdfmark=/ANN,%
8901 Subtype=/Link,%
8902 PDFAFlags=4,%
8903 Dest=\Hy@testname
8904 }%
8905 \endgroup
8906 }

8907 \newtoks\pdf@docset
8908 \def\PDF@FinishDoc{%
8909 \Hy@UseMaketitleInfos
8910 \let\Hy@temp\@empty
8911 \ifx\@pdfcreationdate\@empty
8912 \else
8913 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8914 \fi
8915 \ifx\@pdfmoddate\@empty
8916 \else
8917 \expandafter\def\expandafter\Hy@temp\expandafter{%
8918 \Hy@temp
8919 ModDate=\@pdfmoddate,%
8920 }%
8921 \fi
8922 \ifx\@pdfproducer\relax
8923 \else
8924 \expandafter\def\expandafter\Hy@temp\expandafter{%
8925 \Hy@temp
8926 Producer=\@pdfproducer,%
8927 }%
8928 \fi
8929 \expandafter
8930 \pdfmark\expandafter{%
8931 \Hy@temp
8932 pdfmark=/DOCINFO,%
8933 Title=\@pdftitle,%

```

```

8934     Subject=\@pdfsubject,%
8935     Creator=\@pdfcreator,%
8936     Author=\@pdfauthor,%
8937     Keywords=\@pdfkeywords
8938 }%
8939 \Hy@DisableOption{pdfauthor}%
8940 \Hy@DisableOption{pdftitle}%
8941 \Hy@DisableOption{pdfsubject}%
8942 \Hy@DisableOption{pdfcreator}%
8943 \Hy@DisableOption{pdfcreationdate}%
8944 \Hy@DisableOption{pdfmoddate}%
8945 \Hy@DisableOption{pdfproducer}%
8946 \Hy@DisableOption{pdfkeywords}%
8947 }
8948 \def\PDF@SetupDoc{%
8949   \def\Hy@temp{%
8950     \ifx\@pdfstartpage\@empty
8951     \else
8952       \ifx\@pdfstartview\@empty
8953       \else
8954         \edef\Hy@temp{%
8955           ,Page=\@pdfstartpage
8956           ,View=\@pdfstartview
8957         }%
8958       \fi
8959     \fi
8960     \edef\Hy@temp{%
8961       \noexpand\pdfmark{%
8962         pdfmark=/DOCVIEW,%
8963         PageMode=/\@pdfpagemode
8964       }\Hy@temp
8965     }%
8966   }%
8967   \Hy@temp
8968   \ifx\@pdfpagescrop\@empty
8969   \else
8970     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8971   \fi
8972   \edef\Hy@temp{%
8973     \ifHy@toolbar\else /HideToolbar true\fi
8974     \ifHy@menubar\else /HideMenubar true\fi
8975     \ifHy@windowui\else /HideWindowUI true\fi
8976     \ifHy@fitwindow /FitWindow true\fi
8977     \ifHy@centerwindow /CenterWindow true\fi
8978     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8979     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8980     \Hy@UseNameKey{Direction}\@pdfdirection
8981     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8982     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8983     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8984     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8985     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8986     \Hy@UseNameKey{Duplex}\@pdfduplex
8987     \ifx\@pdfpicktraybypdfsize\@empty
8988     \else
8989       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8990     \fi

```

```

8991 \ifx\@pdfprintpagerange\@empty
8992 \else
8993 /PrintPageRange[\@pdfprintpagerange]%
8994 \fi
8995 \ifx\@pdfnumcopies\@empty
8996 \else
8997 /NumCopies \@pdfnumcopies
8998 \fi
8999 }%
9000 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9001 \pdfmark{%
9002 pdfmark=/PUT,%
9003 Raw={%
9004 \string{Catalog\string}<<%
9005 \ifx\Hy@temp\@empty
9006 \else
9007 /ViewerPreferences<<\Hy@temp>>%
9008 \fi
9009 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9010 \ifx\@pdflang\@empty
9011 \else
9012 /Lang(\@pdflang)%
9013 \fi
9014 \ifx\@baseurl\@empty
9015 \else
9016 /URI<</Base(\Hy@pstringB)>>%
9017 \fi
9018 >>%
9019 }%
9020 }%
9021 }
9022 </pdfmark>
9023 <*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.

```

9024 \newif\ifHy@pdfmarkerror
9025 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
9026 \def\pdfmark@[#1]#2{%
9027 \Hy@pdfmarkerrorfalse
9028 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9029 \@processme
9030 \let\pdf@type\relax
9031 \setkeys{PDF}{#2}%
9032 \ifHy@pdfmarkerror
9033 \else
9034 \ifx\pdf@type\relax
9035 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9036 \ifx\#1\%
9037 \else
9038 \pdf@rect{#1}%
9039 \fi
9040 \else
9041 \ifx\#1\%

```

```

9042         \literalps@out{%
9043             [\the\pdf@toks\space\pdf@type\space pdfmark%
9044             ]%
9045         \else
9046             \@ifundefined{@\pdf@linktype color}{%
9047                 \Hy@colorlink\@linkcolor
9048             }{%
9049                 \expandafter\Hy@colorlink
9050                     \csname @\pdf@linktype color\endcsname
9051             }%
9052             \pdf@rect{#1}%
9053             \literalps@out{%
9054                 [\the\pdf@toks\space\pdf@type\space pdfmark%
9055                 ]%
9056                 \Hy@endcolorlink
9057             \fi
9058         \fi
9059     \fi
9060 }

```

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}

```

```

9061 \newsavebox{\pdf@box}
9062 \providecommand*{\Hy@setouterhbox}{\sbox}
9063 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9064 \def\Hy@DEST{/DEST}
9065 \def\pdf@rect#1{%
9066     \leavevmode
9067     \ifHy@breaklinks
9068         \Hy@setouterhbox\pdf@box{#1}%
9069     \else
9070         \sbox\pdf@box{#1}%
9071     \fi
9072     \dimen@ht\pdf@box
9073     \ifdim\dp\pdf@box=\z@
9074         \literalps@out{H.S}%
9075     \else
9076         \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9077     \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...).

```

9078     \ifHy@breaklinks
9079         \expandafter\Hy@breaklinksunhbox
9080     \else
9081         \expandafter\box
9082     \fi
9083     \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

9084 \ifdim\dimen@=\z@
9085   \literalps@out{H.R}%
9086 \else
9087   \raise\dimen@ \hbox{\literalps@out{H.R}}%
9088 \fi
9089 \ifx\pdf@type\Hy@DEST
9090 \else
9091   \pdf@addtoksx{H.B}%
9092 \fi
9093 }

```

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.

```

9094 \newtoks\pdf@toks
9095 \newtoks\pdf@defaulttoks
9096 \pdf@defaulttoks={}
9097 \def\pdf@addtoks#1#2{%
9098   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9099   \@processme
9100 }
9101 \def\pdf@addtoksx#1{%
9102   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9103   \@processme
9104 }
9105 \def\PDFdefaults#1{%
9106   \pdf@defaulttoks={#1}%
9107 }

```

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

```

9108 % what is the type of pdfmark?
9109 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9110 % what is the link type?
9111 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9112 \def\pdf@linktype{link}
9113 % parameter is a stream of PDF
9114 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9115 % parameter is a name
9116 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9117 % parameter is a array
9118 \define@key{PDF}{Border}{%
9119   \edef\Hy@temp{#1}%
9120   \ifx\Hy@temp\@empty
9121   \else
9122     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9123   \fi
9124 }
9125 \let\Hy@BorderArrayPatch\@empty
9126 % parameter is a dictionary
9127 \define@key{PDF}{BorderStyle}{%
9128   \edef\Hy@temp{#1}%
9129   \ifx\Hy@temp\@empty
9130   \else
9131     \pdf@addtoks{<<#1>>}{BS}%

```

```

9132 \fi
9133 }
9134 % parameter is a array
9135 \define@key{PDF}{Color}{%
9136 \ifx\relax#1\relax
9137 \else
9138 \pdf@addtoks{[#1]}{Color}% hash-ok
9139 \fi
9140 }
9141 % parameter is a string
9142 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9143 % parameter is a integer
9144 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9145 % parameter is a array
9146 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9147 % parameter is a string
9148 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9149 % parameter is a string or file
9150 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9151 % parameter is a destination
9152 \define@key{PDF}{Dest}{%
9153 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9154 \ifx\Hy@pstringDest\@empty
9155 \Hy@pdfmarkerrortrue
9156 \Hy@Warning{Destination with empty name ignored}%
9157 \else
9158 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9159 \fi
9160 }
9161 \define@key{PDF}{DestAnchor}{%
9162 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9163 \ifx\Hy@pstringDest\@empty
9164 \Hy@pdfmarkerrortrue
9165 \Hy@Warning{Destination with empty name ignored}%
9166 \else
9167 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9168 \fi
9169 }
9170 % parameter is a string
9171 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9172 % parameter is a string
9173 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9174 % parameter is a int
9175 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9176 \define@key{PDF}{PDFAFlags}{%
9177 \ifHy@pdfa
9178 \pdf@addtoks{#1}{F}%
9179 \fi
9180 }
9181 % parameter is a name
9182 \define@key{PDF}{AcroHighlight}{%
9183 \begingroup
9184 \edef\x{#1}%
9185 \expandafter\endgroup\ifx\x\@empty
9186 \else
9187 \pdf@addtoks{#1}{H}%
9188 \fi

```

```

9189 }
9190 % parameter is a string
9191 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9192 % parameter is a string
9193 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9194 % parameter is a string
9195 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9196 % parameter is a string
9197 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9198 % parameter is a Boolean
9199 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9200 % parameter is a integer or name
9201 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9202 % parameter is a name
9203 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9204 % parameter is a string
9205 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9206 % parameter is a array
9207 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9208 % parameter is a integer
9209 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9210 % parameter is a name
9211 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9212 % parameter is a string
9213 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9214 % parameter is a string
9215 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9216 % parameter is a string
9217 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9218 % parameter is an array
9219 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9220 % parameter is a string
9221 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9222 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9223 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9224 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9225 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9226 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9227 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9228 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9229 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9230 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9231 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9232 </pdfmarkbase>
9233 <*pdfmark>
9234 \def\Acrobatmenu#1#2{%
9235   \Hy@Acrobatmenu{#1}{#2}{%
9236     \pdfmark[{#2}]{%
9237       linktype=menu,%
9238       pdfmark=/ANN,%
9239       AcroHighlight=\pdfhighlight,%
9240       Border=\pdfborder,%
9241       BorderStyle=\pdfborderstyle,%
9242       Action={<< /Subtype /Named /N /#1 >>},%
9243       Subtype=/Link,%
9244       PDFANFlags=4%

```

```

9245     }%
9246   }%
9247 }

```

And now for some useful examples:

```

9248 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9249 \def\PDFNextPage@[#1]#2{%
9250   \pdfmark[{#2}] {%
9251     #1,%
9252     Border=\pdfborder,%
9253     BorderStyle=\pdfborderstyle,%
9254     Color=.2 .1 .5,%
9255     pdfmark=/ANN,%
9256     Subtype=/Link,%
9257     PDFAFlags=4,%
9258     Page=/Next%
9259   }%
9260 }
9261 \def\PDFPreviousPage{%
9262   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9263 }
9264 \def\PDFPreviousPage@[#1]#2{%
9265   \pdfmark[{#2}] {%
9266     #1,%
9267     Border=\pdfborder,%
9268     BorderStyle=\pdfborderstyle,%
9269     Color=.4 .4 .1,%
9270     pdfmark=/ANN,%
9271     Subtype=/Link,%
9272     PDFAFlags=4,%
9273     Page=/Prev%
9274   }%
9275 }
9276 \def\PDFOpen#1{%
9277   \pdfmark{#1,pdfmark=/DOCVIEW}%
9278 }

```

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

```

9279 \def\hyper@linkurl#1#2{%
9280   \begingroup
9281     \Hy@pstringdef\Hy@pstringURI{#2}%
9282     \hyper@chars
9283     \leavevmode
9284     \pdfmark[{#1}] {%
9285       pdfmark=/ANN,%
9286       linktype=url,%
9287       AcroHighlight=\pdfhighlight,%
9288       Border=\pdfborder,%
9289       BorderStyle=\pdfborderstyle,%
9290       Color=\urlbordercolor,%
9291       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9292       Subtype=/Link,%
9293       PDFAFlags=4%
9294     }%
9295   \endgroup
9296 }
9297 \def\hyper@linkfile#1#2#3{%
9298   \begingroup

```



```

9299 \Hy@pstringdef\Hy@pstringF{#2}%
9300 \Hy@pstringdef\Hy@pstringD{#3}%
9301 \leavevmode
9302 \pdfmark[{#1}]{%
9303   pdfmark=/ANN,%
9304   Subtype=/Link,%
9305   PDFAFlags=4,%
9306   AcroHighlight=\@pdfhighlight,%
9307   Border=\@pdfborder,%
9308   BorderStyle=\@pdfborderstyle,%
9309   linktype=file,%
9310   Color=\@filebordercolor,%
9311   Action={%
9312     <<%
9313       /S/GoToR%
9314       \Hy@SetNewWindow
9315       /F(\Hy@pstringF)%
9316       /D\ifx\#3\ [0 \@pdfstartview]\else(\Hy@pstringD)cvn\fi
9317     >>%
9318   }%
9319 }%
9320 \endgroup
9321 }
9322 \def\@hyper@launch run:#1\#2#3{%
9323   \begingroup
9324     \Hy@pstringdef\Hy@pstringF{#1}%
9325     \Hy@pstringdef\Hy@pstringP{#3}%
9326     \leavevmode
9327     \pdfmark[{#2}]{%
9328       pdfmark=/ANN,%
9329       Subtype=/Link,%
9330       PDFAFlags=4,%
9331       AcroHighlight=\@pdfhighlight,%
9332       Border=\@pdfborder,%
9333       BorderStyle=\@pdfborderstyle,%
9334       linktype=run,%
9335       Color=\@runbordercolor,%
9336       Action={%
9337         <<%
9338           /S/Launch%
9339           \Hy@SetNewWindow
9340           /F(\Hy@pstringF)%
9341           \ifx\#3\%
9342             \else
9343               /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9344             \fi
9345         >>%
9346       }%
9347     }%
9348   \endgroup
9349 }
9350 \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.

```
9351 <*dvips>
9352 \providecommand*{\XR@ext}{pdf}
9353 \def\Hy@raisedlink{}
9354 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9355 \def\headerps@out#1{\special{! #1}}%
9356 \input{pdfmark.def}%
9357 \ifx\@pdfproducer\relax
9358   \def\@pdfproducer{dvips + Distiller}%
9359 \fi
9360 \providecommand*\@pdfborder{0 0 1}
9361 \providecommand*\@pdfborderstyle{}
9362 \providecommand*\@pdfview{XYZ}
9363 \providecommand*\@pdfviewparams{ H.V}
9364 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9365 \g@addto@macro\Hy@FirstPageHook{%
9366   \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.

```
9367   /DvipsToPDF{72.27 mul Resolution div} def%
9368   /PDFToDvips{72.27 div Resolution mul} def%
9369   /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.

```
9370   /BorderArrayPatch{%
9371     [exch{%
9372       dup dup type/integertype eq exch type/realtype eq or%
9373       {BPToDvips}if%
9374     }forall]%
9375   }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.

```
9376   /HyperBorder {1 PDFToDvips} def%
9377   /H.V {pdf@hoff pdf@voff null} def%
9378   /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

```
9379   /H.S {%
```

```

9380     currentpoint %
9381     HyperBorder add /pdf@lly exch def %
9382     dup DvipsToPDF 72 add /pdf@hoff exch def %
9383     HyperBorder sub /pdf@llx exch def%
9384 } 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`

```

9385     /H.L {%
9386         2 sub dup%
9387         /HyperBasePt exch def %
9388         PDFToDvips /HyperBaseDvips exch def %
9389         currentpoint %
9390         HyperBaseDvips sub /pdf@ury exch def%
9391         /pdf@urx exch def%
9392     } def%
9393     /H.A {%
9394         H.L %
9395 % | /pdf@voff| = the distance from the top of the page to a point
9396 % | \baselineskip| above the current point in PDF coordinates
9397         currentpoint exch pop %
9398         vsize 72 sub exch DvipsToPDF %
9399         HyperBasePt sub % baseline skip
9400         sub /pdf@voff exch def%
9401     } def%
9402     /H.R {%
9403         currentpoint %
9404         HyperBorder sub /pdf@ury exch def %
9405         HyperBorder add /pdf@urx exch def %
9406 % | /pdf@voff| = the distance from the top of the page to the current point, in
9407 % PDF coordinates
9408         currentpoint exch pop vsize 72 sub %
9409         exch DvipsToPDF sub /pdf@voff exch def%
9410     } def%
9411 }%
9412 }
9413 \AfterBeginDocument{%
9414     \ifx\special@paper\@empty\else
9415         \ifHy@setpagesize
9416             \special{papersize=\special@paper}%
9417         \fi
9418     \fi
9419     \Hy@DisableOption{setpagesize}%
9420 }
9421 \</dvips>

```

## 46.10 $\text{\VTeX}$ 's `vtexpdfmark` driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as  $\text{\TeX}$ '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.

```

9422 <*vtxpdfmark>
9423 \providecommand*{\XR@ext}{pdf}
9424 \def\Hy@raisedlink{}
9425 \def\literalps@out#1{\special{pS:#1}}%
9426 \def\headerps@out#1{\immediate\special{pS:#1}}%
9427 \input{pdfmark.def}%
9428 \ifx\@pdfproducer\relax
9429   \ifnum\OpMode=\@ne
9430     \def\@pdfproducer{VTeX}%
9431   \else
9432     \def\@pdfproducer{VTeX + Distiller}%
9433   \fi
9434 \fi
9435 \providecommand*\@pdfborder{0 0 1}
9436 \providecommand*\@pdfborderstyle{}
9437 \providecommand*\@pdfview{XYZ}
9438 \providecommand*\@pdfviewparams{ H.V}
9439 \g@addto@macro\Hy@FirstPageHook{%
9440   \headerps@out{%
9441     /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.

```

9442   /HyperBorder {1} def%
9443   /H.V {pdf@hoff pdf@voff null} def%
9444   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9445   /H.S {%
9446     currentpoint %
9447     HyperBorder sub%
9448     /pdf@lly exch def %
9449     dup 72 add /pdf@hoff exch def %
9450     HyperBorder sub%
9451     /pdf@llx exch def%
9452   } def%

```

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

```

9453   /H.L {%
9454     2 sub%
9455     /HyperBasePt exch def %
9456     currentpoint %
9457     HyperBasePt add HyperBorder add%
9458     /pdf@ury exch def %
9459     HyperBorder add%
9460     /pdf@urx exch def%
9461   } def%
9462   /H.A {%
9463     H.L %
9464     currentpoint exch pop %
9465     vsize 72 sub exch %
9466     HyperBasePt add add%
9467     /pdf@voff exch def%
9468   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9469   /H.R {%
9470       currentpoint %
9471       HyperBorder add%
9472       /pdf@ury exch def %
9473       HyperBorder add%
9474       /pdf@urx exch def %
9475       currentpoint exch pop vsize 72 sub add%
9476       /pdf@voff exch def%
9477   } def%
9478 }%
9479 }
9480 </vtexpdfmark>

```

## 46.11 Textures

```

9481 <*textures>
9482 \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.

```

9483 \begingroup
9484   \obeylines %
9485   \gdef\Hy@ps@CR{\noexpand
9486     }%
9487 \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`.

```

9488 \def\literalps@out#1{%
9489   \special{postscript 0 0 transform}%
9490   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9491 }%
9492 %

```

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.

```

9493 \def\headerps@out#1{%
9494   \special{%
9495     prepostscript TeXdict begin\Hy@ps@CR
9496     #1\Hy@ps@CR
9497     end%

```

```

9498 }%
9499 }%
9500 %

```

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.

```

9501 \g@addto@macro\Hy@FirstPageHook{%
9502   \headerps@out{%
9503     /betterpdfmark {%
9504       systemdict begin %
9505         dup /BP eq%
9506         {cleartomark gsave nulldevice []}%
9507         {dup /EP eq%
9508           {cleartomark cleartomark grestore}%
9509           {cleartomark}%}
9510         ifelse%
9511       }ifelse %
9512     end%
9513   }def\Hy@ps@CR
9514   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9515 }% end of \headerps@out
9516 }% end of \AtBeginShipoutFirst
9517 %
9518 \input{pdfmark.def}%
9519 %
9520 \ifx\@pdfproducer\relax
9521   \def\@pdfproducer{Textures + Distiller}%
9522 \fi
9523 \providecommand*\@pdfborder{0 0 1}
9524 \providecommand*\@pdfborderstyle{}
9525 \providecommand*\@pdfview{XYZ}
9526 \providecommand*\@pdfviewparams{ H.V}
9527 %

```

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  $\TeX$ .

```

9528 \headerps@out{%

```

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

```

9529 /vsize {\Hy@pageheight} def%
9530 /DvipsToPDF {} def%
9531 /PDFToDvips {} def%
9532 /BPToDvips {} def%
9533 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9534 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9535 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9536 /H.S {%
9537   currentpoint %
9538   HyperBorder add /pdf@lly exch def %
9539   dup DvipsToPDF 72 add /pdf@hoff exch def %
9540   HyperBorder sub /pdf@llx exch def%
9541 } def\Hy@ps@CR
9542 /H.L {%
9543   2 sub %

```

```

9544   PDFToDvips /HyperBase exch def %
9545   currentpoint %
9546   HyperBase sub /pdf@ury exch def%
9547   /pdf@urx exch def%
9548   } def\Hy@ps@CR
9549   /H.A {%
9550     H.L %
9551     currentpoint exch pop %
9552     vsize 72 sub exch DvipsToPDF %
9553     HyperBase sub % baseline skip
9554     sub /pdf@voff exch def%
9555   } def\Hy@ps@CR
9556   /H.R {%
9557     currentpoint %
9558     HyperBorder sub /pdf@ury exch def %
9559     HyperBorder add /pdf@urx exch def %
9560     currentpoint exch pop vsize 72 sub %
9561     exch DvipsToPDF sub /pdf@voff exch def%
9562   } def\Hy@ps@CR
9563 }

9564 \AfterBeginDocument{%
9565   \ifHy@colorlinks
9566     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9567   \fi
9568 }

```

Textures provides built-in support for HyperTeX specials so this part combines code from `hypertext.def` with what is established by loading `pdfmark.def`, or any other driver.

```

9569 \expandafter\let\expandafter\keepPDF@SetupDoc
9570 \csname PDF@SetupDoc\endcsname
9571 \def\PDF@SetupDoc{%
9572   \ifx\@baseurl\@empty
9573   \else
9574     \special{html:<base href="\@baseurl">}%
9575   \fi
9576   \keepPDF@SetupDoc
9577 }
9578 \def\hyper@anchor#1{%
9579   \Hy@SaveLastskip
9580   \begingroup
9581     \let\protect=\string
9582     \special{html:<a name=%
9583       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9584   \endgroup
9585   \Hy@activeanchortrue
9586   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9587   \special{html:</a>}%
9588   \Hy@activeanchorfalse
9589   \Hy@RestoreLastskip
9590 }
9591 \def\hyper@anchorstart#1{%
9592   \Hy@SaveLastskip
9593   \begingroup
9594     \hyper@chars
9595     \special{html:<a name=%
9596       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9597   \endgroup

```

```

9598 \Hy@activeanchortrue
9599 }
9600 \def\hyper@anchorend{%
9601 \special{html:</a>}}%
9602 \Hy@activeanchorfalse
9603 \Hy@RestoreLastskip
9604 }
9605 \def\@urlltype{url}
9606 \def\hyper@linkstart#1#2{%
9607 \expandafter\Hy@colorlink\csname @#1color\endcsname
9608 \def\Hy@tempa{#1}%
9609 \ifx\Hy@tempa\@urlltype
9610 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9611 \else
9612 \begingroup
9613 \hyper@chars
9614 \special{html:<a href=%
9615 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
9616 \endgroup
9617 \fi
9618 }
9619 \def\hyper@linkend{%
9620 \special{html:</a>}}%
9621 \Hy@endcolorlink
9622 }
9623 \def\hyper@linkfile#1#2#3{%
9624 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9625 }
9626 \def\hyper@linkurl#1#2{%
9627 \leavevmode
9628 \ifHy@raiselinks
9629 \setbox\@tempboxa=\color@hbox #1\color@endbox
9630 \@linkdim\dp\@tempboxa
9631 \lower\@linkdim\hbox{%
9632 \hyper@chars
9633 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9634 }%
9635 \Hy@colorlink\@urlcolor#1%
9636 \@linkdim\ht\@tempboxa
9637 \advance\@linkdim by -6.5\p@
9638 \raise\@linkdim\hbox{\special{html:</a>}}}%
9639 \Hy@endcolorlink
9640 \else
9641 \begingroup
9642 \hyper@chars
9643 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9644 \Hy@colorlink\@urlcolor#1%
9645 \special{html:</a>}}%
9646 \Hy@endcolorlink
9647 \endgroup
9648 \fi
9649 }

```

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

```

9650 \def\hyper@link#1#2#3{%
9651 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9652 }
9653 \def\hyper@image#1#2{%

```



```

9654 \begingroup
9655   \hyper@chars
9656   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9657 \endgroup
9658 }
9659 </textures>

```

## 46.12 dvipsone

```

9660 % \subsection{dvipsone driver}
9661 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9662 % |\special| commands.
9663 <*dvipsone>
9664 \providecommand*{\XR@ext}{pdf}
9665 \def\Hy@raisedlink{}
9666 \providecommand*\@pdfborder{0 0 1}
9667 \providecommand*\@pdfborderstyle{}
9668 \def\literalps@out#1{\special{ps:#1}}%
9669 \def\headerps@out#1{\special{headertext=#1}}%
9670 \input{pdfmark.def}%
9671 \ifx\@pdfproducer\relax
9672   \def\@pdfproducer{dvipsone + Distiller}%
9673 \fi
9674 \def\PDF@FinishDoc{%
9675   \Hy@UseMaketitleInfos
9676   \special{PDF: Keywords \@pdfkeywords}%
9677   \special{PDF: Title \@pdftitle}%
9678   \special{PDF: Creator \@pdfcreator}%
9679   \ifx\@pdfcreationdate\@empty
9680   \else
9681     \special{PDF: CreationDate \@pdfcreationdate}%
9682   \fi
9683   \ifx\@pdfmoddate\@empty
9684   \else
9685     \special{PDF: ModDate \@pdfmoddate}%
9686   \fi
9687   \special{PDF: Author \@pdfauthor}%
9688   \ifx\@pdfproducer\relax
9689   \else
9690     \special{PDF: Producer \@pdfproducer}%
9691   \fi
9692   \special{PDF: Subject \@pdfsubject}%
9693   \Hy@DisableOption{pdfauthor}%
9694   \Hy@DisableOption{pdftitle}%
9695   \Hy@DisableOption{pdfsubject}%
9696   \Hy@DisableOption{pdfcreator}%
9697   \Hy@DisableOption{pdfcreationdate}%
9698   \Hy@DisableOption{pdfmoddate}%
9699   \Hy@DisableOption{pdfproducer}%
9700   \Hy@DisableOption{pdfkeywords}%
9701 }
9702 \def\PDF@SetupDoc{%
9703   \def\Hy@temp{}%
9704   \ifx\@pdfstartpage\@empty
9705   \else
9706     \ifx\@pdfstartview\@empty
9707     \else

```

```

9708     \edef\Hy@temp{%
9709         ,Page=\@pdfstartpage
9710         ,View=\@pdfstartview
9711     }%
9712     \fi
9713 \fi
9714 \edef\Hy@temp{%
9715     \noexpand\pdfmark{%
9716         pdfmark=/DOCVIEW,%
9717         PageMode=/\@pdfpagemode
9718     }\Hy@temp
9719 }%
9720 }%
9721 \Hy@temp
9722 \ifx\@pdfpagescrop\@empty
9723 \else
9724     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9725 \fi
9726 \edef\Hy@temp{%
9727     \ifHy@toolbar\else /HideToolbar true\fi
9728     \ifHy@menubar\else /HideMenubar true\fi
9729     \ifHy>windowui\else /HideWindowUI true\fi
9730     \ifHy@fitwindow /FitWindow true\fi
9731     \ifHy@centerwindow /CenterWindow true\fi
9732     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9733     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9734     \Hy@UseNameKey{Direction}\@pdfdirection
9735     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9736     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9737     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9738     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9739     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9740     \Hy@UseNameKey{Duplex}\@pdfduplex
9741     \ifx\@pdfpicktraybypdfsize\@empty
9742     \else
9743         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9744     \fi
9745     \ifx\@pdfprintpagerange\@empty
9746     \else
9747         /PrintPageRange[\@pdfprintpagerange]%
9748     \fi
9749     \ifx\@pdfnumcopies\@empty
9750     \else
9751         /NumCopies \@pdfnumcopies
9752     \fi
9753 }%
9754 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9755 \pdfmark{%
9756     pdfmark=/PUT,%
9757     Raw={%
9758         \string{Catalog\string}<<%
9759         \ifx\Hy@temp\@empty
9760         \else
9761             /ViewerPreferences<<\Hy@temp>>%
9762         \fi
9763         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9764         \ifx\@pdflang\@empty

```

```

9765         \else
9766             /Lang(\@pdflang)%
9767         \fi
9768         \ifx\@baseurl\@empty
9769         \else
9770             /URI<</Base(\Hy@pstringB)>>%
9771         \fi
9772     >>%
9773 }%
9774 }%
9775 }
9776 \providecommand*\@pdfview{XYZ}
9777 \providecommand*\@pdfviewparams{ %
9778     gsave revscl currentpoint grestore %
9779     72 add exch pop null exch null%
9780 }
9781 \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  $\TeX$ .

```

9782 \g@addto@macro\Hy@FirstPageHook{%
9783     \headerps@out{%

```

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

```

9784     /DvipsToPDF { 65781 div } def%
9785     /PDFToDvips { 65781 mul } def%
9786     /BPToDvips{65781 mul}def%
9787     /HyperBorder { 1 PDFToDvips } def%
9788     /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.

```

9789     /BorderArrayPatch{%
9790         [exch{%
9791             dup dup type/integertype eq exch type/realtype eq or%
9792             {BPToDvips}if%
9793         }forall]%
9794     }def%
9795     /H.S {%
9796         currentpoint %
9797         HyperBorder add /pdf@lly exch def %
9798         dup DvipsToPDF 72 add /pdf@hoff exch def %
9799         HyperBorder sub /pdf@llx exch def%
9800     } def%
9801     /H.L {%
9802         2 sub %
9803         PDFToDvips /HyperBase exch def %
9804         currentpoint %
9805         HyperBase sub /pdf@ury exch def%
9806         /pdf@urx exch def%
9807     } def%
9808     /H.A {%
9809         H.L %
9810         currentpoint exch pop %
9811         HyperBase sub % baseline skip

```

```

9812      DvipsToPDF /pdf@voff exch def%
9813    } def%
9814    /H.R {%
9815      currentpoint %
9816      HyperBorder sub /pdf@ury exch def %
9817      HyperBorder add /pdf@urx exch def %
9818      currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9819    } def%
9820  }%
9821 }
9822 </dvipsone>

```

## 46.13 TeX4ht

```

9823 <*tex4ht>
9824 \providecommand*{\XR@ext}{html}
9825 \def\Hy@raisedlink{}
9826 \@ifpackageloaded{tex4ht}{%
9827   \typeout{hyperref tex4ht: tex4ht already loaded}%
9828 }{%
9829   \RequirePackage[hx4ht]{tex4ht}%
9830 }
9831 \hyperlinkfileprefix{}
9832 \def\PDF@FinishDoc{}
9833 \def\PDF@SetupDoc{%
9834   \ifx\@baseurl\@empty
9835   \else
9836     \special{t4ht=<base href="\@baseurl">}%
9837   \fi
9838 }
9839 \def\hyper@anchor#1{%
9840   \Hy@SaveLastskip
9841   \begingroup
9842     \let\protect=\string
9843     \special{t4ht=<a name=%
9844       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9845   \endgroup
9846   \Hy@activeanchortrue
9847   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9848   \special{t4ht=</a>}%
9849   \Hy@activeanchorfalse
9850   \Hy@RestoreLastskip
9851 }
9852 \def\hyper@anchorstart#1{%
9853   \Hy@SaveLastskip
9854   \begingroup
9855     \hyper@chars\special{t4ht=<a name=%
9856       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9857   \endgroup
9858   \Hy@activeanchortrue
9859 }
9860 \def\hyper@anchorend{%
9861   \special{t4ht=</a>}%
9862   \Hy@activeanchorfalse
9863   \Hy@RestoreLastskip
9864 }
9865 \def\@urltype{url}
9866 \def\hyper@linkstart#1#2{%

```

```

9867 \expandafter\Hy@colorlink\csname @#1color\endcsname
9868 \def\Hy@tempa{#1}%
9869 \ifx\Hy@tempa\@urltype
9870   \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9871 \else
9872   \begingroup
9873     \hyper@chars
9874     \special{t4ht=<a href=
9875       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9876   \endgroup
9877 \fi
9878 }
9879 \def\hyper@linkend{%
9880   \special{t4ht=</a>}%
9881   \Hy@endcolorlink
9882 }
9883 \def\hyper@linkfile#1#2#3{%
9884   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9885 }
9886 \def\hyper@linkurl#1#2{%
9887   \leavevmode
9888   \ifHy@raiselinks
9889     \setbox\@tempboxa=\color@hbox #1\color@endbox
9890     \@linkdim\dp\@tempboxa
9891     \lower\@linkdim\hbox{%
9892       \begingroup
9893         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9894       \endgroup
9895     }%
9896     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9897     \@linkdim\ht\@tempboxa
9898     \advance\@linkdim by -6.5\p@
9899     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9900   \else
9901     \begingroup
9902       \hyper@chars
9903       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9904       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9905       \special{t4ht=</a>}%
9906     \endgroup
9907   \fi
9908 }

```

Poor implementation of \hyper@link without considering #1.

```

9909 \def\hyper@link#1#2#3{%
9910   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9911 }
9912 \def\hyper@image#1#2{%
9913   \begingroup
9914     \hyper@chars
9915     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
9916   \endgroup
9917 }
9918 \let\autoref\ref
9919 \ifx \rEfLiNK \UnDef
9920   \def\rEfLiNK #1#2{#2}%
9921 \fi
9922 \def\backref#1{}

```

```

9923 </tex4ht>
9924 <*tex4htcfg>
9925 \IfFileExists{\jobname.cfg}{\endinput}{}
9926 \Preamble{html}
9927   \begin{document}%
9928 \EndPreamble
9929 \def\TeX{\TeX}
9930 \def\OMEGA{\Omega}
9931 \def\LaTeX{\LaTeX}
9932 \def\LaTeXe{\LaTeX2e}
9933 \def\TeX{e-\TeX}
9934 \def\MF{Metafont}
9935 \def\MP{MetaPost}
9936 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

9937 <*pdfmark>
9938 \long\def\@Form[#1]{%
9939 \g@addto@macro\Hy@FirstPageHook{%
9940   \headerps@out{%
9941     [%
9942       /_objdef{pdfDocEncoding}%
9943       /type/dict%
9944       /OBJ pdfmark%
9945     [%
9946       {pdfDocEncoding}%
9947       <<%
9948         /Type/Encoding%
9949         /Differences[%
9950           24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9951           /tilde %
9952           39/quotesingle %
9953           96/grave %
9954           128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9955           /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9956           /quotedblbase/quotedblleft/quotedblright/quoteleft%
9957           /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9958           /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9959           164/currency %
9960           166/brokenbar %
9961           168/dieresis/copyright/ordfeminine %
9962           172/logicalnot/.notdef/registered/macron/degree/plusminus%
9963           /twosuperior/threesuperior/acute/mu %
9964           183/periodcentered/cedilla/onesuperior/ordmasculine %
9965           188/onequarter/onehalf/threequarters %
9966           192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9967           /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9968           /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9969           /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
9970           /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9971           /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
9972           /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9973           /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
9974           /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9975           /ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

9976    ]%
9977    >>%
9978 /PUT pdfmark%
9979 [%
9980    /_objdef{ZaDb}%
9981    /type/dict%
9982 /OBJ pdfmark%
9983 [%
9984    {ZaDb}%
9985    <<%
9986        /Type/Font%
9987        /Subtype/Type1%
9988        /Name/ZaDb%
9989        /BaseFont/ZapfDingbats%
9990    >>%
9991 /PUT pdfmark%
9992 [%
9993    /_objdef{Helv}%
9994    /type/dict%
9995 /OBJ pdfmark%
9996 [%
9997    {Helv}%
9998    <<%
9999        /Type/Font%
10000        /Subtype/Type1%
10001        /Name/Helv%
10002        /BaseFont/Helvetica%
10003        /Encoding{pdfDocEncoding}%
10004    >>%
10005 /PUT pdfmark%
10006 [%
10007    /_objdef{aform}%
10008    /type/dict%
10009 /OBJ pdfmark%
10010 [%
10011    /_objdef{afields}%
10012    /type/array%
10013 /OBJ pdfmark%
10014 {%
10015    [%
10016        /BBox[0 0 100 100]%
10017        /_objdef{Check}%
10018    /BP pdfmark %
10019    1 0 0 setrgbcolor%
10020    /ZapfDingbats 80 selectfont %
10021    20 20 moveto%
10022    (4)show%
10023    [/EP pdfmark%
10024    [%
10025        /BBox[0 0 100 100]%
10026        /_objdef{Cross}%
10027    /BP pdfmark %
10028    1 0 0 setrgbcolor%
10029    /ZapfDingbats 80 selectfont %
10030    20 20 moveto%
10031    (8)show%
10032    [/EP pdfmark%

```

```

10033 [%
10034   /BBox[0 0 250 100]%
10035   /_objdef{Submit}%
10036 /BP pdfmark %
10037 0.6 setgray %
10038 0 0 250 100 rectfill %
10039 1 setgray %
10040 2 2 moveto %
10041 2 98 lineto %
10042 248 98 lineto %
10043 246 96 lineto %
10044 4 96 lineto %
10045 4 4 lineto %
10046 fill %
10047 0.34 setgray %
10048 248 98 moveto %
10049 248 2 lineto %
10050 2 2 lineto %
10051 4 4 lineto %
10052 246 4 lineto %
10053 246 96 lineto %
10054 fill%
10055 /Helvetica 76 selectfont %
10056 0 setgray %
10057 8 22.5 moveto%
10058 (Submit)show%
10059 [/EP pdfmark%
10060 [%
10061   /BBox[0 0 250 100]%
10062   /_objdef{SubmitP}%
10063 /BP pdfmark %
10064 0.6 setgray %
10065 0 0 250 100 rectfill %
10066 0.34 setgray %
10067 2 2 moveto %
10068 2 98 lineto %
10069 248 98 lineto %
10070 246 96 lineto %
10071 4 96 lineto %
10072 4 4 lineto %
10073 fill %
10074 1 setgray %
10075 248 98 moveto %
10076 248 2 lineto %
10077 2 2 lineto %
10078 4 4 lineto %
10079 246 4 lineto %
10080 246 96 lineto %
10081 fill%
10082 /Helvetica 76 selectfont %
10083 0 setgray %
10084 10 20.5 moveto%
10085 (Submit)show%
10086 [/EP pdfmark%
10087 } ?pdfmark%
10088 [%
10089   {aform}%

```



```

10090 <<%
10091   /Fields{afields}%
10092   /DR<<%
10093     /Font<<%
10094       /ZaDb{ZaDb}%
10095       /Helv{Helv}%
10096     >>%
10097   >>%
10098   /DA(/Helv 10 Tf 0 g)%
10099   /CO{corder}%
10100   \ifHy@pdfa
10101   \else
10102     /NeedAppearances true%
10103   \fi
10104 >>%
10105 /PUT pdfmark%
10106 [%
10107   {Catalog}%
10108 <<%
10109   /AcroForm{aform}%
10110 >>%
10111 /PUT pdfmark%
10112 [%
10113   /_objdef{corder}%
10114   /type/array%
10115 /OBJ pdfmark% dps
10116 }}%
10117 \setkeys{Form}{#1}%
10118 }
10119 \def\@endForm{}
10120 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10121   \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10122 }
10123 \def\@TextField[#1]#2{% parameters, label
10124   \def\Fld@name{#2}%
10125   \def\Fld@default{}%
10126   \let\Fld@value\@empty
10127   \def\Fld@width{\DefaultWidthofText}%
10128   \def\Fld@height{%
10129     \ifFld@multiline
10130       \DefaultHeightofTextMultiline
10131     \else
10132       \DefaultHeightofText
10133   \fi
10134 }%
10135 \begingroup
10136   \Field@toks={ }%
10137   \expandafter\HyField@SetKeys\expandafter{%
10138     \DefaultOptionsofText,#1%
10139   }%
10140   \HyField@FlagsText
10141   \ifFld@hidden\def\Fld@width{1sp}\fi
10142   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10143   \LayoutTextField{#2}{%
10144     \Hy@escapeform\PDFForm@Text
10145     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10146       pdfmark=/ANN,Raw={\PDFForm@Text}%

```

```

10147     }%
10148 }%
10149 \endgroup
10150 }
10151 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10152 \def\Fld@name{#2}%
10153 \let\Fld@default\relax
10154 \let\Fld@value\relax
10155 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10156 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10157 \begingroup
10158 \Fld@menulength=0 %
10159 \@tempdima\z@
10160 \@for\@curropt:=#3\do{%
10161 \expandafter\Fld@checkequals\@curropt==\%
10162 \Hy@StepCount\Fld@menulength
10163 \settowidth{\@tempdimb}{\@currDisplay}%
10164 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10165 }%
10166 \advance\@tempdima by 15\p@
10167 \Field@toks={ }%
10168 \begingroup
10169 \HyField@SetKeys{#1}%
10170 \edef\x{\endgroup
10171 \noexpand\expandafter
10172 \noexpand\HyField@SetKeys
10173 \noexpand\expandafter{%
10174 \expandafter\noexpand\csname DefaultOptionsof%
10175 \ifFld@radio
10176 Radio%
10177 \else
10178 \ifFld@combo
10179 \ifFld@popdown
10180 PopdownBox%
10181 \else
10182 ComboBox%
10183 \fi
10184 \else
10185 ListBox%
10186 \fi
10187 \fi
10188 \endcsname
10189 }%
10190 }\x
10191 \HyField@SetKeys{#1}%
10192 \ifFld@hidden\def\Fld@width{1sp}\fi
10193 \ifx\Fld@value\relax
10194 \let\Fld@value\Fld@default
10195 \fi
10196 \LayoutChoiceField{#2}{%
10197 \ifFld@radio
10198 \HyField@FlagsRadioButton
10199 @@Radio{#3}%
10200 \else
10201 \begingroup
10202 \HyField@FlagsChoice
10203 \ifdim\Fld@width<\@tempdima

```

```

10204         \ifdim\@tempdima<1cm\@tempdima1cm\fi
10205         \edef\Fld@width{\the\@tempdima}%
10206     \fi
10207     \ifFld@combo
10208     \else
10209         \@tempdima=\the\Fld@menulength\Fld@charsize
10210         \advance\@tempdima by \Fld@borderwidth bp %
10211         \advance\@tempdima by \Fld@borderwidth bp %
10212         \edef\Fld@height{\the\@tempdima}%
10213     \fi
10214     \@@ListBox{#3}%
10215 \endgroup
10216 \fi
10217 }%
10218 \endgroup
10219 }
10220 \def\@@Radio#1{%
10221     \Fld@listcount=0 %
10222     \@for\@curropt:=#1\do{%
10223         \expandafter\Fld@checkequals\@curropt==\%%
10224         \Hy@StepCount\Fld@listcount
10225         \@currDisplay\space
10226         \Hy@escapeform\PDFForm@Radio
10227         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10228             pdfmark=/ANN,%
10229             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10230         } % deliberate space between radio buttons
10231     }%
10232 }
10233 \newcount\Fld@listcount
10234 \def\@@ListBox#1{%
10235     \HyField@PDFChoices{#1}%
10236     \Hy@escapeform\PDFForm@List
10237     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10238         pdfmark=/ANN,Raw={\PDFForm@List}%
10239     }%
10240 }
10241 \def\@PushButton[#1]#2{% parameters, label
10242     \def\Fld@name{#2}%
10243     \begingroup
10244         \Field@toks={ }%
10245         \expandafter\HyField@SetKeys\expandafter{%
10246             \DefaultOptionsofPushButton,#1%
10247         }%
10248         \ifHy@pdfa
10249             \PackageError{hyperref}{%
10250                 PDF/A: Push button with JavaScript is prohibited%
10251             }\@ehc
10252             \LayoutPushButtonField{%
10253                 \leavevmode
10254                 \MakeButtonField{#2}%
10255             }%
10256         \else
10257             \HyField@FlagsPushButton
10258             \ifFld@hidden\def\Fld@width{1sp}\fi
10259             \LayoutPushButtonField{%
10260                 \leavevmode

```

```

10261         \Hy@escapeform\PDFForm@Push
10262         \pdfmark[\MakeButtonField{#2}]{%
10263             pdfmark=/ANN,Raw={\PDFForm@Push}%
10264         }%
10265     }%
10266     \fi
10267 \endgroup
10268 }
10269 \def\@Submit[#1]#2{%
10270     \Field@toks={ }%
10271     \def\Fld@width{\DefaultWidthofSubmit}%
10272     \def\Fld@height{\DefaultHeightofSubmit}%
10273     \begingroup
10274         \expandafter\HyField@SetKeys\expandafter{%
10275             \DefaultOptionsofSubmit,#1%
10276         }%
10277         \HyField@FlagsPushButton
10278         \HyField@FlagsSubmit
10279         \ifFld@hidden\def\Fld@width{1sp}\fi
10280         \Hy@escapeform\PDFForm@Submit
10281         \pdfmark[\MakeButtonField{#2}]{%
10282             pdfmark=/ANN,%
10283             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10284         }%
10285     \endgroup
10286 }
10287 \def\@Reset[#1]#2{%
10288     \Field@toks={ }%
10289     \def\Fld@width{\DefaultWidthofReset}%
10290     \def\Fld@height{\DefaultHeightofReset}%
10291     \begingroup
10292         \expandafter\HyField@SetKeys\expandafter{%
10293             \DefaultOptionsofReset,#1%
10294         }%
10295         \leavevmode
10296         \ifHy@pdfa
10297             \PackageError{hyperref}{%
10298                 PDF/A: Reset action is prohibited%
10299             }{\@ehc
10300                 \MakeButtonField{#2}%
10301             }
10302         \else
10303             \HyField@FlagsPushButton
10304             \ifFld@hidden\def\Fld@width{1sp}\fi
10305             \Hy@escapeform\PDFForm@Reset
10306             \pdfmark[\MakeButtonField{#2}]{%
10307                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10308             }%
10309         \fi
10310     \endgroup
10311 }%
10312 \def\@CheckBox[#1]#2{% parameters, label
10313     \def\Fld@name{#2}%
10314     \def\Fld@default{0}%
10315     \begingroup
10316         \def\Fld@width{\DefaultWidthofCheckBox}%
10317         \def\Fld@height{\DefaultHeightofCheckBox}%
10318         \Field@toks={ }%

```

```

10318 \expandafter\HyField@SetKeys\expandafter{%
10319 \DefaultOptionsofCheckBox,#1%
10320 }%
10321 \HyField@FlagsCheckBox
10322 \ifFld@hidden\def\Fld@width{1sp}\fi
10323 \LayoutCheckField{#2}{%
10324 \Hy@escapeform\PDFForm@Check
10325 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10326 pdfmark=/ANN,Raw={\PDFForm@Check}%
10327 }%
10328 }%
10329 \endgroup
10330 }
10331 \pdfmark

```

## 47.2 HyperTeX

```

10332 \hypertex
10333 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10334 \def\@endForm{}
10335 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10336 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10337 }
10338 \def\@TextField[#1]#2{% parameters, label
10339 \typeout{Sorry, HyperTeX does not support FORM text fields}%
10340 }
10341 \def\@CheckBox[#1]#2{% parameters, label
10342 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10343 }
10344 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10345 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10346 }
10347 \def\@PushButton[#1]#2{% parameters, label
10348 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10349 }
10350 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10351 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10352 \hypertex

```

## 47.3 TeX4ht

```

10353 \tex4ht
10354 \def\@Form[#1]{%
10355 \setkeys{Form}{#1}%
10356 \HCode{<form action="\Form@action" method="\Form@method">}%
10357 }
10358 \def\@endForm{\HCode{</form>}}
10359 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10360 \typeout{Sorry, TeX4ht does not support gauges}%
10361 }
10362 \def\@TextField[#1]#2{% parameters, label
10363 \let\Hy@reserved@a\@empty
10364 \def\Fld@name{#2}%
10365 \def\Fld@default{}%
10366 \bgroup
10367 \Field@toks={ }%
10368 \setkeys{Field}{#1}%
10369 \HCode{<label for="\Fld@name">#2</label>}%
10370 \ifFld@password

```

```

10371     \@@PasswordField
10372     \else
10373     \@@TextField
10374     \fi
10375 \egroup
10376 }
10377 \def\@@PasswordField{%
10378   \HCode{%
10379     <input type="password" %
10380     id="\Fld@name" %
10381     name="\Fld@name" %
10382     \ifFld@hidden type="hidden" \fi
10383     value="\Fld@default" %
10384     \the\Field@toks
10385     >%
10386   }%
10387 }
10388 \def\@@TextField{%
10389   \ifFld@multiline
10390     \HCode{<textarea %
10391       \ifFld@readonly readonly \fi
10392       id="\Fld@name" %
10393       name="\Fld@name" %
10394       \ifFld@hidden type="hidden" \fi
10395       \the\Field@toks>%
10396     }%
10397     \Fld@default
10398     \HCode{</textarea>}%
10399   \else
10400     \HCode{<input type="text" %
10401       \ifFld@readonly readonly \fi
10402       id="\Fld@name" %
10403       name="\Fld@name" %
10404       \ifFld@hidden type="hidden" \fi
10405       value="\Fld@default" %
10406       \the\Field@toks>%
10407     }%
10408   \fi
10409 }
10410 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10411   \def\Fld@name{#2}%
10412   \def\Fld@default{}%
10413   \let\Hy@reserved@a\relax
10414   \begin{group}
10415     \expandafter\Fld@findlength#3\\%
10416     \Field@toks={ }%
10417     \setkeys{Field}{#1}%
10418     #2%
10419     \ifFld@radio
10420       \expandafter\@@Radio#3\\%
10421     \else
10422       \expandafter\@@Menu#3\\%
10423     \fi
10424   \endgroup
10425 }
10426 \def\Fld@findlength#1\\{%
10427   \Fld@menulength=0 %

```

```

10428 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10429 }
10430 \def\@@Menu#1\{\%
10431 \HCode{<select size="\the\Fld@menulength" %
10432     name="\Fld@name" %
10433     \the\Field@toks>%
10434 }%
10435 \@for\@curropt:=#1\do{%
10436     \expandafter\Fld@checkequals\@curropt==\%
10437     \HCode{<option %
10438         \ifx\@curropt\Fld@default selected \fi
10439         value="\@currValue">\@currDisplay</option>%
10440     }%
10441 }%
10442 \HCode{</select>}%
10443 }
10444 \def\@@Radio#1\{\%
10445 \@for\@curropt:=#1\do{%
10446     \expandafter\Fld@checkequals\@curropt==\%
10447     \HCode{<input type="radio" %
10448         \ifx\@curropt\Fld@default checked \fi
10449         name="\Fld@name" %
10450         value="\@currValue" %
10451         \the\Field@toks>%
10452     }%
10453     \@currDisplay
10454 }%
10455 }
10456 \def\@PushButton[#1]#2{% parameters, label
10457 \def\Fld@name{#2}%
10458 \bgroup
10459 \Field@toks={ }%
10460 \setkeys{Field}{#1}%
10461 \HCode{<input type="button" %
10462     name="\Fld@name" %
10463     value="#2" %
10464     \the\Field@toks>%
10465 }%
10466 \HCode{</button>}%
10467 \egroup
10468 }
10469 \def\@Submit[#1]#2{%
10470 \HCode{<button type="submit">#2</button>}%
10471 }
10472 \def\@Reset[#1]#2{%
10473 \HCode{<button type="reset">#2</button>}%
10474 }
10475 \def\@CheckBox[#1]#2{% parameters, label
10476 \let\Hy@reserved@a\@empty
10477 \def\Fld@name{#2}%
10478 \def\Fld@default{0}%
10479 \bgroup
10480 \Field@toks={ }%
10481 \setkeys{Field}{#1}%
10482 \HCode{<input type="checkbox" %
10483     \ifFld@checked checked \fi
10484     \ifFld@disabled disabled \fi

```

```

10485     \ifFld@readonly readonly \fi
10486     name="\Fld@name" %
10487     \ifFld@hidden type="hidden" \fi
10488     value="\Fld@default" %
10489     \the\Field@toks>%
10490     #2%
10491   }%
10492 \egroup
10493 }
10494 </tex4ht>

```

## 47.4 pdfTeX

```

10495 <*pdfTeX>
10496 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10497   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10498 }
10499 \def\MakeFieldObject#1#2{\sbox0{#1}%
10500   \immediate\pdfxform0 %
10501   \expandafter\edef\csname #2Object\endcsname{%
10502     \the\pdflastxform\space 0 R%
10503   }%
10504   \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10505 }%
10506 \def\HyField@afields{}
10507 \begingroup\expandafter\expandafter\expandafter\endgroup
10508 \expandafter\ifx\csname pdflastlink\endcsname\relax
10509   \let\HyField@AddToFields\relax
10510   \PackageInfo{hyperref}{%
10511     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10512     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10513     but other PDF viewers might complain%
10514   }%
10515 \else
10516   \def\HyField@AddToFields{%
10517     \xdef\HyField@afields{%
10518       \ifx\HyField@afields\@empty
10519         \else
10520           \HyField@afields
10521           \space
10522         \fi
10523       \the\pdflastlink\space 0 R%
10524     }%
10525   }%
10526 \fi
10527 \def\@Form[#1]{%
10528   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10529   \setkeys{Form}{#1}%
10530   \ifnum\pdfTeXversion>13 %
10531     \pdfrefobj\OBJ@pdfdocencoding
10532     \pdfrefobj\OBJ@ZaDb
10533     \pdfrefobj\OBJ@Helv
10534   \fi
10535   \AtEndDocument{%
10536     \immediate\pdfobj{%
10537       <<%
10538         /Fields[\HyField@afields]%
10539         /DR<<%

```



```

10540         /Font<<%
10541             /ZaDb \OBJ@ZaDb\space 0 R%
10542             /Helv \OBJ@Helv\space 0 R%
10543         >>%
10544     >>%
10545     /DA(/Helv 10 Tf 0 g)%
10546     \ifHy@pdfa
10547     \else
10548         /NeedAppearances true%
10549     \fi
10550 >>%
10551 }%
10552 \edef\OBJ@acroform{\the\pdflastobj}%
10553 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10554 }%
10555 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10556     \begingroup
10557     \fontfamily{pzd}%
10558     \fontencoding{U}%
10559     \fontseries{m}%
10560     \fontshape{n}%
10561     \selectfont
10562     \char123 %
10563     \endgroup
10564 }{Ding}%
10565 \MakeFieldObject{%
10566     \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10567 }{Submit}%
10568 \MakeFieldObject{%
10569     \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10570 }{SubmitP}%
10571 }
10572 \def\@endForm{}
10573 \def\@TextField[#1]#2{% parameters, label
10574     \def\Fld@name{#2}%
10575     \def\Fld@default{}%
10576     \let\Fld@value\@empty
10577     \def\Fld@width{\DefaultWidthofText}%
10578     \def\Fld@height{%
10579         \ifFld@multiline
10580             \DefaultHeightofTextMultiline
10581         \else
10582             \DefaultHeightofText
10583         \fi
10584     }%
10585     \begingroup
10586     \Field@toks={ }%
10587     \expandafter\HyField@SetKeys\expandafter{%
10588         \DefaultOptionsofText,#1%
10589     }%
10590     \PDFForm@Name
10591     \HyField@FlagsText
10592     \ifFld@hidden\def\Fld@width{1sp}\fi
10593     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10594     \LayoutTextField{#2}{%
10595         \Hy@escapeform\PDFForm@Text

```

```

10596     \pdfstartlink user {\PDFForm@Text}\relax
10597     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10598     \HyField@AddToFields
10599   }%
10600 \endgroup
10601 }
10602 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10603   \def\Fld@name{#2}%
10604   \let\Fld@default\relax
10605   \let\Fld@value\relax
10606   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10607   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10608   \begingroup
10609     \Fld@menulength=0 %
10610     \@tempdima\z@
10611     \@for\@curropt:=#3\do{%
10612       \expandafter\Fld@checkequals\@curropt==\%
10613       \Hy@StepCount\Fld@menulength
10614       \settowidth{\@tempdimb}{\@currDisplay}%
10615       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10616     }%
10617     \advance\@tempdima by 15\p@
10618     \Field@toks={ }%
10619     \begingroup
10620       \HyField@SetKeys{#1}%
10621     \edef\x{\endgroup
10622       \noexpand\expandafter
10623       \noexpand\HyField@SetKeys
10624       \noexpand\expandafter{%
10625         \expandafter\noexpand\cname DefaultOptionsof%
10626         \ifFld@radio
10627           Radio%
10628         \else
10629           \ifFld@combo
10630             \ifFld@popdown
10631               PopdownBox%
10632             \else
10633               ComboBox%
10634             \fi
10635           \else
10636             ListBox%
10637           \fi
10638         \fi
10639       \endcname
10640     }%
10641   }\x
10642   \HyField@SetKeys{#1}%
10643   \PDFForm@Name
10644   \ifFld@hidden\def\Fld@width{1sp}\fi
10645   \ifx\Fld@value\relax
10646     \let\Fld@value\Fld@default
10647   \fi
10648   \LayoutChoiceField{#2}{%
10649     \ifFld@radio
10650       \HyField@FlagsRadioButton
10651       \@@Radio{#3}%
10652     \else

```

```

10653     \begingroup
10654     \HyField@FlagsChoice
10655     \ifdim\Fld@width<\@tempdima
10656         \ifdim\@tempdima<1cm\@tempdima1cm\fi
10657         \edef\Fld@width{\the\@tempdima}%
10658     \fi
10659     \ifFld@combo
10660     \else
10661         \@tempdima=\the\Fld@menulength\Fld@charsize
10662         \advance\@tempdima by \Fld@borderwidth bp %
10663         \advance\@tempdima by \Fld@borderwidth bp %
10664         \edef\Fld@height{\the\@tempdima}%
10665     \fi
10666     \@@ListBox{#3}%
10667 \endgroup
10668 \fi
10669 }%
10670 \endgroup
10671 }
10672 \def\@@Radio#1{%
10673     \Fld@listcount=0 %
10674     \@for\@curropt:=#1\do{%
10675         \expandafter\Fld@checkequals\@curropt==\%
10676         \Hy@StepCount\Fld@listcount
10677         \@currDisplay\space
10678         \leavevmode
10679         \Hy@escapeform\PDFForm@Radio
10680         \pdfstartlink user {%
10681             \PDFForm@Radio
10682             /AP<<%
10683             /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.

```

10684             /\@currValue\space \DingObject
10685             >>%
10686             >>%
10687         }%
10688         \relax
10689         \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10690         \ifnum\Fld@listcount=1 %
10691             \HyField@AddToFields
10692         \fi
10693         \space % deliberate space between radio buttons
10694     }%
10695 }
10696 \newcount\Fld@listcount
10697 \def\@@ListBox#1{%
10698     \HyField@PDFChoices{#1}%
10699     \leavevmode
10700     \Hy@escapeform\PDFForm@List
10701     \pdfstartlink user {\PDFForm@List}\relax
10702     \MakeChoiceField{\Fld@width}{\Fld@height}%
10703     \pdfendlink
10704     \HyField@AddToFields
10705 }
10706 \def\@PushButton[#1]#2{% parameters, label

```

```

10707 \def\Fld@name{#2}%
10708 \begingroup
10709 \Field@toks={ }%
10710 \expandafter\HyField@SetKeys\expandafter{%
10711 \DefaultOptionsofPushButton,#1%
10712 }%
10713 \PDFForm@Name
10714 \ifHy@pdfa
10715 \PackageError{hyperref}{%
10716 PDF/A: Push button with JavaScript is prohibited%
10717 }{@ehc
10718 \LayoutPushButtonField{%
10719 \leavevmode
10720 \MakeButtonField{#2}%
10721 }%
10722 \else
10723 \HyField@FlagsPushButton
10724 \ifFld@hidden\def\Fld@width{1sp}\fi
10725 \LayoutPushButtonField{%
10726 \leavevmode
10727 \Hy@escapeform\PDFForm@Push
10728 \pdfstartlink user {\PDFForm@Push}\relax
10729 \MakeButtonField{#2}%
10730 \pdfendlink
10731 \HyField@AddToFields
10732 }%
10733 \fi
10734 \endgroup
10735 }
10736 \def\@Submit[#1]#2{%
10737 \Field@toks={ }%
10738 \def\Fld@width{\DefaultWidthofSubmit}%
10739 \def\Fld@height{\DefaultHeightofSubmit}%
10740 \begingroup
10741 \expandafter\HyField@SetKeys\expandafter{%
10742 \DefaultOptionsofSubmit,#1%
10743 }%
10744 \HyField@FlagsPushButton
10745 \HyField@FlagsSubmit
10746 \ifFld@hidden\def\Fld@width{1sp}\fi
10747 \leavevmode
10748 \Hy@escapeform\PDFForm@Submit
10749 \pdfstartlink user {%
10750 \PDFForm@Submit
10751 /AP<</N \SubmitObject/D \SubmitPObject>>%
10752 }%
10753 \relax
10754 \MakeButtonField{#2}%
10755 \pdfendlink
10756 \HyField@AddToFields
10757 \endgroup
10758 }
10759 \def\@Reset[#1]#2{%
10760 \Field@toks={ }%
10761 \def\Fld@width{\DefaultWidthofReset}%
10762 \def\Fld@height{\DefaultHeightofReset}%
10763 \begingroup

```

```

10764 \expandafter\HyField@SetKeys\expandafter{%
10765 \DefaultOptionsofReset,#1%
10766 }%
10767 \leavevmode
10768 \ifHy@pdfa
10769 \PackageError{hyperref}{%
10770 PDF/A: Reset action is prohibited%
10771 }\@ehc
10772 \MakeButtonField{#2}%
10773 \else
10774 \HyField@FlagsPushButton
10775 \ifFld@hidden\def\Fld@width{1sp}\fi
10776 \Hy@escapeform\PDFForm@Reset
10777 \pdfstartlink user {\PDFForm@Reset}\relax
10778 \MakeButtonField{#2}%
10779 \pdfendlink
10780 \HyField@AddToFields
10781 \fi
10782 \endgroup
10783 }
10784 \def\@CheckBox[#1]#2{% parameters, label
10785 \def\Fld@name{#2}%
10786 \def\Fld@default{0}%
10787 \begingroup
10788 \def\Fld@width{\DefaultWidthofCheckBox}%
10789 \def\Fld@height{\DefaultHeightofCheckBox}%
10790 \Field@toks={ }%
10791 \expandafter\HyField@SetKeys\expandafter{%
10792 \DefaultOptionsofCheckBox,#1%
10793 }%
10794 \PDFForm@Name
10795 \HyField@FlagsCheckBox
10796 \ifFld@hidden\def\Fld@width{1sp}\fi
10797 \LayoutCheckField{#2}{%
10798 \Hy@escapeform\PDFForm@Check
10799 \pdfstartlink user {\PDFForm@Check}\relax
10800 \MakeCheckField{\Fld@width}{\Fld@height}%
10801 \pdfendlink
10802 \HyField@AddToFields
10803 }%
10804 \endgroup
10805 }
10806 \pdfobj {%
10807 <<%
10808 /Type/Encoding%
10809 /Differences[%
10810 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10811 /ring/tilde %
10812 39/quotesingle %
10813 96/grave %
10814 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10815 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10816 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10817 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10818 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10819 164/currency %
10820 166/brokenbar %

```

```

10821      168/dieresis/copyright/ordfeminine %
10822      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10823      /twosuperior/threesuperior/acute/mu %
10824      183/periodcentered/cedilla/onesuperior/ordmasculine %
10825      188/onequarter/onehalf/threequarters %
10826      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10827      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10828      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10829      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10830      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10831      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10832      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10833      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10834      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10835      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10836      ]%
10837      >>%
10838 }
10839 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10840 \pdfobj{%
10841      <<%
10842      /Type/Font%
10843      /Subtype/Type1%
10844      /Name/ZaDb%
10845      /BaseFont/ZapfDingbats%
10846      >>%
10847 }
10848 \edef\OBJ@ZaDb{\the\pdflastobj}
10849 \pdfobj{%
10850      <<%
10851      /Type/Font%
10852      /Subtype/Type1%
10853      /Name/Helv%
10854      /BaseFont/Helvetica%
10855      /Encoding \OBJ@pdfdocencoding\space 0 R%
10856      >>%
10857 }
10858 \edef\OBJ@Helv{\the\pdflastobj}
10859 </pdfTeX>

```

## 47.5 dvipdfm

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

```
10860 < *dvipdfm >
```

\@Gauge

```

10861 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10862   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10863 }

```

\@Form

```

10864 \def\@Form[#1]{%
10865   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10866   \setkeys{Form}{#1}%
10867   \@pdfm@mark{obj @afields []}%
10868   \@pdfm@mark{obj @corder []}%

```

```

10869 \pdfmark{%
10870   obj @aform <<%
10871     /Fields @afields%
10872     /DR<<%
10873       /Font<<%
10874         /ZaDb @OBJZaDb%
10875         /Helv @OBJHelv%
10876       >>%
10877     >>%
10878     /DA(/Helv 10 Tf 0 g)%
10879     /CO @corder%
10880     \ifHy@pdfa
10881     \else
10882       /NeedAppearances true%
10883     \fi
10884   >>%
10885 }%
10886 \pdfmark{put @catalog <</AcroForm @aform>>}%
10887 }

\@endForm

10888 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
10889 \def\dvipdfm@setdim{%
10890   height \the\ht\pdfm@box\space
10891   width \the\wd\pdfm@box\space
10892   depth \the\dp\pdfm@box\space
10893 }

\HyField@AnnotCount
10894 \newcount\HyField@AnnotCount
10895 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
10896 \def\HyField@AdvanceAnnotCount{%
10897   \global\advance\HyField@AnnotCount\@ne
10898 }

\HyField@TheAnnotCount
10899 \def\HyField@TheAnnotCount{%
10900   \the\HyField@AnnotCount
10901 }

\@TextField
10902 \def\@TextField[#1]#2{% parameters, label
10903   \def\Fld@name{#2}%
10904   \def\Fld@default{}%
10905   \let\Fld@value\@empty
10906   \def\Fld@width{\DefaultWidthofText}%
10907   \def\Fld@height{%
10908     \ifFld@multiline
10909       \DefaultHeightofTextMultiline
10910     \else
10911       \DefaultHeightofText
10912     \fi

```

```

10913 }%
10914 \beginngroup
10915   \Field@toks={ }%
10916   \expandafter\HyField@SetKeys\expandafter{%
10917     \DefaultOptionsofText,#1%
10918   }%
10919   \PDFForm@Name
10920   \HyField@FlagsText
10921   \ifFld@hidden\def\Fld@width{1sp}\fi
10922   \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10923   \setbox\pdfm@box=\hbox{%
10924     \MakeTextField{\Fld@width}{\Fld@height}%
10925   }%
10926   \HyField@AdvanceAnnotCount
10927   \LayoutTextField{#2}{%
10928     \Hy@escapeform\PDFForm@Text
10929     \@pdfm@mark{%
10930       ann @text\HyField@TheAnnotCount\space
10931       \dvipdfm@setdim << \PDFForm@Text >>%
10932     }%
10933   }%
10934   \unhbox\pdfm@box
10935   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10936   % record in @afields array
10937 \endgroup
10938 }

```

\@ChoiceMenu

```

10939 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10940   \def\Fld@name{#2}%
10941   \let\Fld@default\relax
10942   \let\Fld@value\relax
10943   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10944   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10945   \beginngroup
10946     \Fld@menulength=0 %
10947     \@tempdima\z@
10948     \@for\@curropt:=#3\do{%
10949       \expandafter\Fld@checkequals\@curropt==\%
10950       \Hy@StepCount\Fld@menulength
10951       \settowidth{\@tempdimb}{\@currDisplay}%
10952       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10953     }%
10954     \advance\@tempdima by 15\p@
10955     \Field@toks={ }%
10956     \beginngroup
10957       \HyField@SetKeys{#1}%
10958     \edef\x{\endgroup
10959       \noexpand\expandafter
10960       \noexpand\HyField@SetKeys
10961       \noexpand\expandafter{%
10962         \expandafter\noexpand\csname DefaultOptionsof%
10963           \ifFld@radio
10964             Radio%
10965           \else
10966             \ifFld@combo
10967               \ifFld@popdown

```



```

10968         PopdownBox%
10969     \else
10970         ComboBox%
10971     \fi
10972 \else
10973     ListBox%
10974 \fi
10975 \fi
10976 \endcsname
10977 }%
10978 }\x
10979 \HyField@SetKeys{#1}%
10980 \PDFForm@Name
10981 \ifFld@hidden\def\Fld@width{1sp}\fi
10982 \ifx\Fld@value\relax
10983     \let\Fld@value\Fld@default
10984 \fi
10985 \LayoutChoiceField{#2}{%
10986     \ifFld@radio
10987         \HyField@FlagsRadioButton
10988         \@@Radio{#3}%
10989     \else
10990         \beginngroup
10991         \HyField@FlagsChoice
10992         \ifdim\Fld@width<\@tempdima
10993             \ifdim\@tempdima<1cm\@tempdima1cm\fi
10994             \edef\Fld@width{\the\@tempdima}%
10995         \fi
10996         \ifFld@combo
10997         \else
10998             \@tempdima=\the\Fld@menulength\Fld@charsize
10999             \advance\@tempdima by \Fld@borderwidth bp %
11000             \advance\@tempdima by \Fld@borderwidth bp %
11001             \edef\Fld@height{\the\@tempdima}%
11002         \fi
11003         \@@Listbox{#3}%
11004         \endgroup
11005     \fi
11006 }%
11007 \endgroup
11008 }

```

\@@Radio

```

11009 \def\@@Radio#1{%
11010     \Fld@listcount=0 %
11011     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11012     \@for\@curropt:=#1\do{%
11013         \expandafter\Fld@checkequals\@curropt==\%
11014         \Hy@StepCount\Fld@listcount
11015         \@currDisplay\space
11016         \leavevmode
11017         \Hy@escapeform\PDFForm@Radio
11018         \ifnum\Fld@listcount=1 %
11019             \HyField@AdvanceAnnotCount
11020         \fi
11021         \@pdfm@mark{%
11022             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi

```

```

11023      \dvi pdfm@setdim
11024      <<%
11025      \PDFForm@Radio
11026      /AP<</N<</\@currValue /null>>>>%
11027      >>%
11028      }%
11029      \unhcopy\pdfm@box\space% deliberate space between radio buttons
11030      \ifnum\Fld@listcount=1 %
11031      \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11032      \fi
11033      }%
11034      }

\Fld@listcount

11035 \newcount\Fld@listcount

\@@Listbox

11036 \def\@@Listbox#1{%
11037   \HyField@PDFChoices{#1}%
11038   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11039   \leavevmode
11040   \Hy@escapeform\PDFForm@List
11041   \HyField@AdvanceAnnotCount
11042   \@pdfm@mark{%
11043     ann @list\HyField@TheAnnotCount\space
11044     \dvi pdfm@setdim
11045     <<\PDFForm@List>>%
11046   }%
11047   \unhbox\pdfm@box
11048   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11049   }

\@PushButton

11050 \def\@PushButton[#1]#2{% parameters, label
11051   \def\Fld@name{#2}%
11052   \begingroup
11053     \Field@toks={ }%
11054     \expandafter\HyField@SetKeys\expandafter{%
11055       \DefaultOptionsofPushButton,#1%
11056     }%
11057     \PDFForm@Name
11058     \ifHy@pdfa
11059       \PackageError{hyperref}{%
11060         PDF/A: Push button with JavaScript is prohibited%
11061       }\@ehc
11062       \LayoutPushButtonField{%
11063         \leavevmode
11064         \MakeButtonField{#2}%
11065       }%
11066     \else
11067       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11068       \HyField@FlagsPushButton
11069       \ifFld@hidden\def\Fld@width{1sp}\fi
11070       \HyField@AdvanceAnnotCount
11071       \LayoutPushButtonField{%
11072         \leavevmode
11073         \Hy@escapeform\PDFForm@Push

```

```

11074      \@pdfm@mark{%
11075          ann @push\HyField@TheAnnotCount\space
11076          \dvipdfm@setdim
11077          <<\PDFForm@Push>>%
11078      }%
11079  }%
11080  \unhbox\pdfm@box
11081  \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11082  \fi
11083  \endgroup
11084 }

\@Submit

11085 \def\@Submit[#1]#2{%
11086   \Field@toks={ }%
11087   \def\Fld@width{\DefaultWidthofSubmit}%
11088   \def\Fld@height{\DefaultHeightofSubmit}%
11089   \begingroup
11090     \expandafter\HyField@SetKeys\expandafter{%
11091       \DefaultOptionsofSubmit,#1%
11092     }%
11093     \HyField@FlagsPushButton
11094     \HyField@FlagsSubmit
11095     \ifFld@hidden\def\Fld@width{1sp}\fi
11096     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11097     \leavevmode
11098     \Hy@escapeform\PDFForm@Submit
11099     \HyField@AdvanceAnnotCount
11100     \@pdfm@mark{%
11101       ann @submit\HyField@TheAnnotCount\space
11102       \dvipdfm@setdim
11103       <<\PDFForm@Submit>>%
11104     }%
11105     \unhbox\pdfm@box%
11106     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11107   \endgroup
11108 }

\@Reset

11109 \def\@Reset[#1]#2{%
11110   \Field@toks={ }%
11111   \def\Fld@width{\DefaultWidthofReset}%
11112   \def\Fld@height{\DefaultHeightofReset}%
11113   \begingroup
11114     \expandafter\HyField@SetKeys\expandafter{%
11115       \DefaultOptionsofReset,#1%
11116     }%
11117     \leavevmode
11118     \ifHy@pdfa
11119       \PackageError{hyperref}{%
11120         PDF/A: Reset action is prohibited%
11121       }\@ehc
11122       \MakeButtonField{#2}%
11123     \else
11124       \HyField@FlagsPushButton
11125       \ifFld@hidden\def\Fld@width{1sp}\fi
11126       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%

```

```

11127 \Hy@escapeform\PDFForm@Reset
11128 \HyField@AdvanceAnnotCount
11129 \@pdfm@mark{%
11130     ann @reset\HyField@TheAnnotCount\space
11131     \dvipdfm@setdim
11132     <<\PDFForm@Reset>>%
11133 }%
11134 \unhbox\pdfm@box
11135 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11136 \fi
11137 \endgroup
11138 }

```

\@CheckBox

```

11139 \def\@CheckBox[#1]#2{% parameters, label
11140     \def\Fld@name{#2}%
11141     \def\Fld@default{0}%
11142     \begingroup
11143         \def\Fld@width{\DefaultWidthofCheckBox}%
11144         \def\Fld@height{\DefaultHeightofCheckBox}%
11145         \Field@toks={ }%
11146         \expandafter\HyField@SetKeys\expandafter{%
11147             \DefaultOptionsofCheckBox,#1%
11148         }%
11149         \PDFForm@Name
11150         \HyField@FlagsCheckBox
11151         \ifFld@hidden\def\Fld@width{1sp}\fi
11152         \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11153         \HyField@AdvanceAnnotCount
11154         \LayoutCheckField{#2}{%
11155             \Hy@escapeform\PDFForm@Check
11156             \@pdfm@mark{%
11157                 ann @check\HyField@TheAnnotCount\space
11158                 \dvipdfm@setdim
11159                 <<\PDFForm@Check>>%
11160             }%
11161             \unhbox\pdfm@box
11162             \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11163         }%
11164     \endgroup
11165 }

11166 \@pdfm@mark{obj @OBJpdfdocencoding%
11167 <<%
11168     /Type/Encoding%
11169     /Differences[%
11170         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11171         39/quotesingle %
11172         96/grave %
11173         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11174         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11175         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11176         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11177         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11178         164/currency %
11179         166/brokenbar %
11180         168/dieresis/copyright/ordfeminine %
11181         172/logicalnot/.notdef/registered/macron/degree/plusminus%

```

```

11182      /twosuperior/threesuperior/acute/mu %
11183      183/periodcentered/cedilla/onesuperior/ordmasculine %
11184      188/onequarter/onehalf/threequarters %
11185      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11186      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11187      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11188      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11189      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11190      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11191      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11192      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11193      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11194      /thorn/ydieresis%
11195      ]%
11196      >>%
11197 }
11198 \pdfmark{obj @OBJZaDb%
11199 <<%
11200      /Type/Font%
11201      /Subtype/Type1%
11202      /Name/ZaDb%
11203      /BaseFont/ZapfDingbats%
11204      >>%
11205 }
11206 \pdfmark{obj @OBJHelv%
11207 <<%
11208      /Type/Font%
11209      /Subtype/Type1%
11210      /Name/Helv%
11211      /BaseFont/Helvetica%
11212      /Encoding @OBJpdfdocencoding%
11213      >>%
11214 }
11215 </dvipdfm>

```

## 47.6 Common forms part

```
11216 <*pdfform>
```

\Hy@escapestring

```

11217 \begingroup\expandafter\expandafter\expandafter\endgroup
11218 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11219   \let\Hy@escapestring\@firstofone
11220   \def\Hy@escapeform#1{%
11221     \ifHy@escapeform
11222       \def\Hy@escapestring##1{%
11223         \noexpand\Hy@escapestring{\noexpand##1}%
11224       }%
11225     \edef\Hy@temp{#1}%
11226     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11227     \def\Hy@escapestring##1{%
11228       \@ifundefined{Hy@esc@\string##1}{%
11229         ##1%
11230         \ThisShouldNotHappen
11231       }{%
11232         \csname Hy@esc@\string##1\endcsname
11233       }%

```

```

11234     }%
11235     \else
11236         \let\Hy@escapestring\@firstofone
11237     \fi
11238 }%
11239 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11240     \ifx\#3\%
11241     \else
11242         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11243         \Hy@ReturnAfterFi{%
11244             \Hy@@escapeform#3\@nil
11245         }%
11246     \fi
11247 }%
11248 \else
11249 \def\Hy@escapeform#1{%
11250     \ifHy@escapeform
11251         \let\Hy@escapestring\pdfescapestring
11252     \else
11253         \let\Hy@escapestring\@firstofone
11254     \fi
11255 }%
11256 \Hy@escapeform{}%
11257 \fi

```

#### \PDFForm@Name

```

11258 \def\PDFForm@Name{%
11259     \begingroup
11260     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11261         \ifHy@unicode
11262             \Hy@unicodedefalse
11263         \fi
11264     \fi
11265     \pdfstringdef\Hy@gtemp\Fld@name
11266 \endgroup
11267 \let\Fld@name\Hy@gtemp
11268 }

```

#### \PDFForm@Check

```

11269 \def\PDFForm@Check{%
11270     /Subtype/Widget%
11271     \Fld@annotflags
11272     /T(\Fld@name)%
11273     /FT/Btn%
11274     \Fld@flags
11275     /Q \Fld@align
11276     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11277     /MK<<%
11278         \ifnum\Fld@rotation=\z@
11279         \else
11280             /R \Fld@rotation
11281         \fi
11282         \ifx\Fld@bordercolor\relax
11283         \else
11284             /BC[\Fld@bordercolor]%
11285         \fi
11286         \ifx\Fld@bcolor\relax

```

```

11287     \else
11288         /BG[\Fld@bcolor]%
11289     \fi
11290     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11291 >>%
11292 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11293     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11294 /H/P%
11295 \ifFld@checked /V/Yes\else /V/Off\fi
11296 }

```

\PDFForm@Push

```

11297 \ifHy@pdfa
11298 \else
11299 \def\PDFForm@Push{%
11300     /Subtype/Widget%
11301     \Fld@annotflags
11302     /T(\Fld@name)%
11303     /FT/Btn%
11304     \Fld@flags
11305     /H/P%
11306     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11307     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11308         \ifx\Fld@bordercolor\relax\else 1\fi
11309         \space
11310     \else
11311         /MK<<%
11312         \ifnum\Fld@rotation=\z@
11313         \else
11314             /R \Fld@rotation
11315         \fi
11316         \ifx\Fld@bordercolor\relax
11317         \else
11318             /BC[\Fld@bordercolor]%
11319         \fi
11320     >>%
11321     \fi
11322     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11323 }%
11324 \fi

```

\Fld@additionalactions

```

11325 \def\Fld@@additionalactions{%
K input (keystroke) format
11326 \ifx\Fld@keystroke@code\@empty
11327 \else
11328     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11329 \fi
F display format
11330 \ifx\Fld@format@code\@empty
11331 \else
11332     /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11333 \fi
V validation
11334 \ifx\Fld@validate@code\@empty

```

```

11335 \else
11336     /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11337 \fi

C calculation
11338 \ifx\Fld@calculate@code\@empty
11339 \else
11340     /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11341 \fi

Fo receiving the input focus
11342 \ifx\Fld@onfocus@code\@empty
11343 \else
11344     /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11345 \fi

Bl loosing the input focus (blurred)
11346 \ifx\Fld@onblur@code\@empty
11347 \else
11348     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11349 \fi

D pressing the mouse button (down)
11350 \ifx\Fld@onmousedown@code\@empty
11351 \else
11352     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11353 \fi

U releasing the mouse button (up)
11354 \ifx\Fld@onmouseup@code\@empty
11355 \else
11356     /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11357 \fi

E cursor enters the annotation's active area.
11358 \ifx\Fld@onenter@code\@empty
11359 \else
11360     /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11361 \fi

X cursor exits the annotation's active area.
11362 \ifx\Fld@onexit@code\@empty
11363 \else
11364     /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11365 \fi
11366 }
11367 \def\Fld@additionalactions{%
11368 \if-\Fld@@additionalactions-%
11369 \else
11370     \ifHy@pdfa
11371     \else
11372         /AA<<\Fld@@additionalactions>>%
11373     \fi
11374 \fi
11375 }

\PDFForm@List
11376 \def\PDFForm@List{%
11377 /Subtype/Widget%
11378 \Fld@annotflags

```



```

11379 /T(\Fld@name)%
11380 /FT/Ch%
11381 \Fld@flags
11382 /Q \Fld@align
11383 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11384 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11385 \ifx\Fld@bordercolor\relax\else 1\fi
11386 \ifx\Fld@bcolor\relax \else 1\fi
11387 \space
11388 \else
11389 /MK<<%
11390 \ifnum\Fld@rotation=\z@
11391 \else
11392 /R \Fld@rotation
11393 \fi
11394 \ifx\Fld@bordercolor\relax
11395 \else
11396 /BC[\Fld@bordercolor]%
11397 \fi
11398 \ifx\Fld@bcolor\relax
11399 \else
11400 /BG[\Fld@bcolor]%
11401 \fi
11402 >>%
11403 \fi
11404 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11405 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11406 \Fld@choices
11407 \Fld@additionalactions
11408 }

```

\PDFForm@Radio

```

11409 \def\PDFForm@Radio{%
11410 /Subtype/Widget%
11411 \Fld@annotflags
11412 /T(\Fld@name)%
11413 /FT/Btn%
11414 \Fld@flags
11415 /H/P%
11416 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
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 /CA(H)%
11431 >>%
11432 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11433 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

```

11434 \ifx\@currValue\Fld@default
11435 /V/\Fld@default
11436 \else
11437 /V/Off%
11438 \fi
11439 \Fld@additionalactions
11440 }

```

#### \PDFForm@Text

```

11441 \def\PDFForm@Text{%
11442 /Subtype/Widget%
11443 \Fld@annotflags
11444 /T(\Fld@name)%
11445 /FT/Tx%
11446 \Fld@flags
11447 /Q \Fld@align
11448 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11449 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11450 \ifx\Fld@bordercolor\relax\else 1\fi
11451 \ifx\Fld@bcolor\relax \else 1\fi
11452 \space
11453 \else
11454 /MK<<%
11455 \ifnum\Fld@rotation=\z@
11456 \else
11457 /R \Fld@rotation
11458 \fi
11459 \ifx\Fld@bordercolor\relax
11460 \else
11461 /BC[\Fld@bordercolor]%
11462 \fi
11463 \ifx\Fld@bcolor\relax
11464 \else
11465 /BG[\Fld@bcolor]%
11466 \fi
11467 >>%
11468 \fi
11469 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11470 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11471 /DV(\Hy@escapestring{\Fld@default})%
11472 /V(\Hy@escapestring{\Fld@value})%
11473 \Fld@additionalactions
11474 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11475 }

```

#### \PDFForm@Submit

```

11476 \def\PDFForm@Submit{%
11477 /Subtype/Widget%
11478 \Fld@annotflags
11479 /T(\Fld@name)%
11480 /FT/Btn%
11481 \Fld@flags
11482 /H/P%
11483 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11484 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11485 \ifx\Fld@bordercolor\relax\else 1\fi
11486 \space

```

```

11487 \else
11488   /MK<<%
11489   \ifnum\Fld@rotation=\z@
11490   \else
11491     /R \Fld@rotation
11492   \fi
11493   \ifx\Fld@bordercolor\relax
11494   \else
11495     /BC[\Fld@bordercolor]%
11496   \fi
11497   >>%
11498 \fi
11499 /A<<%
11500   /S/SubmitForm%
11501   /F<<%
11502   /FS/URL%
11503   /F(\Hy@escapestring{\Form@action})%
11504   >>%
11505   \Fld@submitflags
11506   >>%
11507 }

```

\PDFForm@Reset

```

11508 \ifHy@pdfa
11509 \else
11510   \def\PDFForm@Reset{%
11511     /Subtype/Widget%
11512     \Fld@annotflags
11513     /T(\Fld@name)%
11514     /FT/Btn%
11515     \Fld@flags
11516     /H/P%
11517     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11518     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11519     \ifx\Fld@bordercolor\relax\else 1\fi
11520     \space
11521   \else
11522     /MK<<%
11523     \ifnum\Fld@rotation=\z@
11524     \else
11525       /R \Fld@rotation
11526     \fi
11527     \ifx\Fld@bordercolor\relax
11528     \else
11529       /BC[\Fld@bordercolor]%
11530     \fi
11531   % /CA (Clear)
11532   % /AC (Done)
11533   >>%
11534 \fi
11535   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11536   /A<</S/ResetForm>>%
11537 }%
11538 \fi

11539 </pdfform>
11540 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\LaTeX$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
11541 \def\phantomsection{%
11542   \Hy@GlobalStepCount\Hy@linkcounter
11543   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11544   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11545 }
11546 \</package>
```

### 48.1 Bookmarks

```
11547 \<*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`.

```
11548 \def\Hy@writebookmark#1#2#3#4#5{%
11549   % section number, text, label, level, file
11550   \ifx\WriteBookmarks\relax%
11551   \else
11552     \ifnum#4>\Hy@bookmarksdepth\relax
11553     \else
11554       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11555     \fi
11556   \fi
11557 }
11558 \def\Hy@currentbookmarklevel{0}
11559 \def\Hy@numberline#1{#1 }
11560 \def\@writetorep#1#2#3#4#5{%
11561   \begingroup
11562     \edef\Hy@tempa{#5}%
11563     \ifx\Hy@tempa\Hy@bookmarkstype
11564       \edef\Hy@level{#4}%
11565       \ifx\Hy@levelcheck Y%
11566         \@tempcnta\Hy@level\relax
11567         \advance\@tempcnta by -1 %
11568         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11569           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11570           \advance\@tempcnta by 1 %
11571           \Hy@Warning{%
11572             Difference (\the\@tempcnta) between bookmark levels is %
11573             greater \MessageBreak than one, level fixed%
11574           }%
11575           \@tempcnta\Hy@currentbookmarklevel
11576           \advance\@tempcnta by 1 %
11577           \edef\Hy@level{\the\@tempcnta}%

```

```

11578     \fi
11579   \else
11580     \global\let\Hy@levelcheck Y%
11581   \fi
11582   \global\let\Hy@currentbookmarklevel\Hy@level
11583   \@tempcnta\Hy@level\relax
11584   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11585   \advance\@tempcnta by -1 %
11586   \edef\Hy@tempa{#3}%
11587   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11588   \ifx\Hy@tempa\Hy@tempb
11589     \Hy@Warning{%
11590       The anchor of a bookmark and its parent's must not%
11591       \MessageBreak be the same. Added a new anchor%
11592     }%
11593     \phantomsection
11594   \fi
11595   \ifHy@bookmarksnumbered
11596     \let\numberline\Hy@numberline
11597     \let\partnumberline\Hy@numberline
11598     \let\chapternumberline\Hy@numberline
11599   \else
11600     \let\numberline\@gobble
11601     \let\partnumberline\@gobble
11602     \let\chapternumberline\@gobble
11603   \fi
11604   \pdfstringdef\Hy@tempa{#2}%
11605   \if@filesw
11606     \protected@write\@outlinefile{}{%
11607       \protect\BOOKMARK
11608         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11609       {\Hy@tempa}{\Hy@tempb}%
11610     }%
11611   \fi
11612   \fi
11613 \endgroup
11614 }

```

In the call of `\BOOKMARK` the braces around #4 are omitted, because it is not likely, that the level number contains ] .

```

11615 \newcommand{\currentpdfbookmark}{%
11616   \pdfbookmark[\Hy@currentbookmarklevel]%
11617 }
11618 \newcommand{\subpdfbookmark}{%
11619   \@tempcnta\Hy@currentbookmarklevel
11620   \Hy@StepCount\@tempcnta
11621   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11622 }
11623 \newcommand{\belowpdfbookmark}[2]{%
11624   \@tempcnta\Hy@currentbookmarklevel
11625   \Hy@StepCount\@tempcnta
11626   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11627   \advance\@tempcnta by -1 %
11628   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11629 }

```

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.

```

11630 \renewcommand\pdfbookmark[3][0]{%
11631   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11632   \hyper@anchorstart{#3.#1}\hyper@anchorend
11633 }
11634 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
11635 \def\@BOOKMARK[#1]{\ifnextchar[{\@BOOKMARK[#1]}{\@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo pdf macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

11636 <*vtex>
11637 \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.

```

11638 \begingroup
11639   \catcode'\'=12 %
11640   \ifnum\Hy@VTeXversion<650 %
11641     \catcode'\=12 %
11642     \gdef\hv@pdf@char#1#2#3{%
11643       \char
11644       \ifcase'#1#2#3 %
11645         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11646         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11647         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11648         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11649         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11650         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11651         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11652         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11653         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11654         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11655         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11656         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11657         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11658         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11659         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11660         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11661         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11662         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11663         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11664         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11665         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11666         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11667         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11668         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11669         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11670         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11671         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11672         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11673         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11674         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11675         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

```

```

11676      \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11677      \fi
11678    }%
11679  \else
11680    \gdef\hv@pdf@char{\char'}%
11681  \fi
11682 \endgroup

```

\@@BOOKMARK

```

11683 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11684   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11685   \edef\@mycount{\the\@serial@counter}%
11686   \Hy@StepCount\@serial@counter
11687   \edef\@parcount{%
11688     \expandafter\ifx\csname @count@#5\endcsname\relax
11689     0%
11690     \else
11691       \csname @count@#5\endcsname
11692     \fi
11693   }%
11694   \immediate\special{%
11695     !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11696     s=\ifx#2-c\else o\fi,t=#4%
11697   }%
11698 }%

```

\ReadBookmarks

```

11699 \def\ReadBookmarks{%
11700   \begingroup
11701     \def\0{\hv@pdf@char 0}%
11702     \def\1{\hv@pdf@char 1}%
11703     \def\2{\hv@pdf@char 2}%
11704     \def\3{\hv@pdf@char 3}%
11705     \def\({}%
11706     \def\)}%
11707     \def\do##1{%
11708       \ifnum\the\catcode'##1=\active
11709       \makeother##1%
11710     \fi
11711   }%
11712   \dospecials
11713   \InputIfFileExists{\jobname.out}{\}{}%
11714 \endgroup
11715 \ifx\WriteBookmarks\relax
11716 \else
11717   \if@filesw
11718     \newwrite\@outlinefile
11719     \immediate\openout\@outlinefile=\jobname.out\relax
11720     \ifHy@typexml
11721       \immediate\write\@outlinefile{<relaxxml>\relax}%
11722     \fi
11723   \fi
11724 \fi
11725 }

11726 </vtex>
11727 <*!vtex>

```

```

11728 \def\ReadBookmarks{%
11729   \begingroup
11730   \escapechar='\'%
11731   \let\escapechar\@gobble %
11732   \def\@@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11733   \InputIfFileExists{\jobname.out}{\relax}%
11734   \ifx\WriteBookmarks\relax
11735     \global\let\WriteBookmarks\relax
11736   \fi
11737   \def\@@BOOKMARK[##1][##2]##3##4##5{%
11738     \def\Hy@temp{##4}%
11739   }%
11740   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11741   \Hy@OutlineName{\Hy@pstringName{
11742     ##2\check@bm@number{##3}%
11743   }}%
11744   \expandafter\strip@prefix\meaning\Hy@temp
11745   }%
11746 }%
11747 \pdfmark
11748 \pdfmark{%
11749   pdfmark=/OUT,%
11750   Count={##2\check@bm@number{##3}},%
11751   Dest={##3},%
11752   Title=\expandafter\strip@prefix\meaning\Hy@temp
11753   }%
11754 }%
11755 \dviopdfm
11756 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11757 \@pdfm@mark{%
11758   outline \ifHy@DviopdfmxOutlineOpen
11759     [%
11760     \ifnum##21>\z@
11761     \else
11762     -%
11763     \fi
11764     ] %
11765     \fi
11766     ##1<<%
11767     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11768     /A<<%
11769     /S/GoTo%
11770     /D(\Hy@pstringName)%
11771     >>%
11772     >>%
11773   }%
11774 }%
11775 }%
11776 {%
11777   \def\WriteBookmarks{0}%
11778   \InputIfFileExists{\jobname.out}{\relax}%
11779   }%
11780   {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}%
11781   \ifx\WriteBookmarks\relax
11782   \else
11783     \if@files
11784     \newwrite\@outlinefile

```



```

11785      \immediate\openout\@outlinefile=\jobname.out\relax
11786      \ifHy@typexml
11787        \immediate\write\@outlinefile{<relaxxml>\relax}%
11788      \fi
11789    \fi
11790  \fi
11791  \endgroup
11792 }
11793 < *pdfTex >
11794 \def\Hy@OutlineName#1#2#3#4{%
11795   \pdfoutline goto name{#2}count#3{#4}%
11796 }
11797 < /pdfTex >
11798 \def\check@bm@number#1{%
11799   \expandafter\ifx\csname B_#1\endcsname\relax
11800     0%
11801   \else
11802     \csname B_#1\endcsname
11803   \fi
11804 }
11805 \def\calc@bm@number#1{%
11806   \@tempcnta=\check@bm@number{#1}\relax
11807   \advance\@tempcnta by 1 %
11808   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11809 }
11810 < /!vTex >

11811 \ifHy@implicit
11812 \else
11813   \expandafter\endinput
11814 \fi

11815 < /outlines >
11816 < *outlines | hypertex >

11817 \let\H@old@ssect\@ssect
11818 \def\@ssect#1#2#3#4#5{%
11819   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11820   \phantomsection
11821 }
11822 \let\H@old@schapter\@schapter
11823 \def\@schapter#1{%
11824   \H@old@schapter{#1}%
11825   \begingroup
11826     \let\mkboth\@gobbletwo
11827     \Hy@GlobalStepCount\Hy@linkcounter
11828     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11829     \Hy@raisedlink{%
11830       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11831     }%
11832   \endgroup
11833 }

```

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:

```

11834 \@ifundefined{@chapter}{-}{%
11835   \let\Hy@org@chapter\@chapter
11836   \def\@chapter{%

```

```

11837 \def\Hy@next{%
11838 \Hy@GlobalStepCount\Hy@linkcounter
11839 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11840 \Hy@raisedlink{%
11841 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11842 }%
11843 }%
11844 \ifnum\c@secnumdepth>\m@ne
11845 \@ifundefined{if@mainmatter}%
11846 \iftrue{\csname if@mainmatter\endcsname}%
11847 \let\Hy@next\relax
11848 \fi
11849 \fi
11850 \Hy@next
11851 \Hy@org@chapter
11852 }%
11853 }

11854 \let\H@old@part\@part
11855 \begingroup\expandafter\expandafter\expandafter\endgroup
11856 \expandafter\ifx\csname chapter\endcsname\relax
11857 \let\Hy@secnum@part\z@
11858 \else
11859 \let\Hy@secnum@part\m@ne
11860 \fi
11861 \def\@part{%
11862 \ifnum\Hy@secnum@part>\c@secnumdepth
11863 \phantomsection
11864 \fi
11865 \H@old@part
11866 }

11867 \let\H@old@spart\@spart
11868 \def\@spart#1{%
11869 \H@old@spart{#1}%
11870 \Hy@GlobalStepCount\Hy@linkcounter
11871 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11872 \Hy@raisedlink{%
11873 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11874 }%
11875 }

11876 \let\H@old@sect\@sect
11877 \def\@sect#1#2#3#4#5#6[#7]#8{%
11878 \ifnum #2>\c@secnumdepth
11879 \Hy@GlobalStepCount\Hy@linkcounter
11880 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11881 \fi
11882 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11883 \ifnum #2>\c@secnumdepth
11884 \Hy@raisedlink{%
11885 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11886 }%
11887 \fi
11888 }

11889 </outlines | hypertex>
11890 <*outlines>

11891 \expandafter\def\csname Parent-4\endcsname{}
11892 \expandafter\def\csname Parent-3\endcsname{}

```

```

11893 \expandafter\def\csname Parent-2\endcsname{}
11894 \expandafter\def\csname Parent-1\endcsname{}
11895 \expandafter\def\csname Parent0\endcsname{}
11896 \expandafter\def\csname Parent1\endcsname{}
11897 \expandafter\def\csname Parent2\endcsname{}
11898 \expandafter\def\csname Parent3\endcsname{}
11899 \expandafter\def\csname Parent4\endcsname{}
11900 </outlines>

```

## 49 Compatibility with koma-script classes

```
11901 <*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.

```

11902 \def\Hy@tempa{%
11903   \def\@addchap[##1]##2{%
11904     \typeout{##2}%
11905     \if@twoside
11906       \@mkboth{##1}{}%
11907     \else
11908       \@mkboth{}{##1}%
11909     \fi
11910     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11911     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11912     \Hy@GlobalStepCount\Hy@linkcounter
11913     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11914     \Hy@raisedlink{%
11915       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11916     }%
11917     \if@twocolumn
11918       \topnewpage[\@makeschapterhead{##2}]%
11919     \else
11920       \@makeschapterhead{##2}%
11921       \@afterheading
11922     \fi
11923     \addcontentsline{toc}{chapter}{##1}%
11924   }%
11925 }
11926 \@ifclassloaded{scrbook}{%
11927   \@ifclasslater{scrbook}{2001/01/01}{%
11928     \let\Hy@tempa\@empty
11929   }{}%
11930 }{%
11931   \@ifclassloaded{scrreprt}{%
11932     \@ifclasslater{scrreprt}{2001/01/01}{%
11933       \let\Hy@tempa\@empty
11934     }{}%
11935   }{%
11936     \let\Hy@tempa\@empty
11937   }%
11938 }%
11939 \Hy@tempa
11940 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

### 50.1 PD1 encoding

```
11941 ⟨*pd1enc⟩
11942 \DeclareFontEncoding{PD1}{-}{-}

Accents
11943 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
11944 \DeclareTextAccent{\'}{PD1}{\textacute}
11945 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
11946 \DeclareTextAccent{\~}{PD1}{\texttilde}
11947 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
11948 \DeclareTextAccent{\r}{PD1}{\textring}
11949 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
11950 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11951 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11952 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
11953 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
11954 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
11955 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
11956 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11957 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
11958 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11959 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
11960 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11961 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
11962 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11963 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11964 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
11965 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
11966 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
11967 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
11968 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
11969 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
11970 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
11971 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
11972 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
11973 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
11974 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
11975 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
11976 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
11977 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
11978 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
11979 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
11980 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
11981 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

Special white space escape characters not for use in bookmarks but for other PDF strings.
11982 % U+0009 (CHARACTER TABULATION)
11983 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
11984 % U+000A (LINE FEED)
11985 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
11986 % U+000D (CARRIAGE RETURN)
11987 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
```

11988 % U+02D8 BREVE; breve  
 11989 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
 11990 % U+02C7 CARON; caron  
 11991 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
 11992 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
 11993 \DeclareTextCommand{\textcirc{circumflex}}{PD1}{\032}% U+02C6  
 11994 % U+02D9 DOT ABOVE; dotaccent  
 11995 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 11996 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 11997 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 11998 % U+02DB OGONEK; ogonek  
 11999 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 12000 % U+02DA RING ABOVE; ring  
 12001 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 12002 % U+02DC SMALL TILDE; ilde, \*tilde  
 12003 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 12004 % U+0022 QUOTATION MARK; quotedbl  
 12005 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 12006 % U+0023 NUMBER SIGN; numbersign  
 12007 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 12008 % U+0024 DOLLAR SIGN; dollar  
 12009 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 12010 % U+0025 PERCENT SIGN; percent  
 12011 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 12012 % U+0026 AMPERSAND; ampersand  
 12013 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 12014 % U+0028 LEFT PARENTHESIS; parenleft  
 12015 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
 12016 % U+0029 RIGHT PARENTHESIS; parenright  
 12017 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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  
 12018 % U+002E FULL STOP; period  
 12019 \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  
 12020 % U+003C LESS-THAN SIGN; less  
 12021 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 12022 % U+003E GREATER-THAN SIGN; greater  
 12023 \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  
 12024 % U+005C REVERSE SOLIDUS; backslash  
 12025 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12026 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12027 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12028 % U+005F LOW LINE; underscore  
 12029 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12030 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12031 % U+0060 GRAVE ACCENT; grave  
 12032 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12033 % U+0069 LATIN SMALL LETTER I; i  
 12034 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12035 % U+007B LEFT CURLY BRACKET; braceleft  
 12036 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12037 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12038 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12039 % U+007D RIGHT CURLY BRACKET; braceright  
 12040 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12041 % U+007E TILDE; asciitilde  
 12042 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12043 % U+2022 BULLET; bullet  
 12044 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12045 % U+2020 DAGGER; dagger  
 12046 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12047 % U+2021 DOUBLE DAGGER; daggerdbl  
 12048 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12049 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12050 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12051 % U+2014 EM DASH; emdash  
 12052 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12053 % U+2013 EN DASH; endash  
 12054 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12055 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12056 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12057 % U+2044 FRACTION SLASH; fraction  
 12058 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 12059 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 12060 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 12061 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 12062 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 12063 % U+2212 MINUS SIGN; minus  
 12064 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 12065 % U+2030 PER MILLE SIGN; perthousand  
 12066 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030

12067 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 12068 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 12069 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 12070 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 12071 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 12072 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 12073 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 12074 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 12075 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 12076 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 12077 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 12078 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 12079 % U+2122 TRADE MARK SIGN; trademark  
 12080 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 12081 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 12082 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 12083 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 12084 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 12085 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 12086 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 12087 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 12088 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
 12089 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 12090 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 12091 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 12092 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178  
 12093 \DeclareTextCommand{\IJ}{PD1}{\230}  
 12094 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 12095 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 12096 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12097 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 12098 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 12099 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 12100 % U+0153 LATIN SMALL LIGATURE OE; oe  
 12101 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 12102 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 12103 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 12104 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 12105 \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.

12106 % U+20AC EURO SIGN; \*Euro, euro  
 12107 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 12108 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12109 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 12110 % U+00A2 CENT SIGN; cent  
 12111 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 12112 % U+00A3 POUND SIGN; sterling  
 12113 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 12114 % U+00A4 CURRENCY SIGN; currency  
 12115 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 12116 % U+00A5 YEN SIGN; yen  
 12117 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 12118 % U+00A6 BROKEN BAR; brokenbar  
 12119 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 12120 % U+00A7 SECTION SIGN; section  
 12121 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7

12122 % U+00A8 DIAERESIS; dieresis  
 12123 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 12124 % U+00A9 COPYRIGHT SIGN; copyright  
 12125 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 12126 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12127 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 12128 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12129 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 12130 % U+00AC NOT SIGN; logicalnot  
 12131 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 12132 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 12133 % U+00AE REGISTERED SIGN; registered  
 12134 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 12135 % U+00AF MACRON; \*macron, overscore  
 12136 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 12137 % U+00B0 DEGREE SIGN; degree  
 12138 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 12139 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12140 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 12141 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 12142 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 12143 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 12144 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 12145 % U+00B4 ACUTE ACCENT; acute  
 12146 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 12147 % U+00B5 MICRO SIGN; mu, mu1  
 12148 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 12149 % U+00B6 PILCROW SIGN; paragraph  
 12150 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 12151 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12152 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 12153 % U+00B8 CEDILLA; cedilla  
 12154 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 12155 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 12156 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 12157 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12158 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 12159 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 12160 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 12161 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12162 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 12163 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12164 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 12165 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 12166 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 12167 % U+00BF INVERTED QUESTION MARK; questiondown  
 12168 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 12169 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 12170 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 12171 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 12172 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 12173 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 12174 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 12175 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 12176 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 12177 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis



12178 \DeclareTextCompositeCommand{"}{PD1}{A}{\304}% U+00C4  
12179 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12180 \DeclareTextCompositeCommand{r}{PD1}{A}{\305}% U+00C5  
12181 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12182 \DeclareTextCommand{AE}{PD1}{\306}% U+00C6  
12183 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12184 \DeclareTextCompositeCommand{c}{PD1}{C}{\307}% U+00C7  
12185 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12186 \DeclareTextCompositeCommand{'}{PD1}{E}{\310}% U+00C8  
12187 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12188 \DeclareTextCompositeCommand{'}{PD1}{E}{\311}% U+00C9  
12189 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12190 \DeclareTextCompositeCommand{^}{PD1}{E}{\312}% U+00CA  
12191 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12192 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB  
12193 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12194 \DeclareTextCompositeCommand{'}{PD1}{I}{\314}% U+00CC  
12195 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12196 \DeclareTextCompositeCommand{'}{PD1}{I}{\315}% U+00CD  
12197 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12198 \DeclareTextCompositeCommand{^}{PD1}{I}{\316}% U+00CE  
12199 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12200 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF  
12201 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12202 \DeclareTextCommand{DH}{PD1}{\320}% U+00D0  
12203 \DeclareTextCommand{DJ}{PD1}{\320}% U+00D0  
12204 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12205 \DeclareTextCompositeCommand{~}{PD1}{N}{\321}% U+00D1  
12206 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12207 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2  
12208 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12209 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3  
12210 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12211 \DeclareTextCompositeCommand{^}{PD1}{O}{\324}% U+00D4  
12212 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12213 \DeclareTextCompositeCommand{~}{PD1}{O}{\325}% U+00D5  
12214 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12215 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
12216 % U+00D7 MULTIPLICATION SIGN; multiply  
12217 \DeclareTextCommand{textmultiply}{PD1}{\327}% U+00D7  
12218 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12219 \DeclareTextCommand{O}{PD1}{\330}% U+00D8  
12220 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12221 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9  
12222 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12223 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA  
12224 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12225 \DeclareTextCompositeCommand{^}{PD1}{U}{\333}% U+00DB  
12226 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12227 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
12228 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12229 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
12230 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12231 \DeclareTextCommand{TH}{PD1}{\336}% U+00DE  
12232 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12233 \DeclareTextCommand{ss}{PD1}{\337}% U+00DF  
12234 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave

12235 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
12236 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12237 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12238 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12239 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12240 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12241 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12242 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12243 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12244 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12245 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12246 % U+00E6 LATIN SMALL LETTER AE; ae  
12247 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12248 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12249 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12250 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12251 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
12252 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12253 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12254 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12255 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12256 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12257 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
12258 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12259 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
12260 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12261 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12262 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED  
12263 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12264 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12265 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12266 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12267 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12268 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12269 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12270 % U+00F0 LATIN SMALL LETTER ETH; eth  
12271 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12272 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12273 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12274 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12275 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
12276 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12277 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
12278 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12279 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
12280 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12281 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
12282 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
12283 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
12284 % U+00F7 DIVISION SIGN; divide  
12285 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
12286 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
12287 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
12288 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
12289 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
12290 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
12291 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA

```

12292 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12293 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
12294 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12295 \DeclareTextCompositeCommand{\\"}{PD1}{u}{\374}% U+00FC
12296 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12297 \DeclareTextCompositeCommand{\' }{PD1}{y}{\375}% U+00FD
12298 % U+00FE LATIN SMALL LETTER THORN; thorn
12299 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12300 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12301 \DeclareTextCompositeCommand{\\"}{PD1}{y}{\377}% U+00FF
12302 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

12303 \DeclareTextCommand{\SS}{PD1}{SS}
12304 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

12305 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12306 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12307 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12308 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12309 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12310 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12311 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12312 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12313 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12314 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12315 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12316 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12317 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12318 \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;

```

12319 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12320 \DeclareTextCompositeCommand{\' }{PD1}{c}{c}% cacute
12321 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12322 \DeclareTextCompositeCommand{\' }{PD1}{n}{n}% nacute
12323 \DeclareTextCompositeCommand{\' }{PD1}{s}{s}% sacute
12324 \DeclareTextCompositeCommand{\' }{PD1}{z}{z}% zacute
12325 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12326 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12327 \DeclareTextCompositeCommand{\' }{PD1}{C}{C}% Cacute
12328 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12329 \DeclareTextCompositeCommand{\' }{PD1}{N}{N}% Nacute
12330 \DeclareTextCompositeCommand{\' }{PD1}{S}{S}% Sacute
12331 \DeclareTextCompositeCommand{\' }{PD1}{Z}{Z}% Zacute
12332 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12333 </pdlenc>

```

## 50.2 PU encoding

```

12334 <*puenc>
12335 \DeclareFontEncoding{PU}{}{}

```

### 50.2.1 NFSS2 accents

```

12336 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12337 \DeclareTextCommand{\' }{PU}[1]{\#1\83\000}% U+0300

```

```

12338 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12339 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12340 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12341 \DeclareTextCommand{\~}{PU}[1]{#1\83\002}% U+0302
12342 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12343 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12344 % U+0304 COMBINING MACRON; macroncmb
12345 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12346 % U+0306 COMBINING BREVE; brevecmb
12347 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12348 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12349 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12350 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12351 % U+0308 COMBINING DIAERESIS; dieresiscmb
12352 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12353 % U+030A COMBINING RING ABOVE; ringcmb
12354 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12355 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12356 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12357 % U+030C COMBINING CARON; caroncmb
12358 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12359 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12360 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12361 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12362 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12363 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12364 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12365 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12366 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12367 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12368 % U+0327 COMBINING CEDILLA; cedillacmb
12369 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12370 % U+0328 COMBINING OGONEK; ogonekcmb
12371 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12372 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12373 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12374 % U+20DD COMBINING ENCLOSING CIRCLE
12375 \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.
12376 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12377 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12378 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12379 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12380 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12381 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12382 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12383 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12384 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12385 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12386 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12387 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12388 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12389 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12390 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12391 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12392 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}

```

```

12393 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12394 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12395 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12396 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12397 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
12398 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12399 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12400 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12401 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12402 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12403 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12404 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12405 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12406 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12407 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12408 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12409 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12410 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12411 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12412 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12413 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12414 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12415 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12416 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
12417 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12418 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12419 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12420 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12421 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12422 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12423 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12424 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12425 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12426 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12427 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12428 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12429 % U+0009 (CHARACTER TABULATION)
12430 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12431 % U+000A (LINE FEED)
12432 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12433 % U+000D (CARRIAGE RETURN)
12434 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12435 % U+0022 QUOTATION MARK; quotedbl
12436 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12437 % U+0023 NUMBER SIGN; numbersign
12438 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12439 % U+0024 DOLLAR SIGN; dollar
12440 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12441 % U+0025 PERCENT SIGN; percent
12442 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025

```

12443 % U+0026 AMPERSAND; ampersand  
 12444 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 12445 % U+0027 APOSTROPHE; quotesingle  
 12446 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 12447 % U+0028 LEFT PARENTHESIS; parenleft  
 12448 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 12449 % U+0029 RIGHT PARENTHESIS; parenright  
 12450 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 12451 % U+002A ASTERISK; asterisk  
 12452 \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  
 12453 % U+003C LESS-THAN SIGN; less  
 12454 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 12455 % U+003E GREATER-THAN SIGN; greater  
 12456 \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  
 12457 % U+005C REVERSE SOLIDUS; backslash  
 12458 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12459 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12460 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12461 % U+005F LOW LINE; underscore  
 12462 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12463 % U+0060 GRAVE ACCENT; grave  
 12464 \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  
 12465 % U+0069 LATIN SMALL LETTER I; i  
 12466 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12467 \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  
 12468 % U+007B LEFT CURLY BRACKET; braceleft  
 12469 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12470 % U+007C VERTICAL LINE; \*bar, verticalbar

12471 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12472 % U+007D RIGHT CURLY BRACKET; braceright  
 12473 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12474 % U+007E TILDE; asciitilde  
 12475 \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  
 12476 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12477 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12478 % U+00A2 CENT SIGN; cent  
 12479 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12480 % U+00A3 POUND SIGN; sterling  
 12481 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12482 % U+00A4 CURRENCY SIGN; currency  
 12483 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12484 % U+00A5 YEN SIGN; yen  
 12485 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12486 % U+00A6 BROKEN BAR; brokenbar  
 12487 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12488 % U+00A7 SECTION SIGN; section  
 12489 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12490 % U+00A8 DIAERESIS; dieresis  
 12491 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 12492 % U+00A9 COPYRIGHT SIGN; copyright  
 12493 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 12494 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12495 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 12496 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12497 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 12498 % U+00AC NOT SIGN; logicalnot  
 12499 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 12500 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 12501 % U+00AE REGISTERED SIGN; registered  
 12502 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 12503 % U+00AF MACRON; \*macron, overscore  
 12504 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 12505 % U+00B0 DEGREE SIGN; degree  
 12506 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 12507 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12508 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 12509 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 12510 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 12511 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 12512 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 12513 % U+00B4 ACUTE ACCENT; acute  
 12514 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 12515 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 12516 % U+00B5 MICRO SIGN; mu, mu1  
 12517 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 12518 % U+00B6 PILCROW SIGN; paragraph  
 12519 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 12520 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12521 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 12522 % U+00B8 CEDILLA; cedilla

12523 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
12524 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12525 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
12526 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12527 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
12528 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12529 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
12530 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12531 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
12532 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12533 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
12534 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12535 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12536 % U+00BF INVERTED QUESTION MARK; questiondown  
12537 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12538 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12539 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12540 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12541 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12542 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12543 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12544 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12545 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12546 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12547 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4  
12548 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12549 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
12550 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12551 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
12552 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12553 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
12554 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12555 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
12556 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12557 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
12558 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12559 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
12560 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12561 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB  
12562 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12563 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
12564 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12565 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
12566 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12567 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
12568 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12569 \DeclareTextCompositeCommand{\\"}{PU}{I}{\80\317}% U+00CF  
12570 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12571 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
12572 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12573 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
12574 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12575 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
12576 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12577 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
12578 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12579 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4



12580 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12581 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
12582 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12583 \DeclareTextCompositeCommand{\\"}{PU}{O}{\80\326}% U+00D6  
12584 % U+00D7 MULTIPLICATION SIGN; multiply  
12585 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12586 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12587 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12588 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12589 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
12590 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12591 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
12592 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12593 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
12594 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12595 \DeclareTextCompositeCommand{\\"}{PU}{U}{\80\334}% U+00DC  
12596 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12597 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
12598 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12599 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12600 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12601 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12602 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12603 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
12604 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12605 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
12606 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12607 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
12608 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12609 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
12610 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12611 \DeclareTextCompositeCommand{\\"}{PU}{a}{\80\344}% U+00E4  
12612 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12613 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
12614 % U+00E6 LATIN SMALL LETTER AE; ae  
12615 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
12616 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12617 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
12618 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12619 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
12620 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12621 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
12622 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12623 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
12624 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12625 \DeclareTextCompositeCommand{\\"}{PU}{e}{\80\353}% U+00EB  
12626 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12627 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
12628 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
12629 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12630 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12631 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12632 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12633 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
12634 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
12635 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12636 \DeclareTextCompositeCommand{\\"}{PU}{i}{\80\357}% U+00EF

12637 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
 12638 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12639 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 12640 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12641 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1  
 12642 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12643 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2  
 12644 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12645 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3  
 12646 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12647 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4  
 12648 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12649 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5  
 12650 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12651 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
 12652 % U+00F7 DIVISION SIGN; divide  
 12653 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12654 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12655 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 12656 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12657 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9  
 12658 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12659 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA  
 12660 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12661 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB  
 12662 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12663 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
 12664 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12665 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD  
 12666 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12667 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 12668 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12669 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

## 50.2.4 Latin Extended-A: U+0080 to U+017F

12670 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12671 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100  
 12672 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12673 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101  
 12674 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12675 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12676 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12677 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12678 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12679 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 12680 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 12681 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 12682 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 12683 \DeclareTextCompositeCommand{'}{PU}{C}{\81\006}% U+0106  
 12684 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 12685 \DeclareTextCompositeCommand{'}{PU}{c}{\81\007}% U+0107  
 12686 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 12687 \DeclareTextCompositeCommand{^}{PU}{C}{\81\010}% U+0108  
 12688 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 12689 \DeclareTextCompositeCommand{^}{PU}{c}{\81\011}% U+0109  
 12690 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent

12691 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
12692 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
12693 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
12694 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
12695 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
12696 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
12697 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
12698 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
12699 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
12700 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
12701 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
12702 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
12703 \DeclareTextCommand{DJ}{PU}{\81\020}% U+0110  
12704 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
12705 \DeclareTextCommand{dj}{PU}{\81\021}% U+0111  
12706 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
12707 \DeclareTextCompositeCommand{=}{PU}{E}{\81\022}% U+0112  
12708 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
12709 \DeclareTextCompositeCommand{=}{PU}{e}{\81\023}% U+0113  
12710 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
12711 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
12712 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
12713 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
12714 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
12715 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12716 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12717 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12718 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12719 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12720 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12721 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12722 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12723 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12724 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12725 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12726 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12727 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12728 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12729 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12730 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12731 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12732 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12733 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12734 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12735 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12736 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12737 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
12738 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
12739 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
12740 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
12741 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
12742 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
12743 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
12744 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
12745 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
12746 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
12747 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126

12748 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
 12749 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
 12750 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
 12751 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 12752 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
 12753 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12754 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12755 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
 12756 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
 12757 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
 12758 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12759 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12760 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibrevé  
 12761 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
 12762 % U+012D LATIN SMALL LETTER I WITH BREVE; ibrevé  
 12763 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12764 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12765 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
 12766 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
 12767 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
 12768 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12769 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12770 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
 12771 \DeclareTextCompositeCommand{.}{PU}{I}{\81\060}% U+0130  
 12772 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12773 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
 12774 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
 12775 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
 12776 % U+0133 LATIN SMALL LIGATURE IJ; ij  
 12777 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
 12778 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
 12779 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
 12780 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 12781 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12782 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12783 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 12784 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 12785 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 12786 \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`.

12787 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 12788 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 12789 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 12790 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 12791 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 12792 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 12793 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 12794 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 12795 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 12796 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 12797 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 12798 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 12799 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 12800 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘I’ with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.

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12801 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
12802 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
12803 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
12804 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
12805 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12806 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
12807 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12808 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
12809 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
12810 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
12811 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
12812 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
12813 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
12814 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
12815 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
12816 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
12817 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
12818 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
12819 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
12820 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
12821 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
12822 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
12823 % U+014A LATIN CAPITAL LETTER ENG; Eng
12824 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
12825 % U+014B LATIN SMALL LETTER ENG; eng
12826 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
12827 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
12828 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
12829 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
12830 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
12831 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
12832 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
12833 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
12834 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
12835 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
12836 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
12837 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
12838 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
12839 % U+0152 LATIN CAPITAL LIGATURE OE; OE
12840 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
12841 % U+0153 LATIN SMALL LIGATURE OE; oe
12842 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
12843 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
12844 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
12845 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
12846 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
12847 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
12848 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
12849 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
12850 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
12851 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
12852 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
12853 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
12854 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
12855 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute

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12856 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
12857 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
12858 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
12859 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
12860 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
12861 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
12862 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
12863 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
12864 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
12865 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
12866 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
12867 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
12868 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
12869 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
12870 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
12871 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
12872 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
12873 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
12874 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
12875 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
12876 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
12877 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
12878 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
12879 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
12880 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
12881 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
12882 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
12883 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
12884 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
12885 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
12886 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
12887 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
12888 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
12889 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
12890 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
12891 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
12892 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
12893 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
12894 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
12895 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
12896 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
12897 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
12898 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
12899 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
12900 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
12901 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
12902 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
12903 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
12904 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
12905 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
12906 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
12907 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
12908 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
12909 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
12910 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
12911 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
12912 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176

12913 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 12914 \DeclareTextCompositeCommand{\`}{PU}{y}{\81\167}% U+0177  
 12915 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 12916 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 12917 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 12918 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 12919 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 12920 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 12921 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 12922 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 12923 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 12924 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 12925 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 12926 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 12927 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 12928 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 12929 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 12930 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

12931 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12932 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 12933 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 12934 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 12935 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 12936 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 12937 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 12938 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 12939 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 12940 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 12941 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\320}% U+01D0  
 12942 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 12943 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 12944 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 12945 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 12946 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 12947 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 12948 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 12949 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 12950 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 12951 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 12952 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 12953 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 12954 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 12955 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 12956 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 12957 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 12958 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 12959 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 12960 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 12961 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 12962 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 12963 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 12964 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 12965 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 12966 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 12967 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

12968 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
12969 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
12970 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
12971 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
12972 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
12973 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
12974 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
12975 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
12976 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
12977 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
12978 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC  
12979 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
12980 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD  
12981 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
12982 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE  
12983 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacut  
12984 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF  
12985 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
12986 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
12987 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
12988 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
12989 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
12990 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
12991 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
12992 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
12993 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
12994 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
12995 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
12996 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
12997 \DeclareTextCompositeCommand{\G}{PU}{j}{\82\011}% U+0209  
12998 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
12999 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13000 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
13001 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
13002 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
13003 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
13004 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
13005 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
13006 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
13007 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
13008 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
13009 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
13010 % U+021E LATIN CAPITAL LETTER H WITH CARON  
13011 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
13012 % U+021F LATIN SMALL LETTER H WITH CARON  
13013 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
13014 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
13015 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
13016 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
13017 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
13018 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
13019 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
13020 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
13021 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
13022 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
13023 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
13024 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE



13025 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 13026 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13027 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 13028 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13029 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 13030 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13031 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13032 % U+02C7 CARON; caron  
 13033 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13034 % U+02D8 BREVE; breve  
 13035 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13036 % U+02D9 DOT ABOVE; dotaccent  
 13037 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13038 % U+02DA RING ABOVE; ring  
 13039 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13040 % U+02DB OGONEK; ogonek  
 13041 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13042 % U+02DC SMALL TILDE; ilde, \*tilde  
 13043 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13044 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13045 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13046 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 13047 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13048 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13049 % U+02F7 MODIFIER LETTER LOW TILDE  
 13050 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

## 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13051 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13052 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13053 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13054 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13055 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13056 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13057 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13058 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13059 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13060 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

## 50.2.8 Greek and Coptic: U+0370 to U+03FF

13061 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13062 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13063 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13064 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13065 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 13066 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13067 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13068 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13069 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13070 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13071 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13072 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13073 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13074 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 13075 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos

13076 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
13077 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
13078 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
13079 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; Iotadieresis  
13080 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
13081 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
13082 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
13083 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
13084 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
13085 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
13086 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
13087 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
13088 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13089 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13090 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13091 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13092 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13093 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13094 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13095 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13096 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13097 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13098 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13099 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13100 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13101 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13102 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13103 % U+039C GREEK CAPITAL LETTER MU; Mu  
13104 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13105 % U+039D GREEK CAPITAL LETTER NU; Nu  
13106 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13107 % U+039E GREEK CAPITAL LETTER XI; Xi  
13108 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13109 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13110 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13111 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13112 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13113 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13114 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13115 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13116 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13117 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13118 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13119 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13120 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13121 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13122 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13123 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13124 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13125 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13126 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13127 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13128 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13129 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13130 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13131 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13132 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis

13133 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13134 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13135 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13136 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
13137 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13138 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
13139 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13140 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
13141 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13142 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilon  
13143 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
13144 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
13145 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13146 % U+03B2 GREEK SMALL LETTER BETA; beta  
13147 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13148 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13149 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13150 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13151 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13152 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13153 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13154 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13155 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13156 % U+03B7 GREEK SMALL LETTER ETA; eta  
13157 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13158 % U+03B8 GREEK SMALL LETTER THETA; theta  
13159 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13160 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13161 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13162 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13163 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13164 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13165 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13166 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13167 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13168 % U+03BD GREEK SMALL LETTER NU; nu  
13169 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13170 % U+03BE GREEK SMALL LETTER XI; xi  
13171 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13172 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13173 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13174 % U+03C0 GREEK SMALL LETTER PI; pi  
13175 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13176 % U+03C1 GREEK SMALL LETTER RHO; rho  
13177 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13178 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13179 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13180 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
13181 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
13182 % U+03C4 GREEK SMALL LETTER TAU; tau  
13183 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
13184 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
13185 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
13186 % U+03C6 GREEK SMALL LETTER PHI; phi  
13187 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
13188 % U+03C7 GREEK SMALL LETTER CHI; chi  
13189 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7

13190 % U+03C8 GREEK SMALL LETTER PSI; psi  
 13191 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
 13192 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
 13193 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
 13194 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
 13195 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
 13196 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis  
 13197 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
 13198 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 13199 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
 13200 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 13201 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 13202 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
 13203 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 13204 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
 13205 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 13206 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 13207 % U+03DB GREEK SMALL LETTER STIGMA  
 13208 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 13209 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 13210 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 13211 % U+03DD GREEK SMALL LETTER DIGAMMA  
 13212 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 13213 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 13214 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 13215 % U+03DF GREEK SMALL LETTER KOPPA  
 13216 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 13217 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 13218 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 13219 % U+03E1 GREEK SMALL LETTER SAMPI  
 13220 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

## 50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

13221 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 13222 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
 13223 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 13224 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 13225 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
 13226 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 13227 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 13228 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 13229 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403  
 13230 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 13231 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 13232 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 13233 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 13234 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, \*afii10055  
 13235 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 13236 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 13237 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 13238 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
 13239 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 13240 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
 13241 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
 13242 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

13243 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
13244 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
13245 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
13246 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
13247 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
13248 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
13249 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
13250 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
13251 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
13252 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
13253 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
13254 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
13255 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
13256 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
13257 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
13258 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
13259 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
13260 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
13261 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
13262 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
13263 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
13264 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
13265 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
13266 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
13267 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13268 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13269 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13270 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13271 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13272 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13273 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13274 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13275 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13276 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13277 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13278 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13279 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13280 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13281 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13282 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13283 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13284 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13285 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13286 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13287 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13288 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13289 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13290 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
13291 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13292 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13293 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13294 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13295 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13296 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13297 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13298 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
13299 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039

13300 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13301 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
13302 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13303 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13304 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13305 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13306 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13307 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13308 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13309 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13310 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13311 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
13312 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13313 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13314 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13315 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13316 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13317 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
13318 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13319 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
13320 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13321 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13322 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13323 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
13324 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13325 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13326 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13327 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13328 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13329 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13330 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13331 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13332 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13333 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13334 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
13335 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13336 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13337 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, icyrillic  
13338 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13339 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13340 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13341 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13342 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13343 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13344 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13345 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
13346 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13347 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13348 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13349 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13350 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13351 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13352 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13353 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13354 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13355 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13356 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic

13357 \DeclareTextCommand{\cysr}{PU}{\84\101}% U+0441  
13358 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13359 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13360 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13361 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13362 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13363 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13364 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13365 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13366 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13367 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
13368 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13369 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13370 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13371 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13372 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13373 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13374 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13375 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A  
13376 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13377 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
13378 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13379 \DeclareTextCommand{\cysrftsn}{PU}{\84\114}% U+044C  
13380 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13381 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
13382 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13383 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
13384 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13385 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
13386 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13387 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13388 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13389 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
13390 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13391 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13392 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13393 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13394 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13395 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13396 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13397 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13398 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13399 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13400 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13401 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13402 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13403 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
13404 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13405 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13406 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13407 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
13408 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13409 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13410 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13411 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13412 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13413 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C

13414 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13415 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13416 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13417 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13418 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13419 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13420 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13421 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13422 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13423 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13424 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13425 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
13426 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13427 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13428 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
13429 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13430 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13431 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13432 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13433 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13434 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13435 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13436 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13437 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleiotifiedcyrillic  
13438 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13439 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleiotifiedcyrillic  
13440 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13441 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13442 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13443 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13444 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13445 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13446 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13447 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13448 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13449 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13450 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13451 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13452 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13453 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13454 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13455 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13456 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13457 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13458 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13459 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13460 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13461 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
13462 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13463 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13464 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13465 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13466 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13467 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13468 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13469 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
13470 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478



13471 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 13472 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 13473 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 13474 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 13475 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 13476 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 13477 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 13478 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 13479 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 13480 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 13481 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 13482 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 13483 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 13484 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 13485 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 13486 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 13487 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 13488 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 13489 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 13490 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 13491 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 13492 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 13493 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 13494 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 13495 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 13496 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 13497 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 13498 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 13499 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 13500 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 13501 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 13502 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 13503 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 13504 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 13505 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 13506 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 13507 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 13508 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 13509 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 13510 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 13511 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 13512 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 13513 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 13514 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 13515 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 13516 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496

13517 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
13518 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
13519 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
13520 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
13521 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
13522 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
13523 \DeclareTextCommand{\cyrzdsd}{PU}{\84\231}% U+0499  
13524 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
13525 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
13526 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
13527 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
13528 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
13529 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic  
13530 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
13531 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic  
13532 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
13533 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
13534 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
13535 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
13536 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
13537 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
13538 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
13539 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
13540 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
13541 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
13542 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
13543 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
13544 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
13545 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
13546 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
13547 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
13548 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
13549 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
13550 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
13551 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
13552 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
13553 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
13554 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
13555 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
13556 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
13557 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
13558 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
13559 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
13560 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
13561 \DeclareTextCommand{\cyrdsdsc}{PU}{\84\253}% U+04AB  
13562 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
13563 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
13564 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
13565 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
13566 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
13567 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
13568 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
13569 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
13570 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
13571 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
13572 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
13573 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic

13574 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
13575 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
13576 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13577 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
13578 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13579 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13580 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13581 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13582 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5  
13583 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13584 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
13585 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
13586 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
13587 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
13588 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
13589 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
13590 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
13591 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
13592 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
13593 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
13594 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
13595 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
13596 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
13597 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
13598 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
13599 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
13600 \DeclareTextCommand{\CYRABCHDSC}{PU}{\84\276}% U+04BE  
13601 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
13602 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
13603 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
13604 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
13605 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
13606 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
13607 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
13608 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
13609 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
13610 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
13611 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
13612 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
13613 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
13614 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
13615 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
13616 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
13617 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
13618 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
13619 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
13620 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
13621 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
13622 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
13623 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
13624 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
13625 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
13626 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
13627 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
13628 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
13629 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
13630 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE

# \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

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13631 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic
13632 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
13633 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic
13634 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
13635 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
13636 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
13637 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
13638 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
13639 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
13640 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
13641 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
13642 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
13643 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic
13644 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
13645 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic
13646 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
13647 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
13648 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
13649 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
13650 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
13651 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiesiscyrillic
13652 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
13653 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiesiscyrillic
13654 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB
13655 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic
13656 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
13657 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
13658 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\335}% U+04DD
13659 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
13660 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
13661 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
13662 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF
13663 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
13664 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
13665 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
13666 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
13667 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
13668 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2
13669 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
13670 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3
13671 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
13672 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4
13673 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
13674 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5
13675 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
13676 \DeclareTextCompositeCommand{\U}{PU}{\CYRO}{\84\346}% U+04E6
13677 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
13678 \DeclareTextCompositeCommand{\U}{PU}{\cyro}{\84\347}% U+04E7
13679 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
13680 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
13681 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
13682 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
13683 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
13684 \DeclareTextCompositeCommand{\U}{PU}{\CYROTLD}{\84\352}% U+04EA
13685 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
13686 \DeclareTextCompositeCommand{\U}{PU}{\cyrotld}{\84\353}% U+04EB

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13687 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 13688 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 13689 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 13690 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 13691 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 13692 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 13693 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 13694 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
 13695 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 13696 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 13697 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 13698 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 13699 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 13700 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 13701 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 13702 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 13703 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 13704 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 13705 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 13706 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 13707 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 13708 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 13709 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 13710 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 13711 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 13712 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13713 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 13714 \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  
 13715 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13716 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 13717 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13718 \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

13719 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13720 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

13721 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13722 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 13723 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13724 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 13725 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 13726 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 13727 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 13728 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 13729 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 13730 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 13731 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 13732 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
 13733 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow

13734 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
13735 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
13736 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
13737 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
13738 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
13739 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
13740 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
13741 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
13742 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
13743 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
13744 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
13745 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
13746 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20  
13747 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
13748 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21  
13749 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
13750 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
13751 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
13752 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
13753 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
13754 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
13755 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
13756 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
13757 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
13758 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
13759 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
13760 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
13761 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
13762 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30  
13763 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
13764 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31  
13765 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
13766 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
13767 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
13768 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
13769 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
13770 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
13771 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
13772 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
13773 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
13774 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
13775 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
13776 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
13777 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
13778 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
13779 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
13780 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
13781 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
13782 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
13783 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
13784 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
13785 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
13786 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
13787 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
13788 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
13789 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
13790 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54

13791 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
13792 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
13793 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
13794 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56  
13795 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
13796 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57  
13797 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
13798 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58  
13799 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
13800 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59  
13801 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
13802 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E  
13803 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
13804 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F  
13805 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
13806 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60  
13807 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
13808 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61  
13809 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
13810 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E  
13811 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
13812 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F  
13813 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
13814 \DeclareTextCompositeCommand{~}{PU}{V}{\9036\174}% U+1E7C  
13815 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
13816 \DeclareTextCompositeCommand{~}{PU}{v}{\9036\175}% U+1E7D  
13817 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
13818 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\200}% U+1E80  
13819 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
13820 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\201}% U+1E81  
13821 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
13822 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82  
13823 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
13824 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83  
13825 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
13826 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84  
13827 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
13828 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85  
13829 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
13830 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86  
13831 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
13832 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87  
13833 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
13834 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A  
13835 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
13836 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B  
13837 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
13838 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
13839 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
13840 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
13841 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
13842 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
13843 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
13844 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
13845 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
13846 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
13847 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex

13848 \DeclareTextCompositeCommand{\~}{PU}{z}{\9036\221}% U+1E91  
 13849 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 13850 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 13851 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 13852 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 13853 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 13854 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 13855 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 13856 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 13857 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 13858 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 13859 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 13860 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 13861 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 13862 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 13863 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 13864 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 13865 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 13866 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 13867 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 13868 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 13869 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 13870 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 13871 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 13872 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 13873 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 13874 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

13875 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 13876 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 13877 % U+2013 EN DASH; endash  
 13878 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 13879 % U+2014 EM DASH; emdash  
 13880 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 13881 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 13882 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 13883 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13884 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 13885 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13886 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 13887 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13888 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 13889 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13890 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 13891 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 13892 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 13893 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 13894 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 13895 % U+2020 DAGGER; dagger  
 13896 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 13897 % U+2021 DOUBLE DAGGER; daggerdbl  
 13898 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 13899 % U+2022 BULLET; bullet  
 13900 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 13901 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13902 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026



13903 % U+2030 PER MILLE SIGN; perthousand  
 13904 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 13905 % U+2031 PER TEN THOUSAND SIGN  
 13906 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 13907 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 13908 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 13909 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 13910 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 13911 % U+203B REFERENCE MARK; referencemark  
 13912 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 13913 % U+203D INTERROBANG  
 13914 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 13915 % U+2044 FRACTION SLASH; fraction  
 13916 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 13917 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 13918 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 13919 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 13920 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 13921 % U+2052 COMMERCIAL MINUS SIGN  
 13922 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

13923 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 13924 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 13925 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 13926 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 13927 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 13928 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 13929 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 13930 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 13931 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 13932 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 13933 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 13934 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 13935 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 13936 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 13937 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 13938 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 13939 % U+207B SUPERSCRIPT MINUS  
 13940 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 13941 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 13942 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 13943 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 13944 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 13945 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 13946 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 13947 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 13948 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 13949 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 13950 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 13951 % U+2081 SUBSCRIPT ONE; oneinferior  
 13952 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 13953 % U+2082 SUBSCRIPT TWO; twoinferior  
 13954 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 13955 % U+2083 SUBSCRIPT THREE; threeinferior  
 13956 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 13957 % U+2084 SUBSCRIPT FOUR; fourinferior

13958 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 13959 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 13960 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 13961 % U+2086 SUBSCRIPT SIX; sixinferior  
 13962 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 13963 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 13964 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 13965 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 13966 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 13967 % U+2089 SUBSCRIPT NINE; nineinferior  
 13968 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 13969 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 13970 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 13971 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 13972 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

#### 50.2.14 Currency Symbols: U+20A0 to U+20CF

13973 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 13974 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 13975 % U+20A4 LIRA SIGN; afii08941, \*lira  
 13976 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 13977 % U+20A6 NAIRA SIGN  
 13978 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 13979 % U+20A7 PESETA SIGN; peseta  
 13980 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 13981 % U+20A9 WON SIGN; won  
 13982 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 13983 % U+20AB DONG SIGN; dong  
 13984 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 13985 % U+20AC EURO SIGN; \*Euro, euro  
 13986 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 13987 % U+20B1 PESO SIGN  
 13988 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 13989 % U+20B2 GUARANI SIGN  
 13990 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

#### 50.2.15 Letterlike Symbols: U+2100 to U+214F

13991 % U+2103 DEGREE CELSIUS; centigrade  
 13992 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 13993 % U+2116 NUMERO SIGN; \*afii61352, numero  
 13994 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 13995 % U+2117 SOUND RECORDING COPYRIGHT  
 13996 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 13997 % U+211E PRESCRIPTION TAKE; prescription  
 13998 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 13999 % U+2120 SERVICE MARK  
 14000 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14001 % U+2122 TRADE MARK SIGN; trademark  
 14002 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14003 % U+2126 OHM SIGN; Ohm, Omega  
 14004 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14005 % U+2127 INVERTED OHM SIGN  
 14006 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14007 % U+212B ANGSTROM SIGN; angstrom  
 14008 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14009 % U+212E ESTIMATED SYMBOL; estimated  
 14010 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E

14011 % U+2135 ALEF SYMBOL; aleph  
 14012 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

14013 % U+2190 LEFTWARDS ARROW; arrowleft  
 14014 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14015 % U+2191 UPWARDS ARROW; arrowup  
 14016 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14017 % U+2192 RIGHTWARDS ARROW; arrowright  
 14018 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14019 % U+2193 DOWNWARDS ARROW; arrowdown  
 14020 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

14021 % U+2212 MINUS SIGN; minus  
 14022 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14023 % U+221A SQUARE ROOT; radical  
 14024 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14025 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 14026 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 14027 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 14028 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

### 50.2.19 Control Pictures: U+2400 to U+243F

14029 % U+2422 BLANK SYMBOL  
 14030 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 14031 % U+2423 OPEN BOX; blank  
 14032 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14033 % U+2460 CIRCLED DIGIT ONE; onecircle  
 14034 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 14035 % U+2461 CIRCLED DIGIT TWO; twocircle  
 14036 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 14037 % U+2462 CIRCLED DIGIT THREE; threecircle  
 14038 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 14039 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 14040 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 14041 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 14042 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 14043 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 14044 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 14045 % U+2466 CIRCLED DIGIT SEVEN; sevendcircle  
 14046 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 14047 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 14048 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 14049 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 14050 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 14051 % U+2469 CIRCLED NUMBER TEN; tencircle  
 14052 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 14053 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 14054 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 14055 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 14056 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 14057 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle

14058 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14059 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14060 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14061 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14062 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14063 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14064 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14065 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14066 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14067 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14068 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14069 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14070 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14071 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14072 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14073 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14074 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14075 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14076 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14077 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14078 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14079 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14080 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14081 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14082 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
14083 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14084 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14085 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14086 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14087 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14088 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14089 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14090 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14091 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14092 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14093 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14094 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14095 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14096 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14097 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14098 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14099 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14100 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14101 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14102 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14103 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14104 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14105 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
14106 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14107 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14108 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
14109 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
14110 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
14111 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
14112 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
14113 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
14114 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA

14115 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 14116 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 14117 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 14118 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 14119 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 14120 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 14121 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 14122 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 14123 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 14124 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 14125 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 14126 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 14127 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 14128 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 14129 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 14130 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 14131 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 14132 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 14133 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 14134 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 14135 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 14136 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 14137 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 14138 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 14139 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 14140 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 14141 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 14142 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 14143 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 14144 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 14145 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 14146 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 14147 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 14148 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 14149 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 14150 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 14151 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 14152 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 14153 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 14154 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 14155 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 14156 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 14157 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 14158 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 14159 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 14160 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 14161 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 14162 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 14163 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 14164 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 14165 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 14166 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 14167 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 14168 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 14169 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 14170 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 14171 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle

14172 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14173 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 14174 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14175 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 14176 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14177 % U+24EA CIRCLED DIGIT ZERO  
 14178 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

14179 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14180 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14181 % U+25EF LARGE CIRCLE; largecircle  
 14182 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

14183 % U+266A EIGHTH NOTE; musicalnote  
 14184 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14185 % U+26AD MARRIAGE SYMBOL  
 14186 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14187 % U+26AE DIVORCE SYMBOL  
 14188 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

14189 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14190 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 14191 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 14192 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

14193 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14194 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 14195 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14196 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

14197 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

14198 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 14199 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 14200 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 14201 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 14202 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 14203 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 14204 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 14205 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

14206 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 14207 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 14208 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 14209 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 14210 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 14211 </puenc>

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14212 \langle *puvnc\rangle
14213 \DeclareTextCommand{\abreve}{PU}{\81\003}
14214 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14215 \DeclareTextCommand{\dj}{PU}{\81\021}
14216 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14217 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14218 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14219 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14220 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14221 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14222 \DeclareTextCommand{\DJ}{PU}{\81\020}
14223 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14224 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14225 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14226 \DeclareTextCommand{\UHORN}{PU}{\81\257}

14227 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14228 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14229 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14230 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14231 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14232 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14233 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14234 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14235 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14236 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14237 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14238 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14239 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14240 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14241 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14242 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14243 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14244 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14245 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14246 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14247 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14248 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14249 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14250 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14251 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14252 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14253 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14254 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14255 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14256 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14257 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14258 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14259 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
14260 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
14261 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14262 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
14263 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
14264 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
14265 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
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14266 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14267 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14268 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14269 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14270 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14271 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14272 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14273 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14274 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14275 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14276 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14277 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14278 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
14279 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14280 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14281 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14282 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14283 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
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14285 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14286 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14287 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14288 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14289 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14290 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14291 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14292 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14293 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14294 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14295 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14296 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14297 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14298 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14299 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14300 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14301 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14302 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14303 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
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14305 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
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14308 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14309 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14310 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14311 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14312 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
14313 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
14314 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
14315 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
14316 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
14317 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
14318 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
14319 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
14320 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
14321 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
14322 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}



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14323 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14324 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
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14326 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
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14328 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14329 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14330 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14331 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14332 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14333 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14334 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14335 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14336 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
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14344 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14345 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14346 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14347 </puvnenc>

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## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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14348 <*puarenc>
```

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14349 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14350 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14351 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14352 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA A
14353 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14354 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
14355 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14356 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14357 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14358 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14359 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14360 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14361 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14362 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14363 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14364 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14365 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14366 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14367 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14368 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14369 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14370 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14371 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14372 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14373 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14374 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

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14375 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14376 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14377 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
14378 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
14379 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
14380 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
14381 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
14382 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
14383 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
14384 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
14385 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

14386 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14387 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
14388 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14389 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14390 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14391 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14392 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14393 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

14394 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14395 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14396 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14397 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
14398 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14399 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii?????;FARSI LETTER YEH

14400 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14401 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
14402 </puarenc>

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## 51 End of file hycheck.tex

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14403 < *check>
14404 \typeout{}
14405 \begin{document}
14406 \end{document}
14407 </check>

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